karel teige

the minimum dwelling





translated and with an introduction by Eric Dluhosch

t h e m i n i m u m d w e l l i n g

• l'habitation minimum • die kleinstwohnung

karel teige

the minimum dwelling

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the housing crisis • housing reform • the dwelling for the subsistence minimum • single family, rental and collective houses • regulatory plans for residential quarters • new forms of houses and apartments • the popular housing movement •

Originally published as Nejmenší byt by Václav Petr, Prague, 1932.

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1928

From left: Karel Teige, Jan E. Koula, Madame de Mandrot, Oldřich Tyl and Le Corbusier on the roof of Tyl's YWCA Hostel in Prague. (Courtesy of Olga Hilmerová, Prague)



Translation:
Sometimes a small shepherd's tent will do more for one's country than an entire army camp, such as that of our warlord Žižka before one of his campaigns (during the Hussite wars).

Adolf Hoffmeister, Karl Teige (= dreams about minimal dwelling). From the *Jízdní řád literatury a poezie*, Prague, 1932

1932 → **AN AVANT-GARDIST'S SOLITUDE**

translator's foreword

> Translation is a genre. In order to grasp it, one has to go back to the original. It is in the original that the key to translatability is to be found. The question of translatability is perplexing in two ways: First, can a competent translator be found among the readers of the original? Second, does the original work lend itself to translation, and given its genre, does it call for translation?
>
> —Walter Benjamin,
> "Die Aufgabe des Übersetzers" (1923)

According to Walter Benjamin, the answer to the first question about translation is contingent, while the second can be approached apodictically. Conventional caveats of modesty forbid any discussion of the competence of the translator, a matter best left to critics and reviewers. The decision to translate Teige's *Nejmenší byt* apodictically, as an example of an avant-garde genre, is easier to justify. For one thing, the work closes an important gap in the historiography of modern architecture of the first decades of the twentieth century, and—more important—it does represent one of the best treatises on housing produced at that time. Generically, the book assumes many forms. It is simultaneously a manifesto, a technical report, and an architectural critique, all contained in the same text.

The complexity and interweaving of these forms have presented the translator with certain difficulties, which may be sorted into two major categories: connotation and language. The Czech title of the book, *Nejmenší byt,* is a good example, posing problems of both connotation and language. The Czech word *nejmenší*—translated literally—means "the littlest" or "smallest" and refers primarily to broad categories of size. Another Czech word for little or small is *minimální,* corresponding loosely to the English "minimum" or "minimal," but it refers primarily to more specific, measurable quantities. In the text, Teige chooses to employ *nejmenší* essentially in a qualitative sense, while including both technical and sociocultural phenomena of dwelling in his definition of quality. The second term in the title, *byt,* is equally difficult to render unambiguously in English. The dictionary defines it as "apartment," "lodging," "flat," "quarter," "room," and, in its extended meaning, "dwelling." Apart from the linguistic variety of these choices, the translator must also contend with a cultural difference between European and North American perceptions of "dwelling." For Europeans—especially at the time when Teige was writing—*byt* meant (and to a large degree still means) a rental apartment in the city, while for a North American the same term generally stands for a detached single-family home on its own plot. In that sense, the title *The Minimum Dwelling* is inaccurate, though still better than a literal translation, such as *The Littlest Apartment* or *A Dwelling for the Subsistence Level Population.*

Another ambiguous term is Teige's *existenční minimum,* literally "existential minimum." The simplest translation, "poverty level," had to be rejected, mainly because our contemporary sense of poverty cannot be equated with the deprivations suffered globally by millions before and during the Great Depression of the 1920s and '30s, both in Europe and in the United States. Instead, the somewhat ponderous expression "subsistence level" was chosen, in order to include all those who were then living on the edge of starvation and who lacked the

means to provide for a minimally decent home for themselves or their families; among these, as Teige describes, were impoverished members of the middle class.

Other difficulties concern Teige's use of Marxist jargon. Expressions such as "antithesis between city and country" have been occasionally rendered as "contradictions between city and village" or "the rift between city and country." Apart from such minor editorial revisions, Teige's Marxist language has been translated in all its ideological purity.

The book's technical passages were much easier to translate. Technical language is generally less colored by political jargon and tends to be standardized across ideological and temporal as well as sociocultural divides. Thus, common American technical terms from architecture and engineering have proven fully satisfactory and have been used throughout the text and the illustrations. Only minor corrections were necessary to adjust certain European terms for an American audience; for example, while Americans treat "first floor" and "ground floor" as synonyms, Europeans designate the floor above ground level (the American second floor) the "first floor." As a consequence, the European second floor becomes the American third, and so on.

"Colony," "settlement," and "residential district" have been used interchangeably in the translation, depending on the context of the original text. The Czech terms are actually similar to the English but have a slightly different meaning because of the different administrative apparatus of European cities, which are much more centralized and which operate on a different tax and financing basis than do American cities. Similarly, the terms "apartment," "flat," "lodgings," and "quarters" resonate somewhat differently in the European context. Again, a choice had to made between translating literally and using common American terminology, in order to make the text as clear as possible for North American readers without losing its European inflection.

The greatest difficulty was posed by Teige's use of the term *obytná buňka,* which translates literally as "habitable cell." Unfortunately, *obytná* also can mean "livable," "inhabited," or "occupied," and thus it transcends the notion of mere habitability. With that broader meaning in mind, I decided to use "live-in cell," even though "dwelling unit" is the technical term most often used today. Another reason for maintaining the distinction was the desire to differentiate between units specifically designed for collective dwelling ("live-in cells") and single-room units in conventional housing types ("dwelling units").

Like all Europeans, Teige designates length, area, and volume in metric units. Though some American readers may have difficulty visualizing these measurements, they have been left in their original form, for reasons of both authenticity and accuracy.

Finally, a few words concerning Teige's style. As already mentioned, the text is a mélange of ideological rhetoric, radical proclamations, scientific reportage, and utopian reveries. In his manifesto mode, Teige uses short, terse sentences, punctuated by both exclamation and question marks. When he undertakes technical reportage, Teige switches to pedantic, long-winded sentences, interrupted by a plethora of colons and semicolons. Whether these stylistic devices were intentional is hard to judge in retrospect, since much of his other writing is composed of a similar mixture of exclamatory and explanatory phraseology.

Teige's ideological passages are highly didactic in tone and full of Marxist cant. Here, the text reads more like party propaganda than a technical report, especially since it includes lengthy quotations from the pantheon of Marxist writers (generally lacking full attribution). Such passages add to the commixture of genres. One reason for this hodge podge is hinted at in Teige's own postscript, where he informs us that the original text could have easily filled several volumes and that this final, abridged version was put together with some haste.

No attempt has been made to tone down or edit out duplications or locally colored detail, despite an overwhelming temptation to do so. Initially, I intended to differentiate some of these passages by using a smaller type, or by shading them gray, but I abandoned the idea, as "demoting" those passages would have introduced a personal bias. On reflection, I decided not only to leave the text unabridged but also to reproduce (in English) its original typeface, graphics, and overall format (including a replica of its original cover), all of which were also designed by Teige.

Teige originally intended the book as a contribution to the deliberations of the International Congresses of Modern Architecture (CIAM) as well as a theoretical treatise on the advantages of collective housing. In its translation it has metamorphosed instead into a historical document of the turbulent era of the first half of the twentieth century, as Teige's utopian dreams were overtaken by events that ended in the almost the exact reverse of what he had hoped for: Speer's Reichstag in Berlin, Iofan's Palace of the Soviets in Moscow, and—instead of the poetry of life—communism without a human face in Prague.

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Alice Falk has contributed significantly to the revision of the final version of this translation by her meticulous and context-sensitive interventions. Any remaining errors or omissions are the sole responsibility of the translator.

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translator's introduction

Born in the year 1900 in Prague and dead by the age of fifty-one, Teige was a true child of the twentieth century. The trajectory of his life coincides almost exactly with that of the birth and death of the modernist avant-garde in Europe. In order to understand his intellectual and ideological development, it may be useful to briefly recapitulate the major events that affected Europe during the twenties and thirties in general, and the fate of his own country—Czechoslovakia—in particular.

Teige was eighteen years old when the Czechs and Slovaks gained their independence from Austria-Hungary. He was thirty-nine when the Germans marched into Prague and declared Bohemia and Moravia their "protectorate." At forty-five he welcomed the Soviet army as liberators, and at forty-eight he thought that his dream of a new socialist order might have come true with the assumption of power by the communists in Czechoslovakia (even though Stalin's show trials of 1936 had severely shaken his belief that the "realm of freedom" would be easy to realize under Bolshevik conditions). When he was fifty, "the dictatorship of the proletariat" in his own country declared him to be a "Trotskyite degenerate," excluded him from all public functions, terminated his publishing career, and finally mounted a vicious press campaign against him in the leading Communist daily newspaper *Rudé Právo* (*Red Justice!*). Exhausted, lonely, and disappointed, Teige collapsed with a heart seizure on the street, as he was waiting for a streetcar. Within days, the secret police had raided his apartment, confiscating all his books and manuscripts and removing them to be "stored" in their archives, never to be recovered—even after the liberation of Czechoslovakia by the "Velvet Revolution" in 1989. The only documents found when the archives were opened were lengthy protocols of Teige's alleged anti-communist activities and transcripts of interviews with informers and other so-called Trotskyites.

Brief excerpts from these files of the secret Communist State Security, recovered only recently by the Teige Society in Prague, provide the flavor of "proletarian justice"; in the "Protocol of police testimonies and the Gestapo on Trotskyites, dated 13 January 1950, Document no. 305-738-1/Trotskyite Surrealists" we find Teige's alleged comments on the failure of the Soviet system:

he [Teige] told me that an era of bourgeois society is evolving [in the USSR], where in place of a financial oligarchy, the ruling class is represented by the state bureaucracy . . . and that the first revolutionary period has passed without results . . . and, do you know how [Sergei] Eisenstein ended up in the last years of his life? . . . as a Buddhist! (Secret police note: Teige knew Eisenstein and Mayakovsky personally) . . . and Mayakovsky in his old age became a Trotskyite and as a consequence of his decision had to commit suicide. When asked what to do, he [Teige] said: The only thing worth pursuing today is to dedicate oneself, as much as possible, to artistic activities . . . and solve one's problems in an individual fashion.[1]

One may well ask: why bother with Teige now, and particularly this text written by a Czech Marxist some seventy years ago? The reasons are many, but some of the more important ones, outlined below, should suffice to justify the publication of this translation.

It was Teige's early radical left-wing orientation that has resulted in his absence from both Western and eastern European historiographies, not to mention his persecution by the Soviet-inspired campaign to discredit him as a counterrevolutionary with "cosmopolitan" leanings (in Stalinist terms, this meant opposition to the slogan "socialism in one country," after the dismantling of the Third International; so-called cosmopolitans were accused of collusion with international capitalism, and thus of being enemies of the Soviet state). Silenced by the Stalinists, and published only in Czech, Teige simply escaped the attention of Western scholars. Even during the "Prague Spring" of 1967–1968, and despite some efforts were made by Teige's friends to revive his legacy, the occupation of Czechoslovakia by Soviet and East Block armies in 1968 put an end to any attempt to rehabilitate Teige's contribution to Czechoslovak avant-garde activities during the twenties and thirties.

Neither did the "Velvet Revolution" of 1989 immediately lead to renewal of interest in Teige's work, mainly as a natural reaction against dealing with anything and anybody associated with the communist past. It took almost five years, before a group of dedicated intellectuals decided to review Teige's legacy by publishing articles and mounting a major exhibition, solely dedicated to his work. Other exhibitions and numerous articles in western European journals of art and architecture followed soon after.[2]

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[1]) *Jarmark Umění,* Bulletin sploečnosti Karla Teiga, Zpráva o materiálech týkajících se Karla Teiga z archivu Ministerstva vnitra (Bulletin of the Teige Society, Report on materials concerning Karel Teige from the archives of the Ministry of the Interior) Prague, nos. 11–12 (1996): 3–7. This document contains the lengthy testimony, excerpted here, of a student of UMPRUM (the Institute of Industrial Arts), who was prosecuted by State Security for anti-state activities (as an agent of the "CIC") and sentenced to years of incarceration in the Leopoldov jail. In order to receive a lighter sentence, he offered his services to the StB (Communist secret police) and agreed to testify against Teige.

[2]) The publications on Karel Teige between the years 1966 and 1994 include Jiří Brabec, Vrastislav Effenberger, Květoslav Chvatík, and Robert Kalivoda, eds., *Karel Teige—Výbor z díla* (Selected works), 3 vols. (Prague, 1966–1990): vol. 1, *Svět stavby a básně—Studie z 20. let* (The world of building and poetry: Studies of the twenties) (1966); vol. 2, *Zápasy o smysl moderní kultury—Studie z 30. let* (Struggles for the meaning of modern culture: Studies of the thirties) (1966); vol. 3, *Osvobození života a poezie—Studie z 40. let* (The liberation of life and poetry: Studies of the forties) (1990, published only after the Velvet Revolution); *Umění* 43, nos. 1–2 (1995), a double issue entirely dedicated to Teige; and *Rassegna* 15, no. 53/1 (March 1993), an issue entirely dedicated to Teige. Exhibitions include *Devětsil—Czech Avant-Garde Art, Architecture, and Design of the 1920s and 30s* (Museum of Modern Art, Oxford, and the Design Museum of London, 1990; also exhibition catalog of same title); *Karel Teige: 1900–1951* (Gallery of the City of Prague, 15 February–1 May 1994; catalog in Czech with the same title); and *Teige animator (1900–1951) en de Tsjechische avantgarde* (Teige the animator and the Czech avant-garde) (Stedeljik Museum, Amsterdam, 4 February–3 April 1994).

The belated introduction to Teige's oeuvre to an English-speaking readership may be attributed to two main reasons: geography and language.

On page **311,** Teige provides a sun angle diagram, which places Prague at the longitude 14° 26′—that is, just one degree east of Berlin. Why, then, is Prague seen as located in eastern Europe, while Berlin is always referred to as a western European city? And indeed, how does one define the term "central Europe"? Is it a cultural, political, religious, or linguistic entity, or a clearly defined geographical region? Or is it a territory located somewhere between the "zones of influence" of the "great" powers of both East and West, who have over the centuries arbitrarily decided to dismember, annex, carve up, and reconstitute it; have given independence to it and taken independence away; have supported or opposed this or that government; and have generally wrought only confusion, war, and endless displacements of borders and populations? And yet, despite all, that unfortunate region of Europe is and always has been a place of remarkable achievements in all spheres of human endeavor, the Czech lands being no exception.

Moreover, while most Western scholars are proficient in the major languages of historical discourse—usually French, English, and German, and occasionally even Russian—few are even faintly familiar with Czech, Hungarian, or Polish, not to mention other "exotic" languages such as Romanian, Bulgarian, and Slovak. And the captivity of the speakers of these languages as vassals of the Soviet eastern empire for almost half a century has further impeded any meaningful contact between their true cultural representatives and Westerners. Instead, for decades all information to Western scholars had to be filtered through Communist-controlled officially sanctioned cultural exchange mechanisms, academic or not. Such rigid control led not only to distortions caused by politically motivated "translations" but also a certain bias in Western scholarship on eastern and central European matters, since during their ascendancy the Russians as a general rule carefully censored anything and anybody hostile to their interests. Fortunately, the collapse of the iron curtain in the 1990s has brought great changes, in part because access to original sources has suddenly revealed new and often surprising information and in part because scholars from eastern and central Europe are rapidly gaining acceptance as the equals of their Western counterparts.

These Westerns scholars now face two challenges. First, the received view that the historiography of modernism had been completed, save for filling in a few minor gaps, but is now threatened by the discovery of new texts, which have yet to be fully digested in their original form; their authors and contexts have hardly begun to be absorbed and integrated into the corpus of Western historiography. Second, and more subtly, much of this new material is in languages that by and large are incomprehensible to Western scholars; given that translating tends not to enhance one's academic career, the longer original texts have been slow to appear in translation. Fortunately, as scholars from central and eastern Europe rapidly become proficient in English, they are increasingly issuing their own original material from Western publishing houses. The willingness of the MIT Press to open the door to these authors and to translations of hitherto inaccessible material must be recognized as an important first step in overcoming the language barrier and in providing a permanent basis for advancing serious intercultural scholarship.

Even though Teige is finally receiving the attention he deserves as a major figure in the history of avant-garde modernism of the 1920s and 1930s, little is known in the west concerning the development of modern architecture in the Czech lands in general. Visitors to Prague may occasionally notice the Trade Fair Palace by Josef Fuchs and Oldřich Tyl (1925)—if they happen to be architects—primarily because Le Corbusier praised it during his lecture tour to Prague in 1925. In fact, before the publication of Rostislav Švácha's *Architecture of New*

Prague,[3] no comprehensive overview of modern architecture in that city had been published in the English language. In Brno, only Mies van der Rohe's Tugendhat House is considered an obligatory stop for architectural tourists, and few visitors will make the short detours necessary to visit some of the most remarkable masterpieces of Czech modernism, located in the provincial cities outside of Prague or Brno.[4] Only by becoming aware of the richness of this heritage can one go beyond recognizing his stature as a critic and theoretician in the international arena and begin to appreciate the influence of Karel Teige on the development of modern architecture in his own country.

Until 1918, Bohemia and Moravia were royal provinces in the multinational empire of Austria-Hungary (established in 1867). The center of its cultural activities in the nineteenth century was Vienna. Not only did Czech architecture closely follow the stylistic examples of the Viennese masters, but most architects received their training in that city as well. Only Munich exerted a comparable influence. Until the turn of the century, the dominance of Germanic cultural influences on Prague remained largely unchallenged, even though the emergence of the Romantic movement in Germany and the revolutionary years after 1848 ushered in a new spirit of national revival. As the first "modern" style—the Jugendstil—appeared, various national stylistic themes began to find their way into official architectural production and became part of the movement opposing the prewar unity of the classicist canon. The intellectual father of these changes were Otto Wagner, Josef Maria Olbrich, and (later) Adolf Loos.

The founding of the Czech Academy of Science in 1890 and the Prague Exhibition of Architecture and Engineering in 1898 signaled the arrival of the Czechs as an independent national force in the German-dominated cultural and intellectual environment of Prague.[5] Soon after, the first Czech-language architectural journal, *Zprávy spolku inženýrů a architektů v Čechách* (*News of the Association of Engineers and Architects in Bohemia*), was published in Prague, followed by *Architektonický Obzor* (*Architectural Horizons*). One of the most important events during this period of cultural self-assertion was the founding of the Spolek výtvarných umělců Mánes (Association of Creative Artists Mánes), which drew together Czech artists, architects, poets, and intellectuals and which has survived as a locus of cultural activities to this day.[6] The first exhibition mounted by the Mánes group, which took place in the Topičův salon in Prague in 1889, was clearly intended to position Czech art and architecture in the mainstream of contemporary European avant-garde production. Members declared in the journal *Volné Směry* (*Free Directions*): "Modernity does not mean the mere negation of all that exists as of now; it is not a chase after superannuated ephemeral slogans, nor does it manifest itself by a transposition of every foreign impulse to our soil, but represents a logical and historically deter-

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[3]) Rostislav Švácha, *The Architecture of New Prague, 1895–1945,* trans. Alexandra Büchler (Cambridge, Mass., 1995).

[4]) For example, buildings designed by Evžen Linhart, Pavel Janák, Oldřich Tyl, Jan Kotěra, Josef Havlíček, Jaromír Krejcar, Vít Obrtel, Josef Chochol, Jan Gillar, Ladislav Žák, Václav Hilský, Jiří Voženílek, Jiří Štursa, Jiří Kroha, and many others. Good starting points for the student of Czech modern architecture are Rostislav Švácha, "Before and After the Mundaneum: Teige as Theoretician of the Architectural Avante-Garde," trans. Alexandra Büchler, in *Karel Teige, 1900–1951: L'Enfant Terrible of the Czech Modernist Avant-Garde,* ed. Eric Dluhosch and Rostislav Švácha (Cambridge, Mass., 1999), chap. 7 (pp. 107–139), and his *Architecture of New Prague.*

[5]) See Derek Sayer, *The Coasts of Bohemia: A Czech History* (Princeton, 1998), esp. chaps. 3 and 4.

[6]) One may assume that the Mánes group also served as the model for Devětsil, an association of artists and intellectuals founded in 1919 that became Teige's main forum for propagating his avant-garde views on art, architecture, poetry, photography, film, and typography.

mined step forward in the natural evolution of our art."[7] That evolution entailed reorienting Czech art and architecture from Vienna and Munich to Paris and Berlin. Still, the real question of what the essence of a national art and architecture should be in the context of national pride and eventual independence remained unanswered.

World War I not only destroyed the political ties that bound central Europe under the Hapsburgs but effectively cut the umbilical cord between Vienna and Prague in matters of cultural influence. Czechoslovakia became an independent republic on 28 October 1918, with a political system that resembled that of the United States or France more than the constitutional monarchy of Austria-Hungary. In the wake of the newly won independence of Czechoslovakia came two countervailing tendencies in cultural development, reflecting two opposite desires: to establish a distinct national identity by reaching back into the historical past of the Czech lands, resuscitating the emblematic elements of a more or less folklorically colored Slavic tradition of native origin, and to become an equal member of an international, more cosmopolitan circle of cultural influences, taking Paris, Berlin, and later Moscow as the new sources of intellectual and artistic inspiration. From the very beginning, Teige threw in his lot with the cosmopolitans and the modernists.[8] His vision of the new Czechoslovakia is of a country fully integrated into the international community of avant-garde artists and intellectuals.

Teige's views on modernity were rooted in the early programmatic statements of the Mánes group, who believed that the sources of modernism could be found primarily in the daily realities of modern life, rather than in fanciful reconstructions of a romanticized national tradition. It is in this sense that Teige rejected the "traditions" of historicism, stylistic academicism, and political conservatism. Like many of his contemporaries in the international avant-garde movement, Teige was a committed Marxist and a believer in a socialist future of humanity. Thus, for Teige modernism meant that utility and reason, tied to progressive national political development, were the main sources of national renewal; identity could not be won by mindlessly copying traditions and romantic notions of a long-gone golden age. Teige's later views on functionalism and utilitarianism in architecture were also a clear reflection of his great admiration for the Enlightenment ideas of the French Revolution and its two siblings: American pragmatism and Marxist historical determinism.

A more nationalistically tinged source of inspiration for the development of Czech modernism came from Otto Wagner, who trained many of the younger generation of architects who later became prominent figures in the newly independent Czechoslovakia. It was Wagner's new aesthetic, which elevated the tectonic element in construction as a major determinant of architectural form making, that prepared the way for Teige's later acceptance of functionalism. It enabled Teige to see construction as the purest expression of the tectonic sources of modernism and inspired him to include the new functional requirements of a socialist transformation of society's needs in the theory of modern architecture. Jan Kotěra, who was one of Wagner's students, also expressed this new desire to meld the modern with the national in *Volné Směry:* "Our age differs from previous ages in its artistic turmoil and economic spirit. . . . [T]his obliges us to find our own way toward creating the foundations of a new architecture."[9]

Even before Teige and Vítězslav Nezval issued their poetist manifesto in *ReD* in 1929,[10] the Czech poet F. X. Šalda tried to define the nature of beauty in the modern age in his lecture

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[7]) Josef Pechar and Petr Ulrich, *Programy České architektury,* vol. 3 (Prague, 1981), 17.

[8]) See Dluhosch and Švácha, *Karel Teige, 1900–1951,* esp. Karel Srp, "Karel Teige in the Twenties: The Moment of Sweet Ejaculation," trans. Karolina Vočadlo, chap. 2 (pp. 10–45).

[9]) Pechar and Ulrich, *Programy České architektury,* 20.

[10]) "Manifest Poetismu" (Poetist manifesto), *ReD* 2, no. 2 (November 1929): 317–335.

"Nová krása, její genese a charakter" ("The New Beauty: Its Genesis and Character"), presaging the later programmatic theses of Devětsil and Teige's ideas in *Stavba a báseň* (*Building and Poem*).[11] Šalda expanded the notion of the German *Gesamtkunstwerk* to the entirety of modern life, arguing that not just architecture but all of life's mundane experiences would be transformed by the poetic. The principle of poetism holds that the new art will not and cannot be academic, alienated from ordinary, everyday life by intellectual reification; it must become organic and unified, reaching toward a higher synthesis between truth and beauty, beauty and purpose, poetry and ecstasy, fantasy and logic, and—ultimately—dream and life.

Teige embraced this view of the future, but he was convinced that such a synthesis of desire and reality could be achieved only under socialism after Marxist dialectical materialism had triumphed, with the result that the state had withered away and the "realm of necessity" had been transformed into a "realm of freedom." Teige was not naive enough to believe that this change could be accomplished easily and rapidly, or that events in the then young Soviet Union would guarantee this happy outcome for the rest of humanity. Still, with the horrors of the (first) world war a fresh memory, his hope that humanity would learn from that experience and accept the need to embrace a different way of living made him cling to his utopian dreams until the mid-1930s, when political events began to close one avenue after another that promised to lead to his "life as dream." His first articulation of "functionalism with a human face" (to paraphrase the slogan of the failed 1968 attempt to humanize communism in Czechoslovakia) was published in the first Devětsil manifesto of 1920.[12]

F. X. Šalda and Jan Kotěra, joined later by Karel Teige, may be considered the godfathers of a native Czech modernist movement in architecture. Inspired primarily by early cubism and purism, Šalda and Kotěra helped create Czech architectural cubism, a form unique in Europe. Even though Teige condemned Czech cubist architecture as overly abstract and formalist, he nevertheless recognized its value as an expression of the revolt against academic eclecticism; he also understood its appeal as an antidote to the purely mechanistic rationalism and spiritually empty utilitarianism of the German-inspired *neue Sachlichkeit*. Characteristically, its architectural features include the stereo-plastic treatment of the tectonic elements of facades and geometrical distortions of the structural support elements within. However, unlike art nouveau, Czech cubist architecture did not seek inspiration for its forms in nature; instead, it tried to imbue "structure" with a dynamic and visually emotive set of "proto-forms," whose geometry was designed to emphasize the perceptual "reading" of abstractly rendered lines of "fields of force," defining both space and structure.[13] Teige rejected such visual metaphysics on principle, even though he realized that Czech cubism had much in common with the first phases of Russian constructivist designs, which similarly drew inspiration from cubism. And while he rejected references to the baroque and Gothic styles made by Czech architectural cu-

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11) F. X. Šalda, "Nová krása, její genese a charakter," *Volné Směry* 7 (1903): 169–178, 181–190.

12) "Umělecký svaz Devětsil" (The Art Association Devětsil), *Pražské pondělí* 2, no. 49 (6 December 1920): 2. "This was the first Devětsil manifesto. The founding members of this art group chose a highly original name for themselves—*Devětsil* (Butterbur). In Czech this term has two meanings. The first is literal: a perennial plant or herb with pink or white flowers that grows near water (*Petasites vulgaris*). The second is allegorical, meaning 'nine forces' or 'nine strengths' (in fact, there were not nine members affiliated with the group). Devětsil thus acquired one of the most fetching names of any art group of the twentieth century" (Srp, "Teige in the Twenties," 42 n. 1). Who chose the name and why remains a mystery.

13) Josef Císařovský, *Jiří Kroha a meziválečná avantgarda* (Jiří Kroha and the interwar avantgarde) (Prague, 1967), 13–16.

bism, he became excited by steel and concrete skeleton construction, which opened up new spatial opportunities for architecture that had been impossible with masonry construction (which led to buildings that were confined and boxlike).

His rejection of historical precedent and of applying metaphysical notions of space led the "quarrel between generations,"[14] which caused a serious split between those (usually older) members of the avant-garde who saw some merit in respecting historical precedent and Teige, who demanded a new start outside of accepted historical categories and who saw first constructivism and then its outgrowth, functionalism, as the only way to escape the prison of historical memory (at least in architecture). This controversy, which marks the emergence of Teige as an influential critic and theorist of architecture, coincided with the end of the first phase of the modernist movement in Czechoslovakia, as the cubist style was absorbed into commercial architecture as ornament and as a new generation of young architects emerged. Many of these young architects became members of Devětsil and produced purist-functional designs, as suggested by Karel Teige.

Teige's first pronouncement on modernism was the essay "Obrazy a předobrazy" ("Figurations and Prefigurations"), which appeared in the second issue of the journal *Musaion.* There he writes that "normally, the end of culture would signify the end of the world . . . but for our era, it signifies a new beginning. It is for this reason that we must create a new concept of the moral and intellectual map of a new world and of genuine humanity, because man must be considered as the principal subject of the new art, never its mere object." Art was to become truly the art of all the people, not split into "high-" and "low-brow" versions; thus "the basic building blocks of our common efforts in art will be . . . love and longing, love and the hatred of evil, rather than gold and precious stones, or the greedy conquest of markets and escape into colonialism, all of which have ruled the old world, now torn to shreds by the explosion of the war."[15] In Teige's vocabulary of the twenties, **people's art** meant "proletarian art." However, this phase of intellectual populism did not last very long. In 1922 Teige, along with his poet friend Jaroslav Seifert (later a Nobel Prize winner), was expelled from Proletkult for the trivial reason that he had published an article in a centrist daily—a foretaste of his later difficulties with the hard-liners of the Communist Party in Czechoslovakia.

In 1921 Teige visited Paris, where he met Ozenfant and Le Corbusier, among other notables of the artistic avant-garde then living in the city. The Paris visit became one of the pivotal experiences of Teige's intellectual development, matched only by his visit to Moscow in 1925. It was his meeting with Le Corbusier in Paris that led to his famous quarrel with the master, known in the West as the "Mundaneum affair,"[16] a quarrel that first brought Teige to the attention of Western scholars. Teige admired Le Corbusier's bold rejection of historical styles and his grand urban schemes but deplored his "formalistic" acceptance of "regulating lines" based on the golden section on the facade; most of all, he criticized Le Corbusier's acceptance of monumentalism as a legitimate device of architectural creation. Yet Teige reversed his earlier position on cubism and purism, coming to favor both movements (albeit with reserva-

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[14]) On the "quarrel between generations, see Srp, "Teige in the Twenties." Teige believed that each succeeding generation has to establish its own views in both artistic and theoretical endeavors, thereby liberating itself from the influence of the preceding generation. He formulated the "law of antagonism" as the dynamic force driving historical processes" (16).

[15]) Karel Teige, "Obrazy a předobrazy," *Musaion* 2 (1921): 52.

[16]) Karel Teige, "Mundaneum," *Stavba* 7 (1928–1929): 145–155. See G. Baird, "A Critical Introduction to Karel Teige's 'Mundaneum' and Le Corbusier's 'In Defense of Architecture,'" *Oppositions,* no. 4 (October 1974): 80–81.

tions); he subsequently published "Kubismus, orfismus, purismus a neokubismus v dnešní Paříži" ("Cubism, Orphism, Purism, and Neocubism in Today's Paris") in *Veraikon.*[17]

Teige made contact with Walter Gropius when Czech architects participated in the Bauhaus Exhibition on International Architecture in August 1923. Two years later, Teige invited Le Corbusier and Ozenfant to lecture in Prague in the Club architektů (Architect's Club), where Le Corbusier met members of Devětsil and visited a number of Czech modern buildings in Prague (chief among them the just-built Trade Fair Palace). Later, in October 1925, Teige visited Moscow and Leningrad (now St. Petersburg) as a member of the Czechoslovak-Soviet Friendship Society. There he met representatives of the Soviet constructivist movement and personally surveyed the architectural situation in postrevolutionary Russia. Teige thus became one of the best informed and most articulate proponents of modernism in his home country, fully deserving his new position as chief editor of the architectural journal *Stavba.* He immediately set out to transform the journal into an important source of news on international modern architecture abroad.

At the same time, Teige introduced the Czechoslovak architectural community to his experiences in the young Soviet Union with his seminal article on constructivism, "Konstruktivismus a nová architektura v SSSR" ("Constructivism and the New Architecture in the USSR").[18] Teige's "Sovětská architektura" ("Soviet Architecture") was first published in a series of monographs in 1936.[19] Shorter versions on the same subjects appeared even earlier, in issues of *Host, Tvorba,* and *Stavba* published between 1924 and 1926.[20] An extended version of these essays with the title "Vývoj sovětské architektury" ("The Evolution of Soviet Architecture") was republished in 1936 in book form, and again in 1969, together with Jiří Kroha's contribution "Bytová otázka v SSSR" ("The Housing Question in the USSR"), in *Avantgardní architektura* (*Avant-Garde Architecture*).[21] During the thirties, Teige also became intensely involved in the controversies surrounding the fate of constructivism in the USSR. As part of these discussions, he invited Ilya Ehrenburg to lecture in Prague and published his comments on that lecture in *Stavba* as well.[22] He stated his own views on this subject in "Podstata konstruktivismu" ("The essence of Constructivism"), also published in *Stavba,* and "K teorii konstruktivismu" ("On the Theory of Constructivism") in *ReD.*[23] Aspects of Teige's Marxist view on architecture are set out in "Architektura a třídní boj" ("Architecture and the Class Struggle"), which appeared in the last issue of *ReD.*[24]

This list of Teige's publications on the subject of Russian architecture clearly reveals his tendency to recycle, review, modify, edit, expand, and occasionally correct his own writing, publishing shorter or longer versions of the same material both as essays and as books. The text

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17) Karel Teige, "Kubismus, orfismus, purismus a neokubismus v dnešví Paříži," *Veraikon* 8, nos. 9–12 (1922): 98–112.

18) Karel Teige, "Konstruktivismus a nová architektura v SSSR," *Stavba* 5, no. 2 (October 1926): 19–32, and no. 3 (October 1926): 35–39.

19) Karel Teige *Sovětský svaz* (Soviet Union) (Prague, 1936).

20) Karel Teige, "Umění soudobého Ruska" (The art of contemporary Russia), *Host* 4, no. 2 (1924): 34–46; "Z SSSR" (From the USSR), *Tvorba* 1, no. 5 (1 January 1926): 85–88; "Konstruktivismus a nová architektura v SSSR."

21) Karel Teige, "Vývoj sovětské architektury," in K. Teige and J. Kroha, *Avantgardní architektura* vol. 71, Československý spisovatel (Prague, 1969), 9–163.

22) Karel Teige, "Přednáška Ilji Ehrenburga, čili konstruktivismus a romantismus" (A lecture by Ilya Ehrenburg, or constructivism and romanticism), *Stavba* 5, no. 9 (March 1927): 145–146.

23) Karel Teige, "Podstata konstruktivismu," *Stavba* 5, no. 7 (January 1927): 111–113; "K teorii konstruktivismu," *ReD* 1, no. 2 (1927): 54–55, and recycled in *Stavba* 7, no. 1 (July 1928): 7–12, and no. 2 (September, 1928): 21–24.

24) Karel Teige, "Architektura a třídní boj," *ReD* 3, no. 10 (1931): 297–310.

"Vývoj sovětské architektury" ("The Evolution of Soviet Architecture") consists mainly if not entirely of material published previously under different titles. The only significant additions are his final, bitter comments on the "betrayal" of the modernist avant-garde by Stalin's decrees of 1932 and on the calamity of the Palace of Soviets competition held that same year.

At this point a summary of the arguments in "Vývoj sovětské architektury," Teige's extended discussion of constructivism, would be useful, since he considered constructivism not only the basis for his theory of collective dwelling but also the foundation on which his (and Nezval's) "poetist" utopia was to be realized. Teige also used constructivism as the starting point for a new theory and history of architecture, unencumbered by academic historicism and free of bourgeois metaphysics. This book was his first attempt to view the history of architecture independently of *post facto* historical notions of style and academic conventions of periodization. It aims instead at tracing constructivism's development from its early manifestation in utopian expressionistic symbolism, dependent on cubist and purist painterly models, to its mature phase, its most accomplished period, namely functionalism. Once free from relying on stylistic precedent, Teige believes, constructivism develops as a means of expression working actively to transform society in the direction of socialism.

The imposition of "socialist realism" by Stalin caused Teige much grief and confusion, as he seemed almost desperate to save his faith in the rightness of the Russian Revolution; he tried to understand the Russian need to abandon utopian architecture when faced with the realities of social and economic transformation necessary to rebuild the Soviet economy after the civil war. However, he could not bring himself to agree that neoclassicism and historical eclecticism could provide a formal vocabulary for socialist realism in the arts. He acknowledged that the backward state of Soviet technology and a long reliance on culture imported from the West made it difficult for the young Soviet state to leap into the unknown by embracing the utopian visions of the inexperienced young constructivists. The easy choice was to return to the "safety" of prerevolutionary, architecture, a return that included the reinstatement of the previous generation of specialists and architects in the reconstruction laid out in the first five-year plan in 1929. But Teige could not understand why constructivism and avant-garde modernism in all branches of the arts and literature should be both condemned by the party as an "ultra-left" deviation and labeled a surreptitious attempt by the same ultra-left avant-garde to introduce a foreign "cosmopolitan" capitalist element into Soviet cultural development. Despite his efforts to deal with these issues objectively and sympathetically, in the end Teige was unable to hide his deep disappointment in the superficiality and vulgarity of the arguments proposed by Stalin's cultural theoreticians, who tried to justify their preference for mindlessly accepting facades of czarist neoclassical and neo-Renaissance architectural pastiches as exemplifying the new "socialist" architecture.

Long before Anatole Kopp and others brought this subject to the attention of a Western readership with their own versions of what went wrong in Soviet avant-garde cultural development,[25] Teige not only managed to capture the confusion of these years but also indirectly provided the Soviets with a rigorous lesson, offering a tightly reasoned dialectical-materialist interpretation that modeled what he considered the correct way to write a history of architecture, based on Marxist principles.[26] Though he admitted that the efforts of the early proponents of constructivism, mostly represented by members of ASNOVA (the Association of New

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[25]) See Anatole Kopp, *Town and Revolution: Soviet Architecture and Planning, 1917–1935,* trans. Thomas E. Burton (New York, 1970).

[26]) Teige's thoughts on socialist realism are contained in his article "Socialistický realismus a surrealismus" (Socialist realism and surrealism) in the collection of lectures *Socialistický realismus* (Prague, 1935).

Architects), owed much to formal aspects derived from abstract painting and the elementarism and neoplasticism of Theo van Doesburg and Gerrit Rietveld and that the influence of the Bauhaus on early Soviet avant-garde architecture was considerable, he correctly observed that the later developments not only surpassed the achievements of Western architects but themselves influenced modernism in architecture.

The key difference between Teige's history of constructivism in the USSR and that of many Western scholars is his rejection of the view that it was merely one among other new-isms produced by the modern movement. To be sure, during its early phases it had accepted the formal language of painterly abstractivism; but it eventually "purified" itself from this formalistic mantra.

> [C]onstructivism wanted to overcome the dualism between art and technology and simplified its task by simply negating art and reducing architecture to a new technical craft, forgetting that throughout the ages art always operated on the fluid borders between material and spiritual culture. . . . Architecture remains a sphere that belongs both to material and spiritual culture and thus cannot be restricted to mere technical proficiency and declared to be identical with construction technology.[27]

What, then, should architecture be? According to Teige, it should transform itself into a new kind of science that would cancel out the old dualism between art form and technical form "not by denying art and embracing machine technology but by synthesizing . . . technological, sociological, and psychological factors of life."[28]

In other words, instead of viewing only formal theories of art as elusive and irrational, with idiosyncratic bases, Teige points out that even science has its irrational side (e.g., irrational numbers, such as pi) and that scientific creativity, which is informed by the possible variations of manipulated elements, always includes an element of the irrational. Variety and innovation in art can therefore be achieved by similar means: "Even architecture as science knows no shape and no object that is exclusively formed by purely utilitarian and technical factors, . . . but emotional and affective elements play an active role as well, including the influence exerted by subconscious sources of psychic energy."[29] Rather than abstract geometrical ornament, Teige argues for "a symphony of lines, surfaces, and volumes," dynamically combined into a spatial whole, based both on utilitarian function and on the model of a mathematician's intuition. As he grounds architecture in the contemporary context of science and technology, Teige dismisses the need for "timeless" rules of beauty in aesthetic theory and reminds architects that in reality "architecture does not know any 'eternal' laws, except the laws of nature and—above all—the laws of gravity and the density of matter. There is no such thing as a timeless 'space logic.'"[30]

This approach is somewhat more sophisticated than, say, Tatlin's categorical claim that "art is dead." Instead, Teige envisions a kind of "poetic functionalism," informed by science but modified by emotional and psychosocial factors; dedicated to the poetry of a good life, it would be free from all preconceived academic notions of "eternal" beauty and liberated from the constraints of the struggle for bare survival. It would make modern technology serve human well-being rather than greed and war. Embedded in the criticism of formalism is Teige's lifelong quest for developing a new theory (and history) of architecture, a theory based neither on accepted formal categorizations of architectural periods by style nor on the *neue Sach-*

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[27]) Kroha, *Avantgardní architektura,* Teige, "Vývoj sovětské architektury," 39–40.
[28]) Ibid., 41.
[29]) Ibid., 40.
[30]) Ibid., 32.

lichkeit of Bauhaus functionalism, but instead on the sociological analysis of cultural shifts—shifts induced by both technology and ideology (religion is seen by Teige as just another ideology) and subjected to a rigorous dialectical-materialist analysis.

Seen from this perspective, even abstract geometric forms are always filled with a certain utilitarian content and are essentially socially determined, however much the proponents of "timelessness" may try to deny it or cover it up. To the extent that form does not comply with social conventions, it is perceived as alien, which explains to some extent the attempt of Stalin to win the cooperation of the Soviet masses by returning architecture to the use of familiar styles; after the upheavals of the revolution, these somehow become transformed into sentimental icons of security and stability. In Teige's view, such a return to the past is a grand deception, accomplishing a kind of double alienation. It may perhaps achieve its goal in the short run by masking an unpleasant reality with false icons of power and splendor; but once one looks beyond the splendid classical facades of the architecture of "socialist realism," one discovers only mindless utilitarianism. Teige calls this "Fordist pragmatism," that is, plans of the most banal and conventional kind, uninspired by the new lifestyles and new needs created by the very technology that facilitates the faking of such "timeless" architecture.

Confronted by the real state of technology and the needs for rapid reconstruction after the civil war, Soviet constructivism entered its functionalist phase. It was driven mainly by the need to invent new solutions for new social commissions, such as workers' clubs, collective housing, palaces of culture, new socialist settlements, and so on. Teige accepted this development as a welcome antidote to the earlier idealistic utopian phase in Soviet architecture, whose inventions were interesting and stimulating but unbuildable; but he decried the simplistic formulations of many of its new converts in the OSA (Association of Socialist Architects) and SASS (Architectural Sector of Soviet Construction). He criticized the leap from the former propensity to create new forms as an end in itself to a mechanical functionalism whose proponents see their primary role as fulfilling a utilitarian task and rely on that purpose alone to produce the appropriate form, neglecting the necessary theoretical preparation. According to Teige, a true functionalist architect is not merely the blind instrument of utilitarian imperatives but—quoting Mayakovsky—a socially conscious and technically literate "engineer of souls."[31] Instead of idolatry of the machine the need "to measure architecture on the scale of the human being." As a new scientist the architect's task is to synthesize technology with sociology; in responding to each design task, he not only provides a "perfect" utilitarian scheme but also takes into account human spiritual and psychological dispositions, thereby opening the prospect for new solutions, which include the possibility of discovering new needs and thus the opportunity to realize new forms. Teige calls this change a transition of architecture from being a *monument* to becoming an *instrument*.[32] Another way to put this is adapt Adolf Vogt's contrast between "new wine in old bottles" and "old wine in new bottles":[33] Teige demands new wine in new bottles.

The rejection of the avant-garde movement in Soviet architecture has been extensively described elsewhere, and there is no need to repeat the details here. Suffice it to say that the dissolution of the various avant-garde groups and Stalin's personal dictate "to combine Russian revolutionary fervor with American know-how" led in effect to the death of modernism in the

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31) A good definition of functionalism and the genesis of architectural form can be found in note 5 of Teige's "Introductory Remarks" (chapter 1) in this volume.

32) Teige, "Vývoj sovětské architektury," 42.

33) A. M. Vogt, *Revolutionsarchitektur: Zur Einwirkung des Marxismus und des Newtonismus auf die Bauweise* (Cologne, 1974).

USSR and rudely awakened Teige from his illusions about Russia becoming "America with socialism." Commenting on the arguments advanced by the enemies of modernism (which included Stalin, of course), Teige wrote sarcastically: "Reading the polemics published by VOPRA [the Union of Proletarian Architects, and others], one has the impression that the vast majority of Soviet architecture is effectively in the hands of counterrevolutionary elements!"[34]

Teige did not live long enough to experience the other catastrophe of misguided functionalism, best exemplified by the "boxes" made of prefabricated concrete panels in and around most Russian cities (and later European cities as well), which were "functional" only in their adherence to the strict criteria of efficiency made possible by factory mass production. They offered stripped-down miniature versions of conventional apartments designed for a small family household, and in general represented all that Teige found reprehensible in his attacks on the petit bourgeois lifestyle. These mass-produced housing boxes were met with horror and hostility across broad segments of the Russian population (and, somewhat later, of the Czech as well), a reaction that made the task of stopping this "ultra-left deviation" much easier for the Party. Conveniently, the Party largely succeeded in shifting the blame for this disaster onto avant-garde modernism, thus protecting its bureaucrats—the apparatchiks who managed and produced these monstrosities—from overt criticism and the Party from having to admit to a major policy failure.

By that time, Teige had already delivered his post mortem on these developments: "Today's chaotic theorizing in Soviet architectural circles cannot but be reflected in prevailing Soviet building practice: either passive aping of antiquity and the Renaissance, or a tottering eclecticism. . . . By such academic and eclectic practices the idea of socialist realism has become vulgarized."[35]

Much of the material contained in these essays and books can be found dispersed throughout the text of Teige's *Nejmenší byt* (*The Minimum Dwelling,* 1932; particularly chapters 13 and 14). Teige thus became both the paragon and critic of the modern movement in Czechoslovakia. His path led him from naive proletarian cultism to purism, constructivism, and functionalism, then via poetism to surrealism and eventually to his ecological utopia of the "inhabited landscape" (discussed at the end of this essay).

In fact, Teige's first coherent statements of his views on architecture and what he considered to be the most important elements of architectural modernism were published as early as 1924 in various articles. They are worth recapitulating here in condensed form:

- The new architecture is *elementary,* in the sense both of the "purist" form of its vocabulary and of its mission as an instrument for accommodating the social and psychological needs of humanity in a new age.
- While transcending naive idolatry of machines and positivistically colored functionalism, it is imbued with the spirit of *frugality of means* and *functional purpose* in the anthropometric and the psychological sense.
- Its forms are determined not by a priori stylistic "inventions," idiosyncratically arrived at, but only as a response to the actual needs of our time, reflecting their dialectical relationship with the systemic superstructure.
- The new architecture is antidecorative, rejecting not only surface facade decoration but also any system of preconceived "eternal" proportions and geometrical relationships.[36]

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[34]) Files of Communist State Security, Document no. 305–738–1, pp. 6–7. The best report on the cultural situation during the 1920s and 1930s in the former Soviet Union is by Isaiah Berlin, "The Arts in Russia under Stalin," *New York Review of Books,* 19 October 2000, 54–63.

[35]) Teige, "Vývoj sovětské architektury," 73.

[36]) This claim is clearly directed against Le Corbusier's "regulating lines."

• If any perceptual effect is to be registered, it must be the result of the application of minimum means (see above) and the judicious choice of the most suitable materials and methods of construction offered by modern technology and industry; these are intended to serve the comfort, health, happiness, and collective well-being of the greatest number of people.
• The new architecture is dynamic, meaning antimonumental, built not for eternity but as part of an evolving dialectical process that takes into account all the achievements of both modern technology and modern perceptual sensibilities as quantitative ingredients of a qualitatively new moment. As the new architecture evolves, it will enable humanity to pass from the "realm of necessity" to the "realm of freedom" in an environment free of exploitation, greed, and oppression.
• Finally, the dualism between the exterior and the interior of the building must be overcome to arrive at an open plan, as must the antithesis between city and country.

This program was clearly inspired by the general program of modern architecture, as established by the Athens Charter of the International Congresses of Modern Architecture (CIAM).[37] However, it does depart from the "general line" in a number of significant ways. One of the most radical disagreements is Teige's uncompromising stand against what today may be called "signature" architecture; that is, the conversion of architecture from an expression of the collective will of a society to the expression of a few "masters," elevated as pacesetters of fashion and of constantly changing stylistic trends. Teige considered architecture to be the product of a sociologically justified corpus of collectively arrived-at principles; individual talent was to become a stimulating, generative force, capable of imbuing the useful with the psychologically attractive and aimed at transforming humanity's dream of a poetic life into the reality of built form in a restricted sense. In examining any individual contribution, one therefore emphasizes not the formal accomplishments of this or that "genius," but the sublimation of individual creativity in the service of the common good. The programmatic vehicle of this vision was to be Teige's (and Nezval's) program of "poetism." The architectural version of this poetist vision is contained in Teige's *Stavba a báseň.*

A brief synopsis of the fate of Czechoslovak architecture after Teige's death in 1951 is appropriate here. With the assumption of power by the Communist Party in Czechoslovakia in 1948, the nature of architectural practice was brought closer to the Soviet model of state-controlled design collectives. One of these was Prague's influential Krajský projektový ústav (KPÚ, the Regional Design Institute), with Josef Havlíček as its director. Havlíček was a member of the interwar architectural avant-garde, belonging to Devětsil and the Mánes Club of Architects as well as CIAM. Before assuming the post of director of the KPÚ, he had worked in New York, where he was member of the international team responsible for designing and constructing the United Nations complex. It may be assumed that he and Teige knew each other well. Despite his international prestige and long, distinguished career as an architect, his position in the KPÚ was more symbolic than executive, since most decisions were actually made by Josef Pokorný, a Party member who was the chairman of the Czechoslovak Union of Architects. Later, architects of Stavoprojekt, many of whom had also been members of the avant-garde and Devětsil,[38] also joined the KPÚ.

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[37]) Teige's relationship with CIAM is described in great detail in Klaus Spechtenhauser and Daniel Weiss, "Karel Teige and the CIAM: The History of a Troubled Relationship," trans. Eric Dluhosch, in Dluhosch and Švácha, *Karel Teige, 1900–1951,* chap. 10 (pp. 217–255). References to Teige's attitude vis-à-vis the CIAM conferences can also be found in Eric Mumford, *The CIAM Discourse on Urbanism, 1928–1960* (Cambridge, Mass., 2000).
[38]) Those who joined from the original membership of Devětsil were Josef Havlíček, Vít Obrtel, and Jiří Kroha.

Between the years 1947 and 1958, most projects were still more or less based on functional principles and were controlled by members of the "old" avant-garde of the twenties and thirties. The influence of Soviet-style socialist realism grew more gradually in Czechoslovakia than in the other satellite nations of the USSR, mainly because the Czech construction industry had superior technology, which was capable of executing the most "modern" designs even before World War II; also, the principles of modernism had a much stronger hold on Czech architecture than on architecture in the relatively backward Soviet Union.

The first signs of the impending "Sovietization" of Czechoslovak culture appeared in the form of polemic articles in the Communist press, praising and publicizing the "glorious" accomplishments of Soviet architecture and thus obliquely criticizing Czech architecture. A more direct attack on avant-garde modernism was eventually launched in a resolution of the Central Committee of the Communist Party of Czechoslovakia, under the pretense of protesting the staging in Prague of Muradelli's opera *The Great Friendship*. The resulting chain reaction in all branches of culture in the republic led to the Party's demand that Stalin's views on art be extended to the field of architecture as well, with Zhdanov acting in effect as the cultural commissar of all the Eastern European satrapies of the Soviet Union. This effort to Sovietize Czechoslovak culture was bolstered by frequent "friendly" visits by Soviet architects to Prague and reciprocal visits by Czech architects (Party members) to the USSR, as well as by various Soviet-Czechoslovak cultural exchange events, such as an exhibition in Prague in 1948, *The Architecture of the Nationalities of the USSR*.[39] By 1950 the shift to socialist realism became de facto national policy, accompanied by the publication of a Czech-language version of *Sovietskaya Arkhitektura* (*Soviet Architecture*), the official organ of the Association of Soviet Architects.

The embrace of socialist realism also triggered the beginning of vicious attacks on Teige in the Communist press and the interrogation of other "Trotskyites" by the secret police (as excerpted above). Along with this general shift in cultural policy, the Czech journal *Architektura ČSR* (*Czechoslovak Architecture*) was "advised" to publish a number of theoretical treatises on socialist realist theory. It is not surprising that most architects in Czechoslovakia caved in under the pressure, much as those in the Soviet Union had done after 1932. Jiří Kroha was the only exception, holding fast to his functionalist principles just as Ginsburg and the Vesnin brothers alone had done in the Soviet Union in the aftermath of Stalin's "purification" of Russian culture. Others tried to compromise by designing functional floor plans but adorning their facades with socialist realist surface decorations and generally following the dictates of their Soviet masters.[40]

The biggest victim of the Stalinization of architecture was housing. As already noted, Teige would have recoiled in horror at the endless drab rows of prefabricated boxes of mass housing proliferating around all the major cities of Czechoslovakia. Here was the exact antithesis of his utopia of collective dwelling, resembling more the housing barracks of capitalist rent exploitation and greed than the joyful housing developments of a new socialist paradise. Some architects tried to mask the banality of this type of mass housing by introducing national decorative elements into their designs and calling it euphemistically an architecture of "national form with socialist content." Both approaches led to virtual caricatures of genuine

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[39]) Respect for separate nationalities became a convenient justification for the nationalistically colored restoration movement of the 1950s, which in fact provided a way to resist the homogenization of Czech culture caused by Soviet intrusions into its development.

[40]) In many ways this tactic reminds one of Albert Speer's strategy in designing Hitler's imperial Berlin during the 1940: Speer also used classical facades to hide the functionality of the underlying plans enabling the Nazi administration of the dreamed-of Third Reich to work efficiently.

socialist housing, uncannily resembling the flawed strategy of Vienna's "socialist" housing that Teige's book describes so well. The result was one of the most depressing collections of banality in the history of Czech architecture, one that still mars the architectural landscape of this small country and will be difficult—if not impossible—to erase from its map for decades, if not centuries.

The high point of Soviet cultural imperialism was reached with the erection of a 30-meter high statue of Stalin in 1955 the foot of Letná Hill, at the end of an important architectural vista that extends from Prague's main town square along the straight axis of the grand Pařížská Avenue toward Letná Hill.[41] It was demolished in 1966, as a result of Khrushchev's de-Stalinization efforts in the USSR. It should be noted that Khrushchev's famous 1954 speech did not signal an immediate return to modernism in Czechoslovakia: any outright criticism of any Soviet development was considered still too risky. Moreover, the presidium of the Czechoslovak Communist Party was composed of hardened Stalinists, who desperately clung to power and were unwilling to retreat from their former policies—especially in the area of culture, which was relatively easy to control. Instead, a kind of "engineering functionalism" emerged, which allowed the managers and bureaucrats of the state-run ateliers and factories more freedom in experimentation to improve the quality of prefabricated housing and bring it up to a more technically acceptable standard. As a result Czech engineers were freed from the obligation to copy the backward methods of Russian construction technology, thus being able to produce prefabricated houses very close to the level of those in Western European countries.[42]

The "thaw" of the late fifties and most of the sixties allowed a young generation of architects, not encumbered by the memories of the avant-garde architects of the twenties and thirties, to reassess Teige's doctrinaire ideas on the "quarrel between generations"[43] and to admit that a total rejection of history would in the end obliterate any vestige of Czech national identity and thus indirectly play into the hands of Soviet efforts to draw Czech history into its own historical and cultural orbit. Czech architects used the Soviet's own lip service paid to the cultural heritage of their own national minority cultures to justify the revival of nationalist elements in Czech architecture. The only way of keeping this memory alive without offending their soviet masters was to concentrate on projects of historical preservation and renovation. Thus as early as 1949 the "R-atelier" was founded within Stavoprojekt—a group that exclusively focused its design efforts on restoring historically significant buildings (thereby enabling the preservation of some modernist structures as well) and preserving national architectural treasures. This initiative was so successful that in 1954 it was given national status with the founding in Prague of the State Institute for the Reconstruction of Historical Cities and Towns. Paradoxically, it may have provided the only legacy of the communist era of lasting architectural value.

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41) A competition for the statue was announced in April 1949. It was won by the sculptor Otakar Švec and the architects Jiří Štursa and Vlasta Štursová; the materials used were concrete and granite. Stalin was presented in the uniform of a generalissimo, standing in front of a group—consisting of a soldier, worker, farmer, and scientist—meant to symbolize the brotherhood between the Czechoslovak and Soviet people. I owe this information to my colleague Rostislav Švácha.

42) Unfortunately, the prefabricated housing in Western Europe was just as unpopular as that of Soviet origin, even though it is technically superior in every respect to the soulless boxes built from the 1950s to the 1970s around Moscow, Leningrad, and every other large Russian city.

43) Teige rejected on principle to any role for historical precedent in the establishment of modernism; it was simply a force to be excluded from affecting the creation of a new architecture. History mattered only to the extent that it could function as the antithesis of modernism, making possible the absorption of "progressive" elements into its corpus—but only as part of a new synthesis, never as memory.

The period of 1955 to 1957 may best be described as dominated by the bureaucratic technicians and engineer managers of the prefabrication factories and by the large construction associations, which were given almost complete control of all new construction in the country. Teige's "economy and frugality of means" became perverted into mindless utilitarianism of the technocratic cast, with no attention paid to the psychological and lifestyle requirements of a putatively socialist way of living. Frustrated by their loss of control over design, Czech architects found an outlet in entering as many domestic as well as foreign competitions as time and energy would permit. In a strange twist of fate, this practice led to the rehabilitation of the reputation of Czech architecture, first abroad and eventually at home. The decisive moment was reached when first prize was awarded to the pavilion designed by František Cubr and Zdeněk Pokorný for the Brussels World Fair of 1958. The pavilion was moved to Prague in 1959 after the closing of the fair and became an instant success with the Czech public as well. Its success also sounded a wake-up call for architects in other Eastern and central European dependencies of the Soviet Union, and even in the USSR itself. In addition, it helped stiffen the resistance of Czech architects to their exclusion from participating in the design and construction of housing and civic construction projects in Czechoslovakia. Thus in 1960 the young generation of architects had the courage to launch an effort to rehabilitate the legacy of the Czechoslovak avant-garde of the twenties and thirties—unfortunately, too late for Teige to enjoy.

The brutal invasion of Czechoslovakia in 1968 by the Warsaw pact armies, intended to put an end to Czechoslovak attempts to provide communism with a "human face," cast a heavy shadow on liberalizing efforts in all branches of culture and civic life and effectively choked off any further attempts by Czechoslovak architects to bring architecture back into the mainstream of European developments. It took another twenty years before the door finally opened to a free and untrammeled development of Czech architecture within the European community at large. But although the iron curtain was lifted by the Velvet Revolution in 1989, there remained a huge deficit in the country's economic and cultural development that will take decades, if not longer, to close. Moreover, the liberation of Czech architecture from its Soviet imprisonment comes at a time when Western architecture has more or less abandoned the principles of avant-garde modernism of the twenties and thirties, substituting for them the somewhat nebulous and eclectically colored quasi-theories of postmodernism and deconstructionism, which have been unable to advance a credible argument in favor of architecture's playing a socially responsible role in the twenty-first century.

Perhaps this is a fortunate state of affairs for the Czechs, since it will allow their architects to contribute again to the renewal of architecture as a social art, rather than the playground of signature "masters" with their coteries of fawning critics and profit-driven media hype.

With communism declared a failed experiment, is there anything in Teige's legacy that has relevance to our own situation as we enter the twenty-first century? Perhaps a return to his first major book—*Stavba a báseň* (1927), a collection of his earliest writings on architecture—may provide the answer. Besides offering a fascinating critique of all the major figures of modern avant-garde architecture of that time (from Behrens to Le Corbusier), the book contains a chapter on the relationship between nature and modern society and thus—by extension—between nature and architecture. Remarkably, at age twenty-seven, Teige is already meditating on the problem of how to balance the needs of humanity with the necessity to respect and protect nature. However, unlike the romantic idealists who wish to go "back to nature" and return to some unspecified "golden age" of long ago, Teige recognizes that any such return to nature requires a "perfect technical civilization," aware of its potential and willing to correct its imperfections. "A return to nature in some ideological sense is impossible. Only a balance be-

tween technology and nature is possible. Nature is not only a symbol of beauty. It is—above all—a symbol of creative force." Such a "perfected" technology will have to reconcile the "artificial" human world of machines with the "natural" world of the organic. In other words, it must achieve a new symbiosis, what Teige calls "biomechanics."[44] Part of this "mechanical" world is architecture and its orphan, housing. Teige reconciles architecture and nature in his concept of the "composed landscape."

It is in Teige's essay "Předmluva k architektuře a přírodě" ("Prolegomena to Architecture and Nature")[45] that we find the synthesis between his earlier Marxist utopianism and a more mature and less politically charged vision of a possible architectural setting for "life as poetry." Many strands of Teige's earlier thoughts on architecture and urbanism are here woven together into a rich tapestry of a new vision of human settlement in harmony with nature and "benign" technology. This vision is largely purged of his early ideologically colored stridency and devoid of exhortations for a "proletarian revolution." Instead, a "synthesis between his earlier radical Marxist utopianism and his subsequent preoccupation with transmuting the socially conditioned and culturally imposed formal manifestations of the 'external model' into a psychosomatic and voluntarily generated poetic vision of the 'inner model,' as the dream images of the unconscious mind enter the life of modern reality as 'lived poetry.'"[46] History is finally admitted into Teige's vision, as he uses the English landscape garden as a model for human settlement in harmony with nature. Unlike the French or Italian formal gardens, his composed landscape is essentially nature nurtured and tended as a global garden. It is left alone in places either not suitable for human habitation or needing protection because of their fragile ecology. Wherever human settlement does occur, nature is not to be overwhelmed by brutal intrusion but should be sensitively rearranged, with its most valuable features intensified by careful "selection, transposition, and concentration of its 'ideal features'" (290).

Nature thus is not to be conceived as some picturesque and painterly tableau, merely to be looked at, but as a place to dwell in without doing harm. This vision has much in common with the current search for a "sustainable architecture" that works *with* nature, rather than against it. Such an architecture abhors pompous monumentality and formal exercises in bravado "masterpieces," which are to be replaced with "buildings that fit into their natural setting by taking advantage of each site's geological, geographic, climatic, and user-friendly features." The whole planet becomes a park, and each human settlement "a park in a park." In that sense, the structures designed will not be architecture in the conventional sense, subject to abstract schemes of formalistic styles or fashion "that negate nature"; instead, they will enhance the "real natural elements as symbols of what we call creative, plastic composition," merged "with symbols of the web of our dreams" (284).

Technology enters the composed landscape gently, primarily to liberate humanity from unnecessary drudgery and to make it possible for everybody to assert his or her right to be lazy—in the sense not of having nothing to do, but of using free time for contemplation, cultural activities, sports, and the improvement of health and general well-being. Teige calls this "the principle of human bliss." The hope is that humanity, living in and with nature, will abandon the artifices of contemporary vulgar entertainment and noisy leisure activities, thereby rising

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44) Teige, *Stavba a báseň,* 74–75.

45) Karel Teige, "Předmluva k architektuře a přírodě," in *Obytná krajina* (The inhabited landscape), by Ladislav Žák (Prague, 1947), 7–12. This essay is reprinted in vol. 3 of Teige's *Výbor z díla,* 257–290; all page citations, made parenthetically in the text, are to the reprint.

46) I make this point in "Teige's Minimum Dwelling as a Critique of Modern Architecture," in Dluhosch and Švácha, *Karel Teige, 1900–1951,* 183.

to a higher level of cultural existence. There the principle of bliss will be able to become reality, "in an autonomous, plastic, and fantastic ensemble of stone, vegetation, and water, realizing poetic space in natural space . . . that is, mythicized nature" (285).

In this de-politicized and surrealistically colored "utopia" we encounter a chastened Teige, purged of the ideological excesses of his youth and his earlier naive faith in the inevitability of resolving all human conflicts through society's wholesale transformation by revolutionary means, rather than relying on the dreams and aspirations of each individual human soul. Perhaps it is this vision of the future and not his ideologically colored quarrels with history and society that establishes Teige as a durable cultural influence, rather than merely the strident voice of the turbulent and chaotic first half of the last century. His final vision gives the lie to the gloomy predictions of the "death of modernism," and allows his legacy to endure beyond the momentary triumph of this or that ideological shibboleth of a confused but exciting century.

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foreword

The minimum dwelling has become the **central problem of modern architecture and the battle cry of today's architectural avant-garde.** As a slogan, it is announced and promoted by modern architects, because it sheds light on a situation that has reached a point requiring the radical reform and modernization of housing; as a battle cry, it calls for answers to the question of the current crisis of housing.

The greatest demand is for small-size and low-cost apartments, as confirmed by the statistics of both central and western European cities. These statistics show that the number of small apartments has grown during the last decade at an accelerated rate. Just as in the last century during the years of the growing expansion of large industry, so today the emerging class of industrial workers, along with the underqualified, unemployed, or underemployed workers of the so-called fifth estate of the imperialist era—that is, the masses of millions of those who are the tools of the current economic order—lack sufficient means and are forced to live on the lowest level of the so-called subsistence minimum, while our cities fail to offer them an opportunity for decent human living.[1] The question of the **minimum dwelling** has confronted

[1]) In Germany, as a result of massive unemployment and underemployment, which has to be taken into consideration as a phenomenon of today's economic order and as a permanent feature of this order, some architects try to solve the housing problem of the unemployed, part-time workers, and those who work for wages that are insufficient to cover daily expenses by resettling these people to the country, by a kind of garden colonization of the countryside. This **Umnsiedlung** [resettlement] is considered in Germany of great import, and the word is used as a slogan of lifesaving power. While the times of the industrial boom caused an influx from the village to the city, we experience a countermovement in times of production slowdowns, that is, the flight of inhabitants from the city back to the country, with a concurrent decrease of the population of cities. Workers, having lost their jobs as a result of industrial rationalization, are returning to the country, only to find an agricultural crisis there as well: evidently, they are now expected not to return to agricultural pursuits but to take up gardening instead, which is supposed to provide those who earn subsubsistence wages a supplementary income. Leberecht Migge, a German landscape architect, has become the apostle of this resurrected gardening ideology by promulgating the growing together of man with the soil and his cottage. These worker's colonies, just like the former industrial settlements surrounding cities, do not solve the housing crisis but actually cause it. Even if the land

contemporary architecture with the urgent task of facing today's social reality and its concomitant acute housing crisis. In fact, the housing crisis and poverty had been with us for decades even before 1918; but after the war, the situation has become catastrophic, a hopeless picture of misery causing cruel and unprecedented hardships, and has spread even to those strata of society that had previously remained unaffected. Statistics on poor health and housing conditions in European cities have become more or less commonplace. In the cities and villages of all countries of western and central Europe, the extent of the housing crisis can be summarized as follows.

Everywhere the number of people seeking housing is greater than the number of self-contained apartments available, which means that the housing shortage not only persists but is actually increasing; in all cities, about a quarter to a third of all apartments are deemed to be unsanitary, inadequate, or overcrowded, with approximately two-thirds of the population living in these overcrowded apartments; approximately **20 percent of the population of all large cities lives in barracklike hovels or trailer colonies** at the periphery or, being homeless, spend the night wherever they can. Statistics on wages and salaries show that **approximately three-quarters of the inhabitants live at the level of the so-called subsistence minimum,** or even below that level, and that **rents often consume more than half of the income of these people.**

The activities of the **International Congresses of Modern Architecture** (Congrès internationaux d'architecture moderne [CIAM]) and the executive committees of the delegates of CIRPAC (Comité International pour la Réalisation des Problèmes d'Architecture Contemporaire) have focused the attention of international modern architecture on the most immediate problem, the problem of the **minimum dwelling,** that is, the "dwelling for the subsistence minimum" (together with the problems of the contemporary city). The International Congresses of Modern Architecture inaugurated their activities in 1928 in La Sarraz in Switzerland, where the principles of their work were established and where their first manifesto was published. The second congress, held in Frankfurt in 1929, discussed the problem of the minimum dwelling (*Habitation minimum, Wohnung für das Existenzminimum*). The results of these congresses were published in the memorial volume *Die Wohnung für das Existenzminimum,* which contains 100 reproductions of small apartment floor plans for family, rental, and hotel-type housing. It is an excellent handbook and catalogue of various available housing types of diverse quality.

Clearly, the subject of the "minimum dwelling" cannot be exhausted by a single congress. For this reason housing was retained as one of the principal themes of the following congresses. The Third Congress, which took place in Brussels in 1930, occupied itself with this theme as well, but expanded its interest to the question of rational site planning of residential districts for popular housing. Concurrent with the congress in Brussels, the Belgian group organized a series of lectures and exhibitions, a kind of "Minimum Housing Week" (Journées de l'habitation minimum). The Czechoslovakian group, which was formed about half a year before the Brussels congress, participated for the first time and played an active role in the lecture series of the Journées de l'habitation. Members contributed site development plans for two projects

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parcels and materials for these garden settlements were purchased with the proceeds of unemployment funds, and even if the people built these cottages themselves, it would still be necessary to amortize these investments and burden the cottagers with heavy financial obligations, besides isolating them from the cultural life of the city and forcing them to live in conditions that do not meet the standard for acceptable human living. In reality, these garden settlements end up as colonies of barracklike shacks and house trailers and are thus being turned into a permanent slum for the poorest of the poor.

for collective housing (Havlíček and Honzík, Gillar and Špalek) to the exhibition, and also presented a detailed report on housing conditions in the ČSR, which was published in the congress proceedings. The Czech group also stated its position during the discussions on the question of high-, medium-, and low-rise housing. The author of this volume made a presentation on the subject of the new architecture and the housing question in Czechoslovakia during the same lecture series. The results of the Brussels Congress were published in the second volume of the proceedings of CIRPAC, with the title *Rationelle Bebaungsweisen* [*Rational Development Methods*]; it contained a few dozen reproductions of development plans of residential districts with small apartments (together with floor plans of these apartments for low-, medium-, and high-rise houses, as well as mixed height developments).

For its future work, CIRPAC agreed to continue with the themes of the minimum dwelling and rational site-planning methods, while at the same time expanding them to the urban scale, since such a change of scale indicates—by definition—the need for rational regulatory plans and discussions about whether to build high-, medium-, or low-rise buildings. During the CIRPAC conferences in Berlin (1931) and Barcelona (1932), it was decided to designate as the main theme of the next, fourth congress—which was to take place in **Moscow**—the question of the city: **functional city, constructivist city.** For the Moscow congress, the Czechoslovak group proposed to work out the economic, sociographic, building, and traffic analysis of Prague and, eventually, other cities in Czechoslovakia.

The international collective cooperation of modern architects, stimulated by the congresses and guided for some years by CIRPAC, has contributed very effectively to the elaboration and clarification of the problem of the **minimum dwelling** and has helped shed new light on the question of popular dwelling in many of its aspects, for the question of popular dwelling is not only a special concern of architecture alone but, if we are to understand it in all its complexity, needs to be dealt with by the full interdisciplinary cooperation between architects, sociologists, economists, health officials, physicians, social workers, politicians, and trade unionists. It cannot be considered separately from questions of production, societal conditions, the prevailing economic crisis, the material standard of the strata of the "subsistence minimum" (particularly the proletariat and working intellectuals), the level of salaries and wages and their dynamics, and—more generally—the wage system as a whole. The housing question would be viewed one-sidedly, wrongly, and distortedly if one failed to deal with it according to its relationship to the economic system and the structure of society, on the one hand, and with respect to the given state of the family and the domestic household, the ruling ideology, prevailing morality, customs, and the legal order, on the other hand. To deal with the question of the dwelling for the subsistence minimum—that is, the question of a popular and (most of all) worker's dwelling—is possible only synthetically, in all its aspects and within the context of all its economic, hygienic, ideological, and sociopolitical ramifications.

It is for these reasons that this book does not consider it as its primary task to offer the reader merely a tally of modern solutions for small apartments along with their analysis, evaluation, and interpretation; or to offer various suggestions on how it might be possible to equip popular apartments efficiently and at an affordable price, or on how to build low-cost housing; or to show by means of graphic examples correct or incorrect solutions. At this point in time, all this would only end in carrying coals to Newcastle, since we are currently witnessing a veritable flood of such architectural publications, both professional and popular, dedicated to this subject. During the past years we have experienced an ever-increasing demand for publications on housing and new brochures, as well as heavy and expensive coffee-table books on furniture and equipment for apartments, family homes, garden settlements, weekend cottages, and so on, which has not let up even during times of sagging construction activity; for

the number of new nuclear households being formed is still increasing, and there are still many intelligent people left who are trying to contract for a dwelling that is functionally efficient, of good quality, and built at low cost. These are the people who seek suggestions, instructions, information, and guidance from such books on modern dwelling. It is also for these reasons that new books and new editions are being constantly published in this branch of literature, chief among them texts popularizing the principles of civilized and healthy living. Considering the profusion of this literature (for which Germany holds the record), it is probably not an instructional publication that can provide the best service but rather a practical, well-conceived, and judiciously organized catalogue of rigorously selected mass-produced furniture and service equipment, to the extent that these items are available at reasonably low prices in the stores; or a catalogue based on knowledge of current production and distribution conditions; or perhaps a sample catalog of good-quality plans for small apartments, thoroughly worked out to achieve lower operating and construction outlays.

Our book is not meant to be regarded as such a handbook on modern housing for the less affluent, nor as a practical manual for those who intend to furnish their small apartment, or others who plan to establish their own household. Nor is it meant as a manual for developers, builders, or architects who are gathering material on model layouts or furnishing solutions for small apartments. Instead, it is meant to second the work of **CIRPAC and the International Congresses of Modern Architecture,** who have made the question of the **minimum dwelling** the focus of modern architecture. In parallel with the work of CIRPAC, the book will discuss the following themes:

The **objective conditions and actual difficulties** that may be encountered in trying to solve the problem of and to postulate policies for the design and planning of popular dwellings (e.g., production conditions; social structure of the population of cities and villages; population dynamics; demographic profiles of the housing shortage; hygienic conditions of popular settlements; functional aspects of housing, work, transportation, and supply in residential agglomerations; the relationship of wages to rent, speculation, social, and political legislation, etc.).

The social content of contemporary housing (e.g., the patriarchal family, its household, and its disintegration).

The principles guiding functional architectural solutions, which adhere to the **principle** of a dwelling minimum. In contrast to the usual small apartment floor plan types (e.g., apartments with a live-in kitchen, apartments with a small kitchen, apartments with a living room and a nook for cooking), which happen merely to be conventional adaptations of bourgeois floor plans, and which represent merely a quantitative change of the traditional bourgeois or farmer's dwelling, shoehorned into a small area and designed without first having established functionally valid norms for the dimensions of a dwelling area for an average household, this calls for a new postulate: **for each adult man or woman, a minimal but adequate independent, habitable room.** Just as particular types of a small apartments, such as those with a live-in kitchen, a small kitchen, or a living room with a cooking nook, are not simply commensurate variants and alternatives—each corresponds to a different lifestyle and a different social content, and each represents a manifestation of a different cultural level and a different socially determined world—so too, at a given stage, an apartment without a kitchen suggests a dwelling where each adult individual is provided with a separate dwelling cubicle, which may be considered the most developed and most progressive form of modern dwelling: one that transcends the framework of the traditional household type, one that is in effect the specific dwelling form intended for the working intelligentsia and the proletariat, and one that represents in embryonic form a new conception in the culture of dwelling.

The same applies to the discussions about low-, medium-, or high-rise buildings, as we discover that these are not really separate housing categories: the freestanding family house, the duplex, the row house, and the medium-size rental apartment house with stairwells or balconies, not to mention the large apartment house, are actually only different variants of accepted models of contemporary architecture, each determined by its own particular economic attributes. Thus, it is not a matter of just mechanically citing dimensions and numbers of stories: instead, what is important is which of these housing types either does or does not allow for, or promote, the concept of collective dwelling, by allowing the individual dwelling cell to be complemented by a scheme of central collective facilities and by incorporating all the required economic and cultural institutions in a single coordinated housing complex.

Site plans must be judged on the basis of similar criteria. Whether we are considering a closed or open block, or row housing, all must be combined in an organic fashion with the plan of a linear city, as recommended by Miliutin in his proposals for socialist settlements.

Finally, we shall critically examine a **new type of housing: the collective dwelling.** We intend to elucidate various and hitherto controversial solutions of this new type, and to sketch out the course of its future development under new social conditions: this is meant expressly as an answer to the various "ideal proposals, to be realized in the future" that are referred to in the questionnaires of CIRPAC.

At a time when the world is divided, when there exist side by side two types of economies, two civilizations, two societies, two cultures, and therefore also two architectures and two dwelling cultures—one decaying, even though it may have a modernistic surface appearance; the other progressive, advancing, and victorious—the author will not be satisfied by comparing in a neutral manner the various achievements of contemporary architecture but will pass his own judgment on the various individual systems of housing, site planning, and urbanism. We shall make a distinction between atavistic and decadent figurations, hidden behind the facade of modernistic outward appearances, and shall examine all those figurations from which it may be possible to extract certain useful and cohesive principles for the establishment of future patterns, so that nothing would go to waste that is of value in modern culture, that is healthy and perfect—in short, the best of the best. In addition, the book attempts to sketch out a prognosis of emerging as well as future stages of development, arising from actual reality and emerging in embryonic form from the most progressive manifestations of the present. This will also include presenting the reader with examples of emerging new forms of housing and the city, new lifestyles, and the anticipation of new social relationships. However, it is not the intent of this book to make idle prophecies; instead, it is more important to **read the story of tomorrow between the lines of today's realities.**

The real intent is to observe and notice not only how problems are posed but also how they can be solved, not just seeing them as an accumulating mass of common obstacles but primarily focusing on how they may be overcome. To show not only how the housing crisis has worsened but, most important, where to look for a way out. This is a matter not simply of diagnosis but of prognosis based on such a diagnosis. If you will, it is not merely a matter of establishing a creative working hypothesis for architecture, or of presenting the labors of a venturesome will, but it is above all a search for a methodical solution, based on the dialectical-materialist understanding of the developmental process and the course of its future development: it is a matter of guideposts, staked out ahead.

Furthermore, it is not our intention to present the reader with this or that "ideal proposition" as some kind of abstract, barren utopia. Nevertheless, the book does concern itself with a vision of the future that, in its implications and in its embryonic form, represents a prevision of that which is already germinating in the womb of today's real life, a vision that is cognizant of

its authentic beginnings, its origins and sources, and one that allows us to anticipate the higher qualities of its future, multifaceted forms. An architecture that has accepted dialectical materialism as its method thus evolves into a critique of life, its time, and society and becomes an instrument for their change and reconstruction. The dialectical evolution of modern architecture in housing and urbanism has reached a point where it is already objectively in contradiction with existing conditions and its societal contents: the resolute **no,** enunciated by the architectural avant-garde in a world wracked by economic anarchy and catastrophic **lack of planning,** is an expression of its revolutionary consciousness, as well as an expression of those creations of modern architecture that—despite growing out of the soil of mature capitalist technology—rise in opposition against the particularism and individualism of bourgeois culture and ideology. The modern view, which advocates the principle of collective dwelling in the question of housing and uniformly distributed settlements in the question of the city, is—understood dialectically—a conceptually valid antithesis with respect to the reality and existence of capitalism. **By the way, isn't modern architecture,** an architecture that lays claim to the revolutionary concept of constructivism and the functionalism of a general plan, **nothing other than a utopia transformed into science, and science becoming reality in return?**

The question of the **minimum dwelling,** the question of settlements for the broad strata of the subsistence minimum, where currently hundreds of thousands, nay millions, in our so-called civilized world do not have access to adequate housing, is not only a question of architecture, or a matter of building cheap new apartments; it must be considered one of the most important social questions in general, topped only by the questions of nutrition, work, and clothing. All this has been confirmed beyond doubt by the copious data of any research study of social health and by statistics on prevailing living standards. This point leads us directly from the study of the problem of popular housing to the study of today's production relations and related social phenomena. We are aware of the fact that if we want to get to the bottom of the problem and find a key to its solution, the form and structure of human dwelling—the house, the agglomeration, the city—cannot be viewed as isolated factors. Instead, it is necessary to view dwelling and the city as the sum total of certain relationships between people and social classes, and as a process that reflects the counterplay of social forces acting dynamically in the change of one set of forms into elements and structures of a higher order. For these reasons, any architectural or urban solution must be mainly the result of all these complex relationships, if we want to get to the bottom of the problem and find a key to its solution.

The title of this book, *The Minimum Dwelling,* is therefore an attempt to review and formulate the **housing question as it exists today** in all its complexity, dynamics, and actuality. Instead of offering general recipes and examples of how to improve and equip small apartments, we shall make an attempt to focus first on those aspects which shed a light on the general question of housing; we shall identify all those requirements and premises that are essential, before we can begin to consider questions of architectural and construction solutions in order to arrive at answers to a housing situation that will be truly social, human, and cultured and genuinely dedicated to the service of all the people in a new society.

At present, construction practice and commercial architecture are a public service only to the extent that they serve the "modern builder"—that is, the ruling class. We may read in one book statements such as "the real creator of modern architecture is not the architect, but the modern customer," but discover a more honest confession and a more exact definition of what a "modern builder" really represents in another, such as W. C. Behrendt's *Der Sieg des neuen Baustils* [*The Victory of the New Building Style,* 1927], where the same customer is ex-

horted to accept the "new style" because in his daily practice as businessman, factory owner, or banker, he represents the most modern human type—a type that manages a modern enterprise, drives a luxury automobile, travels by air or in a railroad sleeping coach, and daily receives his stock market quotations by teletype. And yet, the ideal of this most modern "human type" is more likely than not a house or apartment resembling historical replicas of the Petit Trianon, the Belvedere, Venice, or Nuremberg: of course, once the taste of such a modern builder has become really "modernized," it then becomes acceptable to build in place of the Trianon Le Corbursier's Villa Garches or Villa Poissy, or Loos's Villa in Prague,[2] or Mallet-Stevens's Villa in Paris, while Mies van der Rohe builds as the pinnacle of modernist snobbism and the ostentation of a millionaire's lifestyle a villa for the factory owner T. in B.[3] All these houses with all their technical luxury and radical design devices, with all their formal originality, are really nothing other than new versions of opulent baroque palaces, that is, seats of the new financial aristocracy. A machine for living? No, a machine for representation and splendor, for the idle, lazy life of the bosses playing golf and their ladies bored in their boudoirs.

If the architectural avant-garde wishes to lay claim to the slogan of the **minimum dwelling,** it must learn to understand that the secret of that particular housing culture, whose representatives are Wright, Le Corbusier, Loos, Gropius, and Mies van de Rohe, is also a hidden dirty secret of today's society, with its mask of opulence and high culture—revealing an odd situation, best expressed by the popular ditty that "some have the doughnut while the others have its hole." It has become the habit of contemporary architectural journals to call this kind of architecture, this so-called *Baukunst* [art of architecture], and this technical sumptuousness "our housing culture." If that were true, and if we designate as culture only that which is accessible to the rich, then the slogan of the "minimum dwelling" is indeed a *crie de querre* [French in the original] against bourgeois culture and against bourgeois architectural ideology, a clarion call for a socialist, proletarian architecture and a socialist solution to the housing question.

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2) *Translator's note:* Adolf Loos, František Müller Villa, Prague-Střešovice, Nad Hradním Vodojemem, no. 642–14, 1928–1930.

3) *Translator's note:* Mies van der Rohe, Tugendhat Villa, Brno, 1930.



Sverdlovsk, 1930
A collective housing block, accommodating foreign engineers and scientists working for a Ural coal-mining company.

introductory remarks 1.

toward a dialectic of architecture and a sociology of dwelling

Essentially, the housing question is a **problem of statistics and technology,** as is any question concerning the provision and satisfaction of human needs: it is a question of the determination of social needs and their satisfaction by rationalized mass production, the elimination of inefficiencies without loss of energy, and the elimination of detrimental effects caused by the combined forces of resistance, represented by the exploitative practices of the middlemen of business, by rent and land speculation, and so on.
As a question of statistics and technology, the housing question is essentially **a question of the general plan, and as such can be solved only when social development and general economic activity are guided by a predetermined scientific plan.** Statistics measure and evaluate housing needs, determine the likely deficit of dwellings and square meters of dwelling area, and thereby represent the magnitude of unsatisfied demand. Planned production in a planned economy will provide the required number of dwellings over a fixed period of time. The general plan needs to be supplemented in architecture with its own plan and by answering the question of how and what these dwellings, houses, and towns should be. This is how the housing question should be posed in a world of a general economic plan, worked out as the basis for a new and higher phase of historical development.

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Our book is an attempt to discuss the problem of the "minimum dwelling" as a problem of popular, proletarian housing in all its social, economic, technical, and architectural aspects and prospects. It attempts to analyze the housing question according to its principal causes and constituent elements, tracing their mutual relationships and the complex interaction of their elements with respect to the prevailing economic and social system, while at the same time trying to determine the root cause of the housing crisis, which will only be able to be abolished when the conditions that support its existence are done away with.
Statistical data are an important aid to the sociology of architecture and housing. Unfortunately, most of the statistics available to us today leave open more questions than they an-

swer. We have boundless quantities of statistical data, and yet they are insufficient. We have extensive and fairly complete statistics on medical conditions and hygiene, indicating how people get sick and die. But do we have statistics showing us how people live? Indeed, we are ignorant of the exact temperature of our cities, and do not really know what causes their fever.[1] In fact, statistics catch mostly facts that are already consequences, and thus are likely to seriously mislead us by failing to reveal essential causes and motives. Statistics are by their very nature descriptive. However, social phenomena cannot be entirely captured by numerical measurements alone, that is, quantitatively and mechanically. Social conditions have a qualitative dimension as well. A complete sociological picture can be obtained only by a theoretical interpretation of statistical data.

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The scientific investigation of the sociological fundamentals of architecture, including the housing question, requires a scientific method of work. Above all, we refuse to recognize sociology—especially a sociology of architecture—as a real science as long as it remains content to confine itself to an abstract study of society and of the relationship of architecture to social life, one that examines social organization and its constituent architectural elements independently from their historical context—in short, one that has as its object the abstract and ahistorical study of society itself, instead of studying society as it exists in its complex reality today and thus we reject in principle a sociology parading as some kind of social metaphysics. Of all the methods in the social sciences, only Marxism elevates sociology to the level of an exact science, as it alone promotes the application of the methods of dialectic materialism to life, work, and the scientific formulation of historical laws. Only historical materialism can be considered as a true **scientific sociology,** because it understands the laws of the **dialectical development** of society and culture, while at the same time explaining their concrete historical meaning.[2] Marxist sociology does not stop with mere analysis as the only means of gaining understanding by its research; it consummates understanding by its own synthesis, while at the same supporting its prognoses with scientifically reasoned developmental laws, thus shedding light on the tendencies of future developments as well. Moreover, it not only provides a clear understanding of reality but at the same time acts as an instrument for change. It is by the methods of dialectical materialism that we arrive at a more accurate and deeper understanding of the social situation in housing and construction, and at the same time find the means by which problems can be overcome and changed in a practical way. "Where speculation ends—that is, at the threshold of real life—true science begins by under-

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[1]) Such evaluation of statistical data, relying on the method of historical materialism and techniques of graphic visualization for propaganda value, was very effectively accomplished in the important exhibition on the problems of proletarian housing, organized by the architectural group Levá Fronta [Left Front] and shown in Prague in 1931, but forbidden by the police from being shown in Brno.

[2]) The ideas of evolution put forth by Marx and Engels are obviously much more complex, integrated, and profound than those of the conventional versions of evolution that dominate current discourse in historiography, natural science, art history, and aesthetic theory and thus in architecture as well. "Dialectic developments" pass anew through past stages, but in a different manner and on a higher level (the negation of negation). It is an evolution that is not linear but moving in cycles, progressing not in an uninterrupted, continuous manner but by means of jumps, catastrophes, and revolutions, an evolution that changes quantity into quality mainly as a result of its own internal impulses.

standing practical activity and the everyday process of human progress. . . . Phrases and apprehension vanish, to be replaced by realistic knowledge instead" (Marx and Engels, *German Ideology*).

So far, a coherent theory and sociology of architecture have yet to worked out on the basis of dialectical materialism. Sociological and theoretical sentiments, encountered in speeches, writings, and programmatic manifestos concerning contemporary architects and architectural groups, generally reveal their unscientific origin, be it in echoes of utopian communism and American philanthropism on the one hand, or in fallacious notions of national economic theories of organized (planned) state capitalism, ultra-imperialism, Fordism, and so on on the other; most are based on at best a vulgarized and superficial understanding of Marxism. This has been the case ever since the times of Morris and Ruskin, whose Pre-Raphaelite and sentimentalized communism is nothing other than the reflection of a reactionary, petit bourgeois socialism whose patron saint is Sismondi, who wanted to bring back not only old methods of production—that is, the crafts, the guilds, and old world housekeeping (including idyllic village life)—but old social conditions as well. Its continuation is the pre-Proudhonian socialism of Berlage and the "planned" grandiose capitalist urban theories of Le Corbusier. Le Corbusier may have cured architecture from the hangover of the English garden city, only to start a new fashion among contemporary architects by offering them a new opiate: Fordism.

Even if it is true that more often than not modern architectural work is guided by unscientific and incorrect methods, such work has nevertheless contributed many important insights and discoveries in its search for new solutions in housing and the city. Any attempt at a deeper analysis of these processes and problems, studied objectively and as independently as possible from the subjective position of each respective author, must necessarily lead to scientific (materialist) results.[3] Even though modern architecture remains in many cases unaware of this necessity, it does contribute significant material and tends to validate the correctness of the Marxist view of society, along with Marxist views on economics and technology, thus providing convincing proof of the existing antagonism between currently active productive forces and social conditions. Not only that: any architectural solution that claims to be a true discovery and a progressive contribution—that is, one that does not put any limits on the scope of its solutions and has the courage to ignore those aspects of the problem that are not directly part of its solution—must take instead as its point of departure the realities of the organization of society and the methods of technical thinking in architectural practice. It must at the same time have the courage to see problems in their full scope, beyond the constraints imposed by current technical and production limits. Only then will it be possible to arrive at results that have thus far been considered incompatible with the realm of the vested interests of present society, including its laws and building regulations, all of which are an expression of its prevailing system of property relations (i.e., the exploitation of the soil, land rent, mortgage loans, etc.).

It is for these reasons that any progressive architectural solution must objectively oppose the interests of the ruling class and perform a revolutionary task, even in cases in which it may not be conscious of its mission. Today, any significant architectural initiative and progressive architectural work must by its own inherent necessity arrive at results that are in open conflict with existing building laws and regulations. Not necessarily for the reasons mentioned above, but nevertheless correctly, the Committee of the International Congresses of Modern Architecture [CIAM] has decided to direct its attention to the need to seek solutions to contempo-

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[3]) "To the extent that we genuinely research and think, we shall never escape materialism" (K. Marx to T. Huxley).

rary architectural and urban problems, and—above all—to the problem of the minimum dwelling, disregarding currently valid building laws and land ownership conditions; after eliminating existing economic and legal obstacles, it will investigate any "ideal proposal" that would be technically and economically capable of realizing in full today's technical and architectural possibilities, whose practical implementation is currently prevented. Of course, the danger of such hypothetically posed laboratory efforts is the tendency to fall prey to technical utopianism on the one hand or to American flights of fantasy on the other, mainly because they fail to recognize that no architectural, scientific, or technical problem can be separated from political and economic questions, and that any architectural hypothesis about the future must find support in a correct prognosis of any future socioeconomic development.

Many of the important projects by members of the architectural avant-garde are testimonials to the vital need for reform in architecture, both in its fundamentals and in its details. These projects range from designs of individual dwelling cells to plans for entire cities. At the same time, barring minor and generally unimportant exceptions, today's building practice with its outdated structures, old houses, and old site planning remains stuck in old patterns, notwithstanding the fact that our buildings are now constructed in steel or concrete. Relying on outdated assumptions about existing lifestyles and obsolete notions of social behavior, architecture will never be able to arrive at a full realization of any project attempting to fully instantiate its laboratory work. The old adage holds still today—namely, that it is necessary to build a foundation before building a roof, and that we are not concerned primarily with this or that commission for a building, but above all with architecture as a profession intended to provide a social service.

Only those members of the architectural avant-garde are worthy of that name who not only wish to "build modern" but who also decide to struggle for a new way of thinking, recognizing the wretchedness of the current housing conditions and understanding that it can be alleviated only if the material and spiritual distress of the poor is overcome first. A flat roof or steel furniture can never be regarded as the ultimate goal of avant-garde architecture. They are nothing other than fashionable design fetishes. Instead, the avant-garde must extend its interest to the fields of political economy and sociology, particularly in view of the simultaneous emergence of serious economic, social, and political problems, exacerbated by the problems of the modern city and amplified by the problem of the minimum dwelling. Avant-garde architects must become aware of the intensifying class struggle and take into account the accumulation of social tensions, all of which make up the real situation in our time. The realization that modern architecture also implies political struggle signals a shift from illusion to the thing itself, to reality—a shift from abstraction to the concrete, from academic speculation to practical socioeconomic work. An architectural avant-garde that is conscious of social reality must realize at the same time that its position vis-à-vis the housing question cannot be confined to a position of impotent "social relief" (do-goodism). Only by such means will **all future work in the field of architectural progress be transformed into a potent dialectical and political force.**

Committed to constructivism, the architectural avant-garde must essentially assume a destructive role in the capitalist context: it must promulgate with all its energy the negation of existing cities and existing ways of dwelling, and it must unmask the hoax and deceptions that are being spread abroad on the matter of housing. It must criticize the methods used today to address the housing shortage, analyze the housing market and its supply and demand, and expose the unwillingness of the bureaucracy and the government to put into place an effective popular housing policy—in short, it must demonstrate that the inability of society to solve the housing crisis is one of the most intractable exigencies of the current ruling order.

Still, destruction implies a subsequent constructive effort. Accordingly, today's architectural avant-garde must actively support the struggle of the proletariat by means of its specialist knowledge and not merely by utopian-political tracts, proceeding **from a struggle for the partial improvement of healthy and humanly decent dwellings and a fair wage that will make worker's houses affordable to the ultimate goal of the fundamental reconstruction of the whole economic and social order.**

Modern architectural doctrine, initially conceived as a formalistic, antidecorative movement, has gradually become more profound and purified in its subsequent development. Over the years of its evolution from the intentions and manifestos of its early theories, modern architecture has arrived at a stage where it always wanted to be: after all, constructivism was never supposed to become merely a new formal aesthetic formula, but was from the beginning conceived as a vehicle for changing the socioeconomic environment of humanity. Regrettably, during this process of purification, many architects stopped halfway, especially those with a weak spirit and mediocre talent. Many retreated from constructivism and modern architectural principles, once they discovered that the development of new architectural ideas in practice not only carried with it aesthetic effects but also involved elements of social responsibility. Accordingly, to many authors this retreat signified not just a reduction of the original aims of constructivism but its complete perversion, leading to its opposite—that is, the reduction of architecture to a new formal aesthetic and the design of socially conservative works—thus resulting in an absurd pseudo-constructivism, which currently still prevails in certain architectural circles that would like to consider themselves modern. In effect, there is not a single phenomenon that under certain circumstances cannot be turned into its opposite. It is therefore necessary to put primary emphasis on real social goals and insist on the need for a massive reevaluation of the new architecture. As it is, a fault line divides our world: there are two societies, two cultures, two sciences, two architectures.

It is also here that we encounter an essential distinction, a necessary **parting of the ways** in the various architectural factions of modernism. Authors who for a number of years had walked the same path are now parting ways: some turn right, others left; some stop halfway, acting as milestones on the road, which indicate to those following how little or how far they were able to advance. A few decide to get rid of the burden of dying ideas and instead forge boldly ahead. The majority chooses to hide behind their "professional" status, avoiding or ignoring politics, but without noticing that this way they fall prey to the most wretched kind of political influence: fascism (just as many obstinate practitioners are ostensibly scornful of theory, but in reality are effectively inspired by theories hundreds of years old), best exemplified by Le Corbusier's book *Précisions* [1930]. It is by such means that many authors display the limits of their strength, that is, by marking out the limit beyond which even they cease to be innovators and revolutionaries. By exposing their limitations today, in a period of upheaval, they make clear that their time for playing the role of leaders has passed.

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It is in the form of the collective house that the architectural avant-garde must solve the problem of the minimal dwelling. Collective dwellings are structures and design solutions of a higher quality than existing housing of the family-centered households type, and they are in stark conflict with the existing perception of the family as the primary social unit and the mainstay of the dominant family ideology. Collective housing represents the negation of existing forms of housing, best represented by family-based apartment house types in urban rental

buildings. Collective housing represents a **future** dwelling type, but it is not utopian. The reason for this is that **everything that will be already exists** in an embryonic state **in that which is** as an antithesis to that which endures now on a lower degree of quality, to be overcome by its own higher quality. The collective dwelling, which will be discussed in greater detail in the following chapters, responds to a social situation in which the family will cease to exist as a basic economic unit and the division of labor and the resulting inequalities between man and woman, parent and child, will be overcome. However, it should be noted that in today's society there already exists a class—the proletariat—in which the family as an economic unit has been broken up and transformed. The change of that which is—meaning existing family-based dwelling forms—is not utopianism; it can be carried out precisely because the seeds of that which will be are already planted in the soil of today's conditions, and also because in economic, social, and intellectual life in general, and in architectural creation in particular, the contours of the elements of future forms of dwelling have already become recognizable.

In all endeavors, whether they be material or intellectual, old and new tendencies exist next to each other or (more precisely) against each other. The modern architectural outlook is best exemplified by constructivism, which has gradually been given concrete form, based on the achievements of mature capitalist technology, in the womb of the capitalist world. However, constructivism should not be considered as a miscarriage of capitalism but as one of its progressive manifestations, as one of the elements that reveal their utility already in the framework of capitalist economic and intellectual production, and as an element betraying the dialectical contradictions of capitalism, only to become part of a new world of planned production and social organization. As a new architectural form of higher quality, responding to the collective lifestyle of the proletariat, the collective dwelling represents a negation of the bourgeois family-based household, a negation that has evolved out of the contradictions of old dwelling forms and that was part of these contradictions from the beginning. The development and transformation of architectural forms take place precisely because the negative elements (the decay of the family-based household) have, at the same time, their positive side (the transformation of dwelling services by means of centralized mass production).

The dialectics of architectural development and its associated housing dispositions are such that a given architectural configuration, even as it keeps evolving, keeps on atrophying at the same time. Individual functions are separated from rudimentary architectural configurations—starting with the primitive dwelling, the tent of the nomad, the igloo of the Eskimo, or the peasant's cottage—all of which are characterized by their universal dwelling space, devoid of any specialized and differentiated functions (e.g., the primitive live-in kitchen). In time these became divided into separate living and service functions, and eventually into single specialized functions, such as cooking, food storage, laundering, sleeping, eating, intellectual activities, and so on. In short, functionally differentiated individual rooms were separated out from the universal dwelling space. At a certain moment in this evolution of functional differentiation, the old dwelling form breaks apart: service functions become separated out entirely from the general space of the dwelling and become centralized, and the dwelling space itself changes into a single cell for individuals, which takes over to provide again in a single space the distinct living functions of sleeping, intellectual work, and personal intimate life.

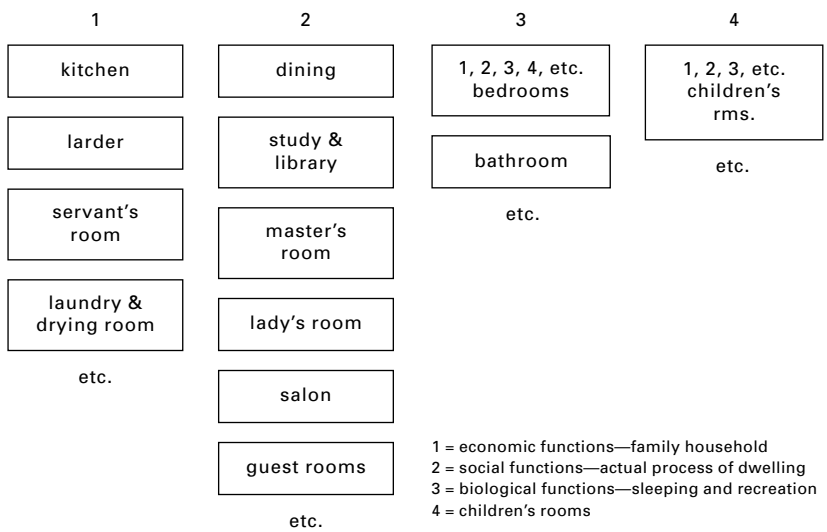
The functionally differentiated bourgeois house is a negation of the universal primitive dwelling space. The negation of this negation is the universal dwelling space for a single individual in the collective house: it is the reproduction of the former nonspecialized, unified dwelling space on a higher level. At the same time it should be evident that the dialectical attributes of this negation are not absolute. Such a negation of a negation does not mean a return to a former state but leads to a higher order of organization. The uni-

production
cooking
housework
sleeping
recreation & eating
child rearing

= Primitive dwelling
Single, universal dwelling space of undifferentiated functions.

(Today persists in the form of the so-called live-in kitchen.)

The differentiated dwelling of the ruling class



Proletarian abode

(The dwelling of the classes of the subsistence minimum)

room with a cooking range
or
live-in kitchen

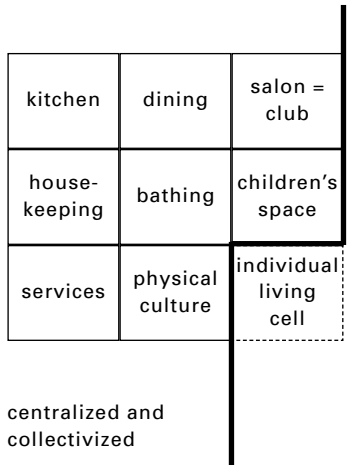
sleeping

versal dwelling cell of the collective house is therefore not to be confused with primitive universal dwelling spaces, such as the live-in kitchen. The difference consists in the fact that all the constituent functions of the previous family-based household economy have been eliminated; such a cell is neither a kitchen nor a dining room. As it negates the single family household, a bourgeois form of dwelling, the collective house should not be considered an absolute negation, since it retains the principle of separating the various components of the former housekeeping economy from the legitimate functions of dwelling, meaning that in such an arrangement the specialization of functions, introduced earlier in the bourgeois dwelling, is **extended.** Dialectically speaking, no absolute negation or undifferentiated identity is possible: the negation always contains the primary positive elements, and vice versa. Dialectical negation is the driving force of progress and takes place within its contradictions. At the same time, these contradictions are resolved by a synthesis on a higher level than those that existed at the starting point: having evolved after the bourgeois dwelling with its specialized spaces has become obsolete, the universal dwelling space of the collective dwelling should not be confused with past versions of primitive living spaces. It instead represents a higher dwelling type, enlivened by architectural creativity, which adds dialectical understanding of negation to the positive comprehension of that which exists now—that is, the bourgeois dwelling layout—by the necessary negation and elimination of redundant elements. However, higher-level forms cannot be derived entirely from lower-level forms, since during a certain moment of their transition to a higher form, there occurs a rupture when quantity is transformed into quality.

The quantitative changes that for centuries have shaped the evolution of the bourgeois form of the dwelling—accompanied by the gradual specialization and differentiation of spaces and furniture, the gradual reform of its floor plan, and changes from the old patriarchal mansion to a modern dwelling—have reached a point where **quantity becomes transformed into quality.** In place of the road taken by architects during the last decade, which has led to the differentiation and rationalization of the type of dwelling intended for the family-based household, we are witnessing the emergence of the collective dwelling, conceived as a beehive of individual dwelling cells with separate centralized housekeeping service facilities and collective spaces for cultural activities. These new qualitative properties of the collective way of dwelling supersede and obviate the quantitative aspects of the bourgeois apartment, such as the salon, dining room, bedroom, study, kitchen, and so on. Instead of kitchens in apartments, we provide kitchen factories serving whole cities or an entire housing complex; instead of salons, clubs for all the inhabitants of several houses; instead of bedrooms, living rooms, studies, libraries, and so on, a universal dwelling cell (and naturally, instead of children's rooms, collective children's homes and boarding schools).

Quality and quantity are polar opposites—one is the negation of the other; and yet there exists between them evident connections and affinities. These contradictions change places, as there is no quality without quantity and vice versa. The law of change from quantity to quality causes the transformation of a certain configuration or form, as for example the change of the bourgeois dwelling into another configuration or form, which is subsequently defined by its own, specific new purpose (e.g., the form of the collective house as a specific proletarian type of dwelling). Influenced by social progress, quantitative changes, such as the evolution of the family-centered dwelling, have reached a critical point in the development of modern architecture: old concepts must be abandoned and vanquished in order to allow for the evolution of new forms on a higher level. Nevertheless, a continuing nexus remains, as two countervailing tendencies are operative in each process of transformation: these are continuity and change.

Collectivist reconstruction of dwelling



Schema of a collective dwelling:

the centralization and collectivization of the economic, cultural, and social factors of the dwelling process;

the reduction of the "apartment" to an individual living cell. One room for each adult person,

whose content (function) is a living room and a bedroom;

the reproduction of a single space undifferentiated dwelling on a higher level;

material and organizational basis for socialist forms of life.

Viewed from the perspective of dialectical materialism, the dwelling is neither an abstract nor an unspecified general concept.[4] The dwelling of the primitive, or the aristocrat; the houses of the wealthy or the less affluent in our world; socialist dwelling in the USSR—all have their associated characteristics. In a generic sense they all offer accommodation for rest, sleep, housework, protection from the elements, and more. However, it is equally important that we separate out from all of the permanent and shared functions those elements that are different in order to recognize how today's dwelling form differs from the singular forms of the past; not because we want to know what has remained unchanged in the course of this development but because we are vitally concerned about the process of evolution as such and the changes

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[4]) As will be shown in the following pages, we must distinguish between the concepts of dwelling and of lodging in any discussion on housing. Lodging—that is, passing the night and the concurrent regeneration of energy—is a physiological function and thus a matter of biology: dwelling, on the other hand, is a process and an act of social nature. We interpret the term "dwelling" (abode, apartment) as a space, not only serving the biological functions of rest and protection from the rigors of the elements, but also linking these functions with certain economic, productive, and cultural factors. The Czech word *byt* [translated in this book as "dwelling," "apartment," "house," "lodging," and "abode"] brings together under a single collective term all the contradictory functions of work and recreation, in specific but changeable combinations of activity spaces, e.g., storage facilities and bedrooms: in German, these are called *Wohn- und Werkraum* [German in the original]. Specific historical dwelling forms vary according to the qualitative relationship of their work and recreational elements.
Dwelling is, therefore—by definition—a social act. In a class society, only the propertied ruling class can dwell in the full sense of this word. In capitalist societies, the notion of a proletarian dwelling is a contradiction, since the wage paid the workers by the capitalist covers only those expenses that are absolutely necessary to maintain the continuing productivity of its labor output, and it is in most cases inadequate for renting a real **house.** For the maintenance of labor productivity, a **lodging** is considered by the capitalist to be sufficient.

it causes. A deeper understanding of this developmental dynamic will thus enable us to orient architectural creation toward a further elaboration of these processes, while the recognition of past evolutionary processes will enable us to anticipate and reflect on future development.

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It is not sufficient to trace the dialectic of the figurations of architectural form and dwelling without at the same time tracing the changes in their content. And, above all, it is necessary to explain what we mean by architectural form and content.[5] By "architectural content" we mean the organization of vital, individual and collective life processes, including industrial-type production facilities that will be installed in certain buildings, as well as the organization of the psychological processes of man, to the extent that the architecture of a building is capable of exerting an influence on them. The content of a dwelling is embodied in the biological, social, and cultural needs of its inhabitants, including their spiritual and physical well-being and—ultimately—quality of life. Clearly, architectural content is not exclusively determined by this or that socioeconomic order, but also by the ruling ideology that determines the character of these processes. The processes that determine the form of the feudal, bourgeois, and proletarian dwelling are each of a different character. Architectural form is a way of organizing constructed space that renders concrete a given content.
It is therefore also obvious that architectural form cannot be defined by this or that decorative ornamental "detail"; it needs to be perceived both organically and functionally, but never only decoratively. It is for these reasons that architectural form can never be separated from its

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[5]) We remind the reader and emphasize that the usual distinctions made between content and form in architecture, painting, and literature are essentially anachronistic; they date back to the idealistic *Inhaltsästhetik* of an academically conceived, positivistic comprehension of form that nevertheless haunts vulgar Marxist interpretations of proletarian art. Such interpretations never succeed in penetrating below the surface of the subject and excuse their aversion to and ineptitude in analyzing the structure of a work of art and its laws by calling such an analysis "formal." In his *Logic,* Hegel observed correctly that **the form of an object is concomitant with its appearance only in a special, limited way:** i.e., in the sense of its external form (in architecture this would be represented by facade, ornament, etc.). "A deeper analysis leads us to understand form as the **law of the object,** or expressed more succinctly, its structure" (in architecture this would be expressed by the floor plan) (Lenin and G. Plekhanov vs. Bozdanov).
A more profound understanding of what the superficial Marxist vulgarians and proponents of proletarian art call formalism in architecture and literature can be reached only by the deep study of the specific laws governing the evolution of architectural or literary form. For us, form is not equivalent with appearance or added decoration but represents **existential form,** i.e., the manner in which a certain object exists—i.e., the form without which a certain object or a certain process cannot manifest itself and exist. Of course, one should not confuse form with quality in all its manifestations at each stage of its development: each level of development in architecture or literature (or, for that matter, any branch of the arts) naturally creates a new synthesis, its own new form of existence and its own new formal categories for house and city, novel or poem. However, a change of form cannot be inferred solely from qualitative change: change of a form and change of a quality are not the same thing. Quality concerns not only form but also its content. "Quality is identical with the existence of objects in such a way that something ceases to be that which it is when it changes its quality, i.e., the quality of its content and form. Because of its quality an object is that which it is, and by changing its quality, it ceases to be that which it is" (Hegel). Because of its highly differentiated functions and its class content, a patrician *hôtel particulier* is what it is—namely, a luxurious dwelling form—because of its quality and its social character, and not exclusively its architectural form. At the moment it becomes nationalized and occupied by the proletariat, not only will its content change but its form as well. The mansion turns into a worker's barracks and thus will require certain formal adaptations of its formal aspects.

class context merely by decorative means; changes in content and form both stimulate and influence each other. Any architectural piece of work is an answer to the discrepancies between content and form, the formulation of its content, and, ultimately, the **identification of form and content.** "Organic nature is the only categorical example of the identity and indivisibility of form and content. Morphological and physiological phenomena, form, and function produce a mutual effect on each other. The differentiation of forms influences the differentiation of muscles, the skin, the epidermis, and so on, while the differentiation of things influences the differentiation of form in a similar manner" (Engels).

Architectural form, like any other form, is a complex function of many variable elements and is contingent on various other factors influencing form, such as changes induced by different content and a different environment. Furthermore, form as a multifaceted function is modified by means of both continuous and discontinuous changes: each era imposes its own laws on form. Qualitative changes in cubature, floor plan, and so on cause one form to change into another, thus not only changing its quality but eventually becoming subject to further changes, brought about by new content and obeying new principles. Quantitative change leads to a new quality of form; along with the process of the mutual influence that various factors exert on each other in relation to content (e.g., the individual household, or the disintegration of the family), each becomes the antithesis of its predecessor. Architectural form (like the forms of the organic world) is the result of the configuration and reciprocal interaction of various factors that influence its inception and development, which gradually prepare the way for its maturity and perfection.

In their struggle for existence, the products of natural selection represent the most mature and most economical form of organic life, functioning not unlike the class struggle in human society. The gradual development of technology has placed nature more completely in the service of man: similarly, the material forms of human products, industrial goods, and architectural works have come to resemble ever more closely natural forms, as they approach perfection. Both mechanical and natural forms are subject to the same universal natural laws. "If nature had to create dishes and bottles as it creates eggs, these would be very similar to those created by man" (Ozenfant and Jeanneret). By such means does technical work arrive at the creation of norms and standards. Therefore, it is incumbent on us to discover the dynamics of these standards. As soon as the most useful, most utilitarian, and most economical type has been developed, the effect of the superstructure and the governing ideology exerting its influence on this form grows. Subject to these influences, form begins to transcend its practical purpose: it was by such a process that form became decoration in historical styles and, if need be, was turned into a symbol and a tool of demagoguery. Today, we can see that the tradition of regarding form as decoration and symbol, magic force and fetish, is bound up with the psychology of the idle classes as a feudal anachronism, and that academic aestheticism, architectural formalism, and monumentalism are virtual throwbacks to the feudal Middle Ages, when form was conceived as an end in itself, and when feelings of humility and submission to state and church authority were conjured up by impressing people with ostentatious splendor and pompous decoration.

As far as the ideological significance of architectural form is concerned, the influence of architectural form on psychic life is not immanent; it is complex and develops by depending on its practical, living, sociological meaning. Form cannot be analyzed in the abstract, in a classless context outside history; it must be projected into the context of a concrete social setting. During the feudal and early bourgeois periods, the ideological manifestations of architectural form (ornament and decoration) relied on outward appearances to dazzle the eye of the beholder and awaken in the spectator the desired emotions, leading people to fall on their knees or, conversely, filling their heads with pride and vainglory. The ideological aspect of the new

architecture should not have the purpose of injecting the aesthetic traditions of the past with a new class content; its content instead should be the scientific organization and spatial accommodation of the contingencies of real life and contemporary production processes, gained by creating a concrete material base for the optimum development of new ways of life, which will reflect the ideology of the new class as well as actively create a new, practical "floor plan of life" so that new cultural forms and values can grow and mature.

Architectural form is not merely the result of this or that lifeless notion of "art," or of passive reflection on the ideology of its class and its time; it is not a pathetic "expression" or "manifestation" conceived as a monument dedicated to this or that something or somebody. It is an active force and an instrument, the concrete embodiment of working-class values, dwelling processes, and cultural aspirations, to be reformulated theoretically in their very essence and realized practically in a thorough reorganization of the floor plan in all architectural work. Architecture should never be satisfied with its form influencing progress and change by mere "agitation,"—with relying, in other words, on the artifice of trying to influence the spirit of the masses solely on an emotional level. Surely the social role of architectural form cannot be fulfilled if its only goal is to become a "mighty voice" and a "clarion call," or to "elate the masses and strengthen their will" (these are quotations from various manifestos and articles on proletarian architecture)—for equally surely, such declarations represent nothing other than calls to return to the fossilized, monstrous monumentalism of the past. Architecture's social role can be expressed only by the forms of collectivized housing, the satisfaction of all of life's essentials, the rationalization of the work environment, and relevant reforms of the floor plan.

Only by such means will architecture be able to become a major force in economic, social, and cultural work, and only by means of an adaptable functionalism will it be capable not only of meeting the essential daily needs of all the people but of further assisting in the discovery of new needs on a higher level of existence. This cannot be achieved by exterior decoration; it can be achieved only directly and actively, by creating new configurations and a new organization of architectural form, which will open the way toward a better life and a context for accommodating higher cultural ways and values. The difference is this: the functionalists and constructivists view the house as an architectural form perfectly suited to its purpose, meaning that it succeeds in serving all necessary dwelling needs,[6] while at the same time striving

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[6]) The emphasis on functionality must not be interpreted mechanically as some kind of narrow-minded utilitarianism and pragmatism. An exact functional solution should not be confused with something that satisfies given—if you will—atavistic and retrograde requirements, or that compromises with respect to existing circumstances. Function and architectural program are not in themselves rigid and eternally fixed: rather, they represent a perspective that one may amplify and further enrich and define with greater precision. Architectural design should not merely realize building programs engendered by social needs. Consequently, design should not merely accommodate the requirements of a given architectural program, but must be equally capable of reappraising its content and formulating it with greater precision—i.e., revising its tasks, reevaluating and reformulating them more rigorously, while at the same time synthesizing and developing them. Any architectural program should not only implicitly satisfy "social commissions" but should also, in developing its brief, take a long-term view toward accommodating future social needs. To the extent that function and social needs determine an architectural solution, architecture also engenders new functions and awakens new needs. Complex functions, made real by architecture, demand that the architect act not only as a technical specialist but as a whole human being: this is why it is said that a modern architect must also be a sociologist, not just assuming responsibility for the needs of the present but also being aware of the revolutionary currents of our time, aside from being capable of actively stimulating the awakening of new and higher cultural needs, be they in the area of housing or in public life. In short, he must act with force and initiative, both of which encourage development.

to improve the general level of culture; the monumentalists and formalists, in contrast, seem to be content to merely ask which emotion they may be able to evoke in people with their designs.[7] The constructivists do not deny the potential force of psychological and emotional influences on architectural form, but they do not regard form as such as the primary and exclusive task of architectural design. Instead, they are convinced that architectural form can be developed only through a comprehensive synthetic realization that addresses both practical and cultural needs, oriented toward future development and the satisfaction of these needs on all levels of architectural creation; by such means, they believe they will be able to have at the same time a positive emotional effect on the quality of life of the people. Beauty and emotional potency are the epiphenomena of any competently and efficiently organized building design, just as the soul is mirrored in the physiognomy of highly organized natural living matter. It is the way we view life and practice that is fundamental and most important in the way we view functionalism and constructivism.

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Recent discussions held in Moscow touched on one of the fundamental aspects of the modern architectural point of view, that is, the question of whether architecture is an art. The constructivists deny out of hand that architecture ought to be considered an art, and consequently assert that in our day, **architecture has ceased to be art.** In contrast, their opponents hold that architecture—especially proletarian architecture—is and must be art, meaning the creation of form. The author of this volume took the opportunity to expound on and substantively justify the constructivist point of view, drawing attention to Soviet discussions on this subject and adding a number of personal observations to the arguments, which were published in extended form in the following books: *Moderní architektura v Československu* [*Modern Architecture in Czechoslovakia*], *Sovětská kultura* [*Soviet Culture*], and *K sociologii architektury* [*On the Sociology of Architecture*].

It seems that the proponents of the view that "architecture is art" look at architectural development as an entirely art-historical and essentially nondialectical phenomenon. There was much talk about the existence of and the vital need for the unity of the fine arts; it was claimed that it is impossible to separate painting (frescoes!) and sculpture from architecture, that painting and sculpture can prosper only in conjunction with architecture, and that architecture, isolated from painting and sculpture, would descend into self-complacent technological proficiency: it would lose its ideological function and be reduced to crass utilitarianism, as evidenced by American and west European bourgeois architecture . . . and so on . . . and so on. . . . All these objections by these art history pettifoggers are nothing new, and have been repeatedly refuted in the past. It is, therefore, with shocked surprise that we find such views still being printed in the Soviet journal *Brigada khudozhnikov* [*Artist's Brigade*], one of the most important journals on Soviet art and the official mouthpiece of the Federation of Soviet Creative Artists. In essence, these proponents of a metaphysical view of architecture as

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[7]) Mordvinov: "one of the tasks of contemporary architecture is its emotional impact on the masses. Architecture ought to be the expression of the grandeur and greatness of our era . . . it ought to organize the will to fight and the will to work . . ." and so on. Beneath the pathos of these words we find concealed the old metaphysics of architecture and the outdated concepts of past art-historical theories of architecture—not unlike the views expressed in Otto Schubert's book *Architektur und Weltanschauung* [1931], where he tells us that only a new myth of our time will lead to a new and more perfect art of architecture.

art have evidently still not grasped the underlying principles of how categories change and develop.[8]

Perhaps one should apply to the development of architecture as well words taken from Marx's essay on epic poetry: "**Some art forms, e.g., epics (to which we add the art of building) can no longer be produced in their classical likeness, formed during their own historical epoch. To the extent that we are concerned about artistic production as such, in other words, it is within art itself that some of its more significant formations tend to emerge only on a lower level of artistic development.**" Marx continues: "What is Vulcan compared to Roberts and Co., Hermes compared to the Credit Mobilier, and what is Fama compared to the publishers of the *Times,* and how can Achilles coexist with powder and lead, or the *Iliad* with the printing press and the printing machine?" To put it in more personal terms: I believe that the unity of styles in the fine arts is practicable only on a low level of technical development, such as during the era of crafts, and that after the baroque—the last distinctive style before modernism—it quickly retreats from the stage of history as machine production emerges. With the mechanical inventions and general technical progress of the nineteenth century, we have reached sufficient technical maturity and arrived at a sufficient level of technical accomplishment to force architecture to move beyond the stage of being an art, while at the same time confronting us with the obligation to resolve the conflicts between mature construction technology and outdated views of architecture as art. The latter view is still being fervently embraced by the ruling class.

This conflict between architecture as art and architecture as science can be resolved only by breaking out of the oppressive framework of outdated artistic rules, whose abandonment will also signal the beginning of the transformation of architecture into science. Steel and concrete, dry assembly in construction, and the serial production of building elements—along with the development of new building types, such as hotels, post offices, railroad terminals, and so on, created during the century of capitalism—represent the preconditions for such a new conception of architecture as science. It should not be forgotten that architecture as a fine art—the so-called architecture of styles—is inescapably bound up with certain social developmental forms and responds equally to a certain level of technology and production. Any building, if executed with the best available technology, changes from architecture as art to

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[8]) Actually, the existence of art is directly tied to specific historical periods and to certain economic and social conditions (i.e., to a class society). Buildings may be defined as architecture—or, to be more precise, as art—only under certain forms of production and certain social conditions: in other times they represent merely ordinary use objects, wholly devoid of any of the specific qualities that characterize art as art. For example, peasant costumes, clothing, furniture, and cookware are viewed at certain times solely (or at least predominantly) as utilitarian objects, while at other times the **aggregate of their specific artistic features multiplies to such an extent as to change their quality** as ordinary use objects, thus transforming them into objects of the decorative arts, even though initially they may have been conceived as objects of everyday use. Both dwelling and clothing are primarily determined by the exigencies of certain deprivations, mainly brought about by the migration of people from the mild climate of their primordial habitations to colder regions where the annual cycle becomes divided into four seasons, with the attendant need for protection against the rigors of the cold. Even though the primary function of both dwelling and clothing—the protection against the rigors of climate—retains its validity as a primary physiological-biological factor, the advancement of civilization and production methods have, in the course of centuries, led to a differentiation of functions based on different criteria in actual building practice. At the close of the age of arts and handicrafts, technical advance displaced the handicrafts by mechanized industrial production; architecture too was forced to become more scientific, to the point that it ceased to be an art and **became building science.**

architecture as science and function, from a decorative art into something that is neither art nor decoration.

In many ways, historical styles already confront us with a certain conflict between the utilitarian, functional character of a building and arbitrarily imposed form; they represent a compromise between function and form, between utility and monumentality. Style is the manifestation of this discrepancy: any building or any house is first of all a utilitarian object, and the problem of the dwelling is similar to that of food or clothes. Both are fundamentally questions of economics: but everywhere until now in our class society, architecture has developed on different principles than those applied to producing common utilitarian objects: houses, or more particularly palaces, were never conceived merely as utilitarian objects, but instead became statements of artistic creation and monument all rolled into one, designed to announce their presence both aesthetically and ideologically in the spirit of their respective class interests. The feudal lords, the church aristocracy, and even the bourgeoisie required monumentality with its sumptuous decorations for their representation: it was by such means that the ruling class mightily boosts its own pride and at the same time strongly affects those it rules.

Any such architecture, even when it assumes the guise of a "new art," perpetuates this tradition, in spite of its attempts to convince us that it is fighting against past romantic architectural ideas. Such pieties must be considered as nothing other than inconsequential and opportunistic excuses and ultimately as false denials, which ignore the contradictions between architecture as art and technical development: these are **denials lacking the will to rise above the accepted canon,** which can only lead toward a new historicizing eclecticism. It is not enough to reject past ideologically colored stylistic manifestations in architecture and blithely supplant them with new ones, even proletarian ones. If the *roi de soleil* chose to represent himself with the luxury and monumentality of Versailles, surely the proletariat as the new ruling class should not represent itself in the same manner. If the palaces of the nobility and the grand bourgeoisie advertise themselves by their monumental form, and if the grandeur and glory of the ruling class is to be purchased at the expense of the utilitarian functions of a building, then surely it is not necessary to awe the muzhiks with the power and strength of the ruling proletariat by building mammoth and functionally irrational megapalaces for the state industry in Kharkov.

It is just as irrational that the apartments of Vienna's workers' housing are by and large functionally inadequate as dwellings, but are richly adorned with sculptures and other decorative elements on their facades. Evidently, the Vienna city fathers considered these decorations indispensable, on the assumption that such elements will boost the self-confidence of the workers, who are made to believe that they too are capable of the same monumental exertions as members of the bourgeoisie. It is probably for the same reason that the Vienna municipality indulges in covering its health insurance palaces, banks, and various other "social" institutions with marble and travertine. The same goes for the German General Trade Union Federation (ADGB), who for many years has built its own decorative palaces, crowning its construction activities with the Berlin Gewerkschaftshaus, designed by E. Mendelsohn. That house of work for workers is paid for by workers' money but resembles a feudal or grand bourgeois palace, in its splendor comparing favorably with the sumptuously appointed banks and luxury hotels built exclusively for profit: this is nothing other than the false luxury of a coopted workers' aristocracy and of bossism, a desire to show off and to feign prestige. In the past, palaces were built with money extorted from the serfs by the blue bloods. Now, evidently the same extortion is done by the workers' aristocracy.

These Western examples show graphically the insane asocial attitude of "architecture as art" and the error (for which the workers pay dearly) of seeking to boost the spirit of the proletariat

by means of architectural monumentality and—presumably—thereby to boost their level of self-confidence. The pleasure chateau Hvězda[9] supposedly owes its bizarre footprint to an architectural device symbolizing the name of a noble lady, the princess of Šternberg [*Schtern* in German means "star"]. Since the pleasure chateau stands on a hill [in German, *Berg*], the symbolism is literal. That was built during the baroque period. What, then, should one say in the twentieth century, when in the land of the dictatorship of the proletariat, buildings are still being designed whose floor plan has the shape of a hammer and sickle (the emblem of the communists) and whose frontal facades and portals are conceived as propaganda sculptures and decorative bas-reliefs, just like the portals of cathedrals? Don't these architects understand that the expression of tradition by monumentality and grandeur, of piety and glory by style, is—as we have shown—tied to the class enemies of the proletariat: the nobility, the court, the church, and the bourgeoisie? The fact that **monumentality is intrinsically an asocial phenomenon, that it is an expression of exploitation,** makes it essential to break with this tradition once and for all.

Today, in place of monumental architecture we have the press, radio, posters, and so on. In our time, these new media unquestionably represent the most powerful means of influencing the ideological disposition of the popular masses. We believe that socialist work and development have at their disposal other and more effective means of influencing intellectually and emotionally the enthusiasm of the masses than symbolic-decorative architectural decoration, "expressing ideas." The Dnieprostroi or any other gigantic project of the five-year plan is a much better way to express the creative strength of the proletariat; such works not only express but physically embody the creative strength of the proletariat by their efficiency rather than by monumental architecture. The self-confidence of the proletariat will be aroused not by symbols and emblems on buildings, but rather by the blueprints of the five-year plans; and the proletarian cause is served better by a perfectly functioning industrial mega-complex than by architectural monuments whose "form and style" come at the expense of their utilitarian function.

In the past, architectural monumentality and architectural style were among the instruments of the class struggle and stood for class supremacy. In that sense, architectural monumentality too should be seen as an opiate for the people, even if disguised in democratic garb: "Everything . . . must conform to the requirements of the present, must represent our better, democratic, self-confident, and ideal essence . . . ; art is destined to move humanity . . . ; in the creations of architects the world will behold its own image and self-confidence. . . ." These words can be found in the book *Modern Architecture* [1896] by Otto Wagner. It is the special achievement of constructivism to have put an end to architecture as art and to have conceived of an architecture directly concerned with designing for real-life needs. Of course—and we repeat—that does not mean that constructivism should be viewed merely as some kind of narrow utilitarianism or an automatic technique, merely accommodating strictly material and social needs on the one hand, while ignoring the psychological and ideological (and yes, even aesthetic) aspects of architectural solutions on the other. The exact execution of any task in general, and a building task in particular, is not an end in itself, but merely a means by which to approach ever more closely the **genuine realities of life.** This implies that we must view any building task, including its functional components, correctly, in all its complexity and in a new light. We must try to **rid it of the accumulated accretions of outdated concepts**

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9) *Translator's note:* this building is a star-shaped structure in one of the former royal pleasure parks near Prague.

and use the functional requirements of a building primarily as a means for perfecting, refining, and improving life and for opening new vistas to a new life on a higher level of existence. These are the aspirations of constructivism, and in these ways constructivism perceives the revolutionary task of architecture. Constructivism, which embodies in its program the most radical refutation of idealistically colored metaphysics, does not conceive of architecture merely in a "vulgar," practical, or mechanical way; it sees architectural creation not merely as a mechanical sum of various functions to be served by a building but as an organic synthesis. It calls for an architecture without clichés, without "facades"—an architecture that in the course of the construction of socialism will fulfill the role of reshaping our life in all its relationships, an architecture that will provide the blueprint for a new life, one that builds structures that will become the "condensers" of their epoch (as succinctly put by M. J. Ginsburg) and that, with its roots in the economic domain, will stimulate cultural activity as well.

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It may be useful at this point to call attention to the internal transformations of dwelling forms over time, beginning with the single space of the primitive dwelling, continuing by way of the bourgeois dwelling (functionally differentiated, but still serving the household of a single family), and concluding with the superior level of the collective dwelling. These changes in dwelling form must be brought synthetically into relation with changes in their social content and with changes in their environment. All dwelling processes are inextricably connected with each other and other social factors, including the structure of a given social order. As a result of these considerations, the work of modern architecture is demonstrably and intimately connected with the organization of society and the structure of its social class system. Buildings are the result of the economic and technical conditions of their time on the one hand, and contemporary economic and social conditions of existence on the other, not unlike a river bed influencing the current of a river. Thus, architecture is vitally influenced by the economic and social order, and changes faster or more slowly in accordance with changes in the social order. At the same time, it also has the potential of playing an important role in the creation of a new order. Architecture develops its own sources of influence by finding new answers to its contradictions and antagonisms, and by surmounting the dissonance existing between old forms of housing and new social content and vice versa.

Unless linked to a general plan, thinking on a large scale, and all-out standardization, even a perfect utilization of modern technical possibilities will not be able to resolve the antagonism between progressive technology and the ideological context of self-centered individualism, anarchy, class distinctions, and capitalist legal rules—all based on the principle of private ownership of property. Technology, as the materialization of antecedent social efforts, is theoretically capable of providing the basis for a new social system by itself; it must be considered as equal to the task of accomplishing a fundamental reorganization of the world by providing both order and plan, as well as economy and clarity, but it is hampered in its mission by the immense pressures and the oppressive constraints of the ruling economic ideology and its social conditions. Technology was created by capitalism; it is the technology of the era of imperialism (an era that completes the material preconditions for a higher level of historical development). It is surely fully capable of taking on the task of implementing the material construction of socialism.

By resolving the above-mentioned inner contradictions, architecture need not be reduced to a mere building science; it must also act as an important social force and be open to its own

deep transformation. The **floor plan,** which is **actually the symbol of the social content of architecture,** will have to undergo a fundamental change. Architecture assumes a social mission the instant it accepts the task of building houses and apartments. "Here, the primary task of all architecture is to provide sociability, sleeping, eating, and protection from rain and cold":[10] it starts with man, the subject of all building, not with the building as an object in itself, or with its material makeup. Architecture is a technical effort as well as a social one. As a technical effort, in the course of its development it represents the basis for creating architectural forms of a higher social order, forms that could not be realized without a maximally developed technology; as a social effort, it is exposed to social pressures and influences, to class conflicts and the contradictions of the social interests of the ruling class. Any architectural work, whether it be a dwelling house or a city plan, is therefore a matter not only of technical concern but equally of the reorganization of social relationships between people and social classes; furthermore, the basis of any architectural work is clearly determined by existing class conditions. Conversely, technical form—that is, **technical work,** such as a specific machine or a certain mode of transport, and so on—pertains to items that assume their class-determined function primarily by having been appropriated by a certain class.

Thus, technology and the machine, including technological work, are class-determined and, to be more specific, capitalist. They are class-determined to the extent that in capitalism monopoly ownership of the means of production by the ruling class prevails, and to the extent that this system controls the exploitation of labor and its associated wage system. Both technical work and the machine will fundamentally change as soon as their class function changes, that is, at the very moment when they are cut free from the stranglehold of monopolistic capitalism, simply because the class-determined features of technical work are constituted by the fact that the ruling class appropriates technology for the purpose of exploitating those it rules. Thus, we need to distinguish between technical work and the machine as instruments and tools used to manage and transform natural resources (an unambiguous function) and technical work as capital, that is, as an instrument of class dominance and exploitation: in both cases, we are talking about **the same machine,**[11] the same motor, the same tractor, the same airplane, the same locomotive, the same viaduct.

Architectural work, as house or city, is not merely a technical matter, a "machine." The product of any architectural work, whether that be its built form or the solution of its floor plan, is directly contingent on the conditions of the existing society—its lifestyle and its ideology. The function of that product is complex and controversial. For these reasons, the class character of architecture does not reveal itself solely by the mechanisms of capital appropriation (although, to be sure, the house does also represent capital as an instrument of rent ex-

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10) *Translator's note:* no source for this quotation is provided by Teige.

11) Of course, this is valid only with certain limitations, for in cases in which the worker is forced to become subordinated to the production process and not vice versa, the machine as the vital instrument of production will naturally be adapted for maximum efficiency and thus be made to function without regard to the fatigue of the worker who tends it. The adaptation of the machine to the requirements of the human body during the work and stress imposed by tending the machine—that is, a machine that is designed in such a manner as to conserve and protect the health and well-being of the worker who tends it—and the adjustment of the machine for maximum productivity while maintaining a conscientious respect for the requirements of the human element will eventually raise technology to a new level that will take into account its human input and thus lead to the introduction of new types of machines. The socialist order provides the bulk of humanity with entirely new tasks within the heart of the production process itself, which means that true rationalization in this order will lead to new arrangements and new methods of machine technology as well.

ploitation). Instead, an architectural work is class-determined primarily as a product of human labor in a class society: it is class-determined in its organization, its form, and its floor plan. Compared to the bourgeois house, the socialist dwelling is a fundamentally different architectural organism—**it is not the same house:** architectural design arrives at substantially differing results if guided by a capitalist or by a socialist point of view. It is for these reasons that in this book we pose the question of the **minimal dwelling** as a question of the form of proletarian habitation; the question of the residential house is for us above all a question of a specific social type, and not merely a question of construction technology, the number of floors, or whether to use closed stairwells versus an open gallery system. We view the dwelling and its layout not only as the product of this or that development of construction technology but equally as the result of the emerging trends in the evolution of the family, prevailing ideology (legal order, aesthetics), and psychological factors (the feeling of ownership and home, the warmth of the family hearth, etc.).

Architecture and technology cannot be separated from economic questions. "Of course, technology is dependent on the development of science, but science depends even more on the conditions and needs of technology. The whole field of hydromechanics was initiated by the need to regulate the mountain rivers in Italy during the sixteenth and seventeenth centuries. We have been able to talk intelligently about electricity only since the time when it was discovered that it could be used practically" (Engels). Even the relationship of ancient Greek science to technology and practice can be illustrated by the following facts: the technical models of that time remained merely a matter of philosophical speculation, since there existed no socioeconomic preconditions for their application in practice; there was no need for machines, since society and its economy had cheap slave labor at their disposal. Similarly, the development of railroads could have never happened during the fifteenth or sixteenth centuries, and their invention might have survived merely as a toy or been entirely forgotten and certainly not been put to practical use, since the social or economic conditions at that time were not ripe for their utilization. The first steps in inaugurating the use of machines were taken only during the eighteenth century, when the steam engine was introduced; and the transfer of steam-powered engines to the locomotive became possible only after the development of heavy industry and the emergence of the need to move people and freight over longer distances.

Hence, if socioeconomic preconditions are not present for the practical application of theoretical results, there will be no desire for their practical application. On the contrary, technical requirements tend to stimulate theoretical research, and theoretical "laboratory" work requires in turn the use of auxiliary instruments offered by technology. Even though the economic factor is in the "final instance" decisive, and economic reality is a fundamental social fact, we can see that there is a structural connection between the various categories of social activities of a given era. Cultural activity may thus be considered as an epiphenomenon of the economic base, but economic tendencies are not exclusively endowed with culture-creating power. Ideological factors, science, and culture take part in bringing into play a reciprocal influence on the economic base, and with cultural progress this influence becomes stronger. This is also the reason why architectural activity does not have to restrict itself merely to the limited task of dealing only with the particular requirements of existing social and economic conditions. On the contrary, architects should be able to bring about change on their own initiative in both the economic and social spheres.

The capitalist century stimulated gigantic technological development and an unprecedented expansion of all productive forces. It created new and boundless wealth. Unfortunately, the creation of this wealth was accompanied by the pauperization of the working masses. No matter how prodigiously capitalism may have contributed to the development of technology, the

working class has nonetheless not been allowed to participate in reaping the rewards of technological progress. Instead, the ultimate aim of capitalist-inspired technological advance was always production for profit first and further capital accumulation second. And so, the machine century expires with catastrophic unemployment and the misery of millions.

The struggle of the workers for higher wages and a shorter working week was always a powerful stimulus for technical progress. Classical Greece did not introduce machines, because it had cheap slave labor. The lower the wages, the less necessary or even desirable it seemed to introduce expensive new machines. "Before the outlawing of woman and child labor below the age of ten in mines, capital reckoned that this was in perfect harmony with its morality and—most of all—with its profit ledgers, even though women and female children worked completely naked next to grown men in the coal mines. It was only after these laws were enacted that machines were finally introduced to perform certain operations in the mines. In England, horse teams were sometimes replaced by human teams for towing ships, because the upkeep of horses was expensive, whereas workers' wages were so low that they could be essentially ignored" (*Capital,* vol. 2).

With rising wages, the utility and possibilities of technological progress grew: American technology reached its height because of the relatively high level of wages in that country. This circumstance gave rise to numerous apologias glorifying American technology and spawned sundry theories about the "new capitalism," its marvels of production rationalization, its economic efficiency, and its system of high wages, all of which saw rationalized mechanization as the solution to all social problems and the only path to social progress: Ford's well-paid workers produce the cheapest automobiles. In his book *Sa majesté la machine* (1930) [*His Majesty, the Machine*], J. L. Duplan tries to show that technical and mechanical progress actually liberate the worker. In an opposite vein, the interesting book by J. and M. Kuszynski, *Der Fabrikarbeiter in der amerikanischen Wirtschaft* [*The Factory Worker in the American Economy,* 1930], manages in one stroke to refute all these contemporary American Fordist theories. Both present evidence that in America even during the time of its past boom and so-called perpetual prosperity and despite considerable technical progress, not only did differential wage rates among workers and fluctuating wage levels continue but the living standard and the social position of most workers decreased even when real wages were rising, simply because they always trailed behind accelerating capital accumulation and the vast fortunes amassed by the propertied classes ("The worker is being relatively pauperized"; Marx). Marx's theory of pauperization is thus confirmed even in American conditions of high wages and economic prosperity. While the majority are underpaid or unemployed, only a small group of skilled specialist workers have become "plutocratized" as a kind of new workers' aristocracy.

The machine is an essential fact of modern life, tragedy and hope rolled into one. It is an instrument of exploitation and class oppression when controlled by capitalism. It becomes an instrument of liberation and prosperity when controlled by the workers; it is a miraculous gift of science and technology, capable of thriving in every climate and in every part of the world. It cannot be stopped in its advance by anything, not even by some future shortage of raw materials or fuel. Machines will not stop, even if we should run out of coal one of these days: a locomotive may waste nine-tenths of the coal required for its propulsion, but an airplane utilizes almost 100 percent of its fuel. The progress of technology and the machine is theoretically unlimited; machines represent calculations transformed into matter. They are the practical implementation of scientific axioms and formulas, made operational by the inventive human mind. And just as human thinking develops its concepts dialectically, the machine replicates this process in its social consequences.

Automated machines are a special species of machine, the last word in modern technology and production. The automated machine, by making it possible to reduce work time and physical exertion to a minimum, has the potential to liberate man from hard physical toil, so that he may enjoy once again the free time gained for nurturing his spiritual potential. Unfortunately, today the automated machine deprives the worker of his job, "liberating" him from toil but at the same time depriving him of his livelihood. And so, the reserve army of the unemployed is forced to offer its services for even lower wages than those earned by those still working, and its members thus become unwilling accomplices in the scheme to keep wages at the lowest possible level. The paradox of the machine and the so-called evil of machinism lies not in the machine itself but in the way capital and its system monopolizes machines as private property—a system in which technical progress is used to increase the profits of the ruling class, which, at a certain point in its expansion, may actually decide to put the brakes on progress and limit invention.

Frederick Winslow Taylor attempted to increase efficiency and improve productivity by the scientific organization of work. Taylorism was supposed to increase productivity without increasing worker fatigue and was to be accompanied by a substantial increase in wages. All this was to be achieved by putting into practice Taylor's theories for simplifying and rationalizing work: that is, the elimination of redundant movements, which in the past had slowed production and increased worker fatigue. At the same time, the scientific approach to work studied the influence of the work environment on productivity, stressed the importance of hygienic conditions in factories, made inquiries into the influence of illumination on productivity and fatigue, worked out new pedagogical methods to establish principles for training programs, studied the influence of rest, sports, and physical culture on the improvement of productivity, and so on. In short, it occupied itself with questions of work and time (for example, researchers found out that work productivity decreases after the fourth day, and the recognition of this discovery led to the introduction of the five-day workweek and its coordination with the tempo of machine time), aiming at determining productivity in terms of measuring energy in kilowatts. Unfortunately, the scientific organization of work, which in itself is a paean to modern creative, intensive, and liberated labor, has been used by capitalism as a method to facilitate the increase of productivity for its own business interests, while ignoring such matters as workers' fatigue and higher wages. Seen this way, such hypocritical rationalizations and economization are in fact nothing more and nothing less than a new version of plantation slavery and piracy. The current application of these methods has, in effect, completed the destruction of the stamina, energy, muscles, nerves, eyesight, and lungs of the workers.

"Today, everything is made more dismal by its opposite. The machine is endowed with a miraculous power to curtail human work and make it more satisfactory, but instead it ushers in hunger. . . . The new forces of wealth that have been unleashed have, by some strange trick of fate, become a source of scarcity: humanity dominates nature, but man is the slave of the machine. The result of all of our inventions and our progress seems to be that the material forces are acquiring their own spiritual life, while human existence is being ossified by these same material forces. This counterplay between modern industry and science on the one hand, and modern misery and decay on the other hand, this contrast between economic power and the social conditions of our time, is a tangible reality, powerful and undeniable" (Marx).

The machine, the prime moving force of civilization and wealth, has also given rise to a formerly unknown misery: "Miraculous inventions, which push to infinity the limits of human freedom, have today created such sad effects that we would rather disown the benefits expected from them, if this were possible: machines and mass production have had a dismal

effect on the conditions of the working classes and so we purchase progress and its advantages, reserved for the future, with a horrible evil" (Eugène Buret, *De la misère des classes laborieuses,* Paris, 1842).

The era of imperialism and financial plutocracy, driven by the tempo of whirling flywheels, turbines, motors, and rotors and accompanied by the expansion and the culmination of the process that created the preconditions for socialism, has in its final phase brought to the fore the problem of the reorganization of human society. In one year, industry spews out more products than handicraft occupations were able to produce for whole decades, or even centuries. Mature transportation and global trade have urbanized the world, erased local and national identities, and internationalized both production and culture: transatlantic ships discover America today and every day. The humanity of this new age is listening to the "song of iron, the whirring spectacle of electrical sparks; they hear its relentless cadences in the clanging of trains that dart to and fro above their heads" (Kellermann, *Der Tunnel* [1913]). Civilization and production, which by the quantity and quality of its products should have the capacity to ensure human prosperity, instead cause catastrophic misery, unemployment, and disastrous famines. History is played out between the opposite poles of a paradox. New metropolises grow turbulently. The bourgeois machine and mass production have eliminated the earlier fragmentation of the means of production, property, and populations, centralizing property and agglomerating the populations in the cities. It is the **metropolis** that holds the monopoly over modern life. The city is imbued with a centripetal force and has become the concentration camp of the proletariat, for whom **there is no housing** there: it is here, in the city, that this terrifying economic order completes the pauperization of the workers. But, at the same time, it also unites them as a class that will destroy this order; and it is in the cities where existing social contrasts are apparent in their most extreme form, and where the new spirit for the liberation of humanity is being born. "The same technical development that at a certain time has given birth to capitalism and made the working class its subject will in the course of time bury it and help the working class to defeat it; and so, with technological development, capitalism confronts its own demise" (Marx).

The present ushers in the twilight of the golden age of technology. Edison's death in 1931 is invested with almost symbolic significance. In this time of monopoly capitalism, while fulfilling a gigantic, progressive historical task, modern technology and large industry are entering a period of technical stagnation. The automation of machine production has proceeded in parallel both with the advance of the organic growth of capital and with the lowering of the overall level of profits: at the same time it has undermined the very foundation of the organization of production harnessed to profit and has prepared the ground for a planned and broad-based socialization of production, thus shattering the narrow framework of capitalistic conditions. Up until now, the present economic system has been unable to realize a higher level of development as well as a greater expansion of its productive forces on a worldwide scale; as a consequence, further technological development is becoming undesirable and, as technology confronts its social limits, even dangerous.

After the apotheosis of technical culture, the trumpet of the ideology of technical retreat is being sounded. Indeed, we are now witnessing a systematic curtailment of technical civilization and the stifling of inventions. Here is the opinion of Mr. Wollard, the director of the U.S. Patent Office: "There exist a great number of patents that would foster the lowering of the cost of production, that is, if they would be introduced into practice. However, for reasons of competition and business speculation, they are purposely not being utilized. Factories that work with old methods and that had at one time put in place expensive machinery purchase the plans for new and cheaper methods simply to prevent them from being acquired by their competitors.

Subsequently, these new inventions disappear into their safes, never to be used." Another example concerns an invention for extracting petroleum from coal, which remains unused as a result of the intervention of the petroleum trusts Standard Oil and I. G. Farben. Producers of sugar lead a no-holds-barred fight against the use of Bernier's method of producing sugar from cellulose. The electrification plans of the engineer Oliven, presented at a energy conference in Berlin, remain utopian–just as any other large project or any other gigantic construction concept remains utopian.

All this is taking place at a time when the current economic crisis has narrowed the limits of practical possibilities of capitalist technology and when modern engineers confront not Le Corbusier's dream of an "era of large works" but only very limited tasks. As announced in the daily press in 1931, Max Leon Gérard approached the Belgian king with a request to prohibit all new inventions. In our country, the director of the Vítkovice steelworks, Mr. Sonnenschein, calls for a complete moratorium on technology. And our own Karel Čapek publishes books filled with pessimism about our civilization. Already, for a number of years the development of industry that produces vital necessities for the broad masses has been slowing; and now it is to be shut down altogether. Therefore, it is not surprising that the industrialization of architecture and housing construction has experienced only insignificant advances.

Currently a flood of books is being published, representing a kind of Rousseauian hangover, all of which are devoted to the subject of the excesses of technology and civilization.[12] A good example is Döblin's book *Watzeks Kampf mit der Dampfturbine* [*Watzke's Fight against the Steam Turbine,* 1918]. Machine bashing has come into fashion. Only this time the mood of these modern-day Luddites has infected not only the bourgeoisie but all the small-town naysayers as well. Except in the armaments industry, which is growing more efficient by the day, technical progress is being cursed by virtually everybody as the devil's work. Are we entering a new dark age, a new return to barbarism? The structural and technological processes that have caused unemployment are the best antidote against what is called the dead end of technical civilization. The definitive cause of the catastrophic crisis of capitalist economy and civilization is not technical progress but the conflict between the expansionist tendencies of capital and powerful productive forces on the one hand, and a narrow and constantly shrinking market base on the other. It is a conflict between socialized production and private forms of ownership—in short, a manifestation of the internal antagonisms that characterize the anarchic system of the capitalist economy and its cycles of random crises, accompanied by intermittent shows of brute force.

The production conditions of capitalism are, as observed by K. Marx (*Zur Kritik* . . . [i.e., *A Contribution to the Critique of Political Philosophy*]), "the last antagonistic form of the social process of production, antagonistic not in the sense of individual antagonisms, but antagonisms emanating from the social life conditions of individuals[;] . . . however, at the same time, the productive forces that unfold in bourgeois society also create the material conditions for the resolution of such antagonisms."

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[12]) See also B. Reimann, *Die technische Entwicklung im heutigen Deutschland;* St. Chase, *Stroj a Člověk;* M. Rubinstein, *Die kapitalistische Rationalisierung;* S. Bessonow, *Zu Fragen des technischen Fortschritts im modernen Kapitalismus;* Warga, *Fragen der Weltwirtschaft;* Joffe, *Sozialistische Rekonstruktion und wissenschaftliche Forschungsarbeit;* Eberhardt Zschimmer, *Philosophie der Technik.*

the housing crisis 2.

the housing shortage and housing overproduction ● overpopulation ● housing policy

> The so-called housing shortage, so much talked about in the press these days, cannot be simply dismissed by admitting that the working class is generally living in bad, overcrowded, and unhealthy apartments. The housing shortage is not just a phenomenon of the present and is not merely an evil that has visited the oppressed classes in the past, or the modern proletariat alone. On the contrary, it has affected almost equally all of the oppressed classes at all times. There is only one way to surmount it: put an end, once and for all, to all exploitation and oppression of the working class by the ruling class. The term "housing crisis," as it is currently understood, essentially stands for nothing other than the worsening of the already miserable housing conditions, caused by the influx of people into the cities . . . [and] increases in rent . . . , a calamity that is not confined only to the working class, but one that is also starting to affect the small bourgeoisie as well.
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> —Engels, *On the Housing Question,* 1872

The **minimum dwelling,** as the current battle cry of the architectural avant-garde, is supposed to be the answer to all the particulars of the ongoing housing crisis. To avoid any future misunderstanding concerning this slogan, we wish to point out from the start that in this book the term "minimum dwelling" is not to be understood as a tiny dwelling for a little man! That is not the idea. Besides, the term "little man" is really a petit bourgeois invention and an architectural fiction, used by social science to put a label on a nonexistent creature. As an architectural slogan, the minimum dwelling should not be envisioned as a reduced or restricted version of a small bourgeois apartment; and it has nothing in common with so-called minimum apartments in rental tenement houses, built at the end of the last century, or with a kind of popular version of conventional apartments of reduced quality, with rooms so small as to render them uninhabitable. Moreover, it certainly does not represent a miniaturized version of a bourgeois villa.

On the contrary, in the program of modern architecture the minimum dwelling is intended to signify a **new dwelling type,** far in advance of conventional housing precedents and superior to past housing types, which were built not only for "eternity" but for rent exploitation as well. Apart from being a safe repository of capital and securing the value of a mortgage loan, and apart from its "eternal value" as architecture, the house requires irrationally high construction expenses, not to mention the heavy burden it places on the housewife for constant maintenance. In contrast, any minimum dwelling should be low-cost on principle; yet any reductions in its cost should be achieved not by reducing its quality but primarily by rationalizing and industrializing construction through standardization and serial mass production. All

these cost-saving methods are well within the capacity of modern architecture. Housing norms, including a uniform standard for the mass production of houses, are all intrinsically inimical to the current individually determined "single edition" approach to designing and constructing bourgeois dwellings. Notwithstanding the failure to use modern mass production methods in house construction, the reduction of costs by rationalizing space exerts a beneficial influence on architectural development in general. To repeat an old adage: penny wise, pound foolish. The minimum dwelling should provide more comfort for less money for its inhabitants than does the old conventional bourgeois house. The rationalization of the plan and the improvement of its overall organization ought be able to deliver higher value and higher efficiency with less floor area.[1]

In its search for a new dwelling form, the architectural avant-garde has chosen **minimal area and maximal livability** as the technical formula for **minimum dwelling** design. This may also be labeled as the mini-max dwelling concept: that is, a minimal space accommodating "maximal life" for the class of the subsistence minimum, defining a dwelling that does not fall below standards needed for **biological survival** (i.e., below acceptable sanitary and hygienic norms), one that provides its inhabitants with sufficient light, access to sun and air, and a sense of open space. Those members of the architectural avant-garde who have decided to abandon projects of villas for the rich, who are trying to find a solution for the **minimum dwelling,** and who are still trying to **reproduce the prevailing lifestyle of the middle-class segment of the population on a higher level of development** are faced at the same time with the additional problem of rethinking the problem of development so as to provide the inhabitants of such minimum modern apartments with greater comfort than that provided by a mansion or patrician house, albeit lacking the ostentation of either. Unfortunately, some of the proposed **beehivelike stacks of minimal apartments** are nothing but **modified replicas of rental barracks on a higher level.** However, **in order to make it possible to accommodate the dwelling needs and the lifestyle of the proletariat even under present conditions, and in order to transform their life of suffering, their general living conditions will first have to be changed** (e.g., too many apartments crowded into a single building, life in hovels, disintegration of the traditional family and the family-based household, etc.): they will have to be raised to a higher level, where they will become the source of boundless cultural progress.

Under present conditions, the dwelling of members of the class earning the subsistence minimum continues to be a decrepit and unhealthy hovel, far below minimum standards of hygiene and basic biological dwelling requirements, since an apartment in a new house is in most cases simply beyond their means. Attempts to make new apartments affordable to the poor have led to a further reduction of the average floor area of such small apartments from 40 m^2 to 36 m^2, and eventually to even less than 20 m^2. Statistical evidence confirms that a desirable biological minimum represents a higher standard than can be afforded by the proletariat, and thus even the smallest dwelling has become inaccessible for the poorest segment of the population. The slogan of the "minimum dwelling," much bandied about by the architectural avant-garde in response to the circumstances of today's housing crisis, hides the fact that a quality "minimum dwelling" is financially inaccessible for all those who presently live

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[1]) It should be mentioned in this context that the tendency of modern architects to reduce the square footage and cubature of a house is not motivated exclusively by economic considerations and a desire to reduce costs; to a large extent it results from their recognition that reduced furniture size needs to be accompanied by a comparable reduction of the overall dimensions of a plan, and that architectural rationalization not only allows for but demands the reduction of the overall layout of a house.

on the material level of the "subsistence minimum." For the thousands and millions of homeless people living in inadequate and unhealthy shelters, a minimum dwelling with a desirable biological standard represents a condition that is still far beyond their financial means. It is for these reasons that the most important architectural problem of our time—namely, to provide adequate housing for people of minimum income—still remains unsolved. There is a huge gap between even a relatively low rent for a decent home and the average wage, and the discrepancy between low wages and high rents is becoming ever more severe. Moreover, when rents go down, wages usually go down as well. **This makes the housing crisis even worse.**
The housing crisis, which after the Great War has bedeviled and confounded all of Europe and all the cities of the civilized world, is not, as has often been erroneously assumed, only a postwar phenomenon; and it is not—at least as far as European industrial cities are concerned—a new phenomenon. What is new is its urgency, its ferocity, and its interminable scope. To be more precise: its novel aspect can be discovered in the fact that the housing crisis, which has always been the lot of the proletariat, in our day touches even those classes that formerly remained unaffected—namely, the so-called middle classes, whose economic situation has been considerably weakened in the interim and who, as a consequence, have suffered from large-scale pauperization. It is precisely the current housing crisis and its associated rent speculation that have substantially contributed to the impoverishment of the middle class. Thus, **even though the housing crisis affects the proletariat the most, it also affects the middle classes to the extent that they have become impoverished like the proletariat.**
The housing crisis has actually been with us for many decades, sometimes even centuries, in all developed industrialized countries, ever since modern industry brought about the concentration of vast numbers of the population in the cities. The reports of the various country representatives of the International Congresses of Modern Architecture [CIAM] provide ample evidence that the housing crisis in European cities long persisted in the past, and that it has continued without interruption since 1914. Therefore, it is not just a postwar phenomenon: the Danish and Dutch country groups are the only ones who talk about the housing crisis as a direct result of the war and postwar situation.[2] By way of contrast, a serious housing crisis had emerged already during the first third of the nineteenth century in England, Belgium, and France, mainly caused by early industrial development and the rapid growth in the number of factory workers. In Germany and Czechoslovakia a similar situation can be observed in the sixties and the seventies of the last century. (In predominantly agrarian countries the housing crisis exhibits a somewhat different character: here we notice that poor and unhealthy housing conditions, barely fit for "cave dwellers," persist in the villages as a legacy of medieval times). The housing crisis in European cities has now been dragging on for decades after the war and is characterized by a further deterioration of housing conditions, exacerbated and made even more acute by the current general economic crisis of capitalism, which has caused widespread unemployment and pauperization of the workers. Making the postwar housing crisis more difficult, all building activities ceased during the war, and they have suffered from complete stagnation for some years even after its end. Add to this the increased marriage rate of

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[2]) In a commemorative paper on the housing situation in Germany, the German Ministry of Labor admits that even before 1914, a housing shortage existed in the cities and industrial districts. The housing misery in England is described in Engels's study *The Condition of the Working Classes in England,* where (as a classic example) he paints the picture of the housing situation in Manchester during the 1840s, and where he also delivers a critique of English cottage life and industrial garden settlements.

demobilized soldiers returning from the front, which in turn has led to a change in the age distribution of the population. These factors have also contributed significantly to the aggravation of an already critical housing shortage. But at root the housing shortage is primarily a social, class-based phenomenon having many causes, all of which can be traced in their origin to the methods of capitalist economics and—ultimately—**it is the wage system that is at the root of this evil.** It is a system whose practice is to pay its labor the lowest possible rate, a rate that subsequently forces the workers to limit their expenditures to cover only the most essential of life's necessities, which by all rights should include a decent and healthy shelter. Unfortunately, it seems that a decent home does not rate the status of being essential to life in the present system. The **rental system** is an inseparable complement of the wage system: capital is not satisfied merely with the surplus value extracted from the worker's labor in the factory, but aggravates its exploitation by manipulating the economics of housing and city politics (rent, transportation, taxes): "Having been exploited by the factory owner until he finally is paid his wage in real coin, the worker is subsequently pounced upon by the second detachment of the bourgeois exploiters, the house owner, the merchant, the owner of the pawn shop, and so on" (*The Communist Manifesto*).

The housing crisis is the result of all the causes described above, whether primary or secondary, but—as we have argued—its real origin is to be found in the current economic system; it is, therefore, a necessary outcome and a concomitant phenomenon of all capitalist development. The expansion of large modern industry during the second half of the nineteenth century caused the rapid growth of cities, so that in the course of a single century, the ratio of country to city dwellers was practically reversed in some places (during the Middle Ages, the population ratio of city to country was 1 to 9). However, the housing shortage is not the result only of the city's population growth, which accelerated to the point that the building industry was unable to keep pace with it. In this connection, it should be noted that during the first years after the war the number of new dwelling units built could not catch up with the number of marriages and newly formed households and hence lagged behind population growth. The explanation for this lag should not be sought solely in population growth as such, or in the inability to expand overall construction activities to keep up with demand; instead—given the existing economic order—such building investments were simply not considered sufficiently profitable to provide for the housing needs of the less affluent. The housing crisis in the cities persists because of the increase not only in the absolute number of their inhabitants but also in the percentage of economically weak members within the total population incapable of paying the required rents—which, by the way, have increased enormously over time. The growth of cities and their urban populations is actually not so prodigious as to make it impossible for present production capacity to satisfy demand: however, if one is to seek an answer to the question of the causes of the housing shortage, it can be found in the disproportionate growth of the proletariat as part of the overall number of city inhabitants, as well as the growth of other disadvantaged groups of dispossessed and uprooted emigrants from the country to the city, including the impoverished urban middle class.

The stagnation of construction activities during the war, the increased rate of new marriages after the war, and general population growth are erroneously considered as the root causes of the current housing deficit. But in fact there is no outright housing shortage, as there is no absolute overpopulation, whose needs would actually exceed available production capabilities.[3]

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[3]) Actually, there is enough food for all populations in the world, but there are too many people in relation to variable capital, and this disparity increases in inverse proportion to capital's accumulation.

Satisfaction is not constrained by the insufficiency of production; but production is limited by the buying power of the population, which is insufficient to satisfy such needs.

The assumption that the housing shortage is caused by dizzying population increases (or the increase of marriages after the war) collapses with the refutation of outdated Malthusian population laws. At the beginning of the machine age, Malthus predicted widespread penury due to excessive population increases. Understandably, he had to base his predictions on the comprehension of a world that was familiar to him, a world of the premachine and precapitalist era, a world of the old economic order: under those conditions, the well-known Malthusian axioms, which predicted that populations would increase at a geometrical rate, while food supplies would increase only in a linear fashion, represented a justified warning against expected future shortages and hunger. However, the more current estimates and calculations of modern sociology and economics assure us that Malthus's laws have lost their validity in our day, and that they are actually in error. Past economic calamities, such as famine, have been supplanted by the new, bewildering paradox of the principal calamity of the capitalist economy: overproduction.

Overproduction is a modern plague, thought to be both inconceivable and impossible in past historical periods, including Malthus's time. Malthus assumed that eventually the earth will become too small and too impoverished to support humanity. Today we find that the earth is too big and that there is more than enough land to produce food in abundance by rationalized mechanical methods. Usable agricultural areas are increasing, and hitherto barren land can be made productive even in polar regions, as evidenced by Sörgel's "Panropa" project. This proposes to build a dam across the Strait of Gibraltar, which would generate 160 million horsepower from the "white coal" of its turbines, thus providing sufficient energy to bring the whole Sahara desert under cultivation, besides gaining additional arable land by lowering the surface level of the Mediterranean. The Dutch have already started the draining of the Zuider Zee, further proof that it is theoretically possible to realize an almost unlimited quantity of additional arable and economically usable land. Add to this the increases in agricultural fertility gained by the introduction of selective breeding of high-yield seeds and the judicious use of new fertilizers, not to mention the scientific breeding of poultry, cattle, and so on, and so on. All this promises food surpluses (not food shortages). Hirsch, a contemporary author, has articulated the inappropriateness of Malthus's laws for our time: "Bread grows faster than humanity." And yet Sörgel's project remains on paper, alternative sources of wealth remain unused, the draining of the Zuider Zee has been stopped—simply because there is a glut of grain and because commercial agriculture in its "grain wars" has failed to capture new foreign markets.

Economic "land surpluses" and "production surpluses" are not conditions that are universally valid, just as there is no absolute principle concerning the problem of surplus population. Previously, population was thought to be too high, but its growth was subsequently discovered to be actually slowing down, not only as far as nonwhite races are concerned but for some white populations as well. Population growth has become more moderate, and there are indications that it is actually tending toward ultimate stabilization. In North America, indigenous growth is registered only in the southern states; and in Europe, which grew from 200 million souls to 500 million in the span of a single century (apart from the 24 million killed during the war, and 40 million who emigrated overseas), a negative birthrate has been recorded for some time. For example, from 1906 until today, population has not significantly increased in France, and the western and central parts of Europe are actually reporting stagnant population growth. In the meantime the colonial settlement of new territories has dried up as well, and emigration from Europe to America has decreased to one-tenth of its prewar level. In his

1929 paper "Weltprobleme der Bevölkerung" ["World Population Problems"], Franz Oppenheimer states that the specter of an overpopulated earth, so dreaded by Malthus, is not a real problem any more; on the contrary, there is instead the threat of depopulation. In his study on the same subject, "The Balance of Births and Deaths," Robert Kczynsky states that western and northern Europe are actually losing population.

Non-Marxist sociologists and economists are baffled when confronted by these postwar population growth data. They try to explain the decline of birth rates and population shifts by pointing to biological rather than primarily sociological and economical causes, as if the history of mankind were a blind biological process. It is along these biological lines that in the *American Journal of Sociology* (36, no. 2 [1930]), Corrado Gini tries to explain the cyclical succession of races and nations, as resembling the growth and decline of an individual. In his view, races, just like an individual human being, pass through certain evolutionary phases: growth, stability, decline, and finally extinction. New, superior population strains allegedly make their appearance on the fringes of declining races, followed by a mixing of races and their growth by infiltration and substitution. The potency of these fresh and more robust races and populations—among which he includes the Slavs, Japanese, Chinese, Malaysians, and also a number of already mixed races—thus tends to overwhelm the old dying races. These ingenious and seemingly convincing explanations reduce the social phenomenon of population shifts to physiological, biological, or ethnic causes and circumvent the basic law of scientific sociology—namely, that societies behave differently than the individuals they contain. In effect, there is no such thing as young or aging races and, unlike individuals, neither nations nor social groups can be assigned a definite physical life span. Social phenomena obey their own autonomous laws, and no scientific sociology would be worth its name that did not recognize the specific lawfulness of social development. Society is not the arithmetical sum of its atoms, i.e., individuals, **for in the logical sense, it is not identical with the sum of its parts formally** but only dialectically: that is, it is concretely bound up with the identity of its contradictions. ("Just because every human being is a biped, a collective of a hundred people does not turn out to be a centipede!")

Elsewhere in the same journal, we find a sounder grasp of sociological principles than those advanced in Gini's contribution. Another author states correctly that the social causes of both the dynamics of population growth and the decline in birthrates are not physiological or biological phenomena, but that the answer must be sought in the recognition of specific sociological factors that contribute to a decline in fertility: these include the social standing of parents, their cultural standards, the growth of urbanization, and deliberate economically and culturally motivated birth control (see Sanford Winston, "The Relation of Certain Social Factors to Fertility," 30, no. 5 [1925]). For these reasons the population factor, in terms of the growth and decline of populations, cannot be made to serve as the basis for sociological explanations in general and housing shortages in particular.[4] The population factor is equally inadequate for explaining more complex social phenomena, as for example the growth of cities, the depopulation of the countryside, unemployment, and so on. On the contrary, explanations of population dynamics must be based first and foremost on economic conditions that fundamentally determine social factors, such as the class struggle, the development of productive forces, and social organization, all of which determine birth- and death rates to a significant degree.

A Marxist understanding of the population problem takes its departure from the view that population law is not an a priori abstract concept: such a law can prevail only in the realm of

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[4]) A. Loria, *La legge di populazione ed il sistema sociale* (1882).

the flora and fauna, and only to the extent that the "tool making animal" [English in the original]—that is, man the producer—does not intervene.[5] Every production method is associated with its own special population law and has its own historical validity, related exclusively to its respective production processes. Capitalist production methods foster their own population laws as well. The accumulation of capital accelerates the displacement of workers by machines, producing wealth at one extreme and misery on the other, while at the same time turning loose the so-called **reserve army** of the unemployed, which is made up of the relative surplus of the industrial workforce, that is, workers who are unable to find work. This is **capitalist overpopulation,** which manifests itself in its own unique and varied ways. Plagued by expropriation, part of the agricultural population adds to the numbers of the industrial reserve army even more: in other words, for all practical purposes, we are dealing here with a secondary source of relative overpopulation. The exodus of agrarian populations into cities is not the only prerequisite of overpopulation, even though it must be considered a very important factor and an integral part of the history of capitalism, as well as an important element in the analysis of the problem of housing and urban development. As a consequence, industrial capital has created its own homologous labor surpluses, principally as a result of mobility and dynamic growth. These have created a permanent army of unemployed, caused by the accelerating changes in the systemic structure of capitalism and accompanied by the substitution of machines for physical labor.

Thus, today's overpopulation is not the result of innate biological factors (i.e., birthrates) but can be reliably traced to existing economic conditions, best characterized by the accumulation of capital. Similarly, both increases and decreases in birth- and death rates should not be considered solely as manifestations of biological potency, such as fertility, the health and vigor of a particular race, or their resilience or degeneration, but must be qualified by the influence of social and cultural factors.[6] Today's estimates of overpopulation are relative: It seems that contrary to claims that overpopulation persists, statistics in all western Europe show a general surplus of deaths over births, an increase in the number of suicides, the curtailment and control of conception, the spread of contraceptive practices, the rise of abortions, the institutionalization of single- or two-child families, and an increase of childless couples. All this may be interpreted as a veritable "childbirth strike," the cause of which may be reliably traced to the impoverishment of the population and its increasing destitution. Capitalist "overpopulation" will continue to persist, even in the case of an outright decrease in population, simply because the system essentially does not depend on the natural growth or decline of its populations but instead supports its growth as a result of the accumulation of capital and the concurrent exodus of the country populations [to the cities]. This obvious phenomenon of

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[5]) Marx, *The Eighteenth Brumaire of Louis Napoleon:* "Abstract population laws exist only for animals and plants. The growth or decline of populations depends on the organization of society, an organization determined by its economic structures. No law of fertility can change the fact that the population of contemporary France has practically ceased to grow." (The big mistake of economists and sociologists is that they regard population growth as the primary source of development).

[6]) It is not possible on the basis of abstract population laws to explain why, for example, in western Europe populations have effectively ceased to grow (an annual growth rate of 2.5 million for a total of 370 million in Europe, compared to the USSR with its population of 165 million, which is growing at a rate of 3.5 million annually), and why the statistics of 1927 show that compared to the years 1870–1875, there has been a general decline in birthrates (in France, 29 percent; in England and Germany, 53 percent; and in Austria, 55 percent). The statistics on birth- and death rates of both infants and adults, social diseases (e.g., tuberculosis), and suicides are numbers that are socially conditioned as well.

capitalist overpopulation is at the same time the key that allows us to open the door to an explanation of the exigencies of overproduction, which the system has tried to overcome by eliminating human production forces and by capturing new markets; this process eventually set the stage for a universal and all-encompassing crisis of the whole economic system, while at the same time preempting the means by which that crisis could be limited and overcome.

Overpopulation is therefore an evil of a different kind than Malthus suspected. **Overpopulation is today's response to industrial and agricultural overproduction, and thus represents the "surplus value" necessary for the exploitation of the economically usable surface of the earth.** And, just as overpopulation is not a natural phenomenon or a sign of biological fertility, so overproduction and surpluses are not caused by technical progress and the increase of productivity in industry and agriculture. During the Middle Ages, hunger was the result of underproduction and bad crops, a pattern that has been turned upside down dialectically in capitalism, where hunger is the effective result of overproduction. Malthus's prophecy has thus been turned on its head by a paradoxical economic situation in which wealth creates misery and surplus causes want. Contemporary vulgar Marxist economic and sociological theories similarly repeat Malthus's error by a reverse logic that discerns catastrophe in the fact that production surpasses consumption. They speculate that if there were only more people in the world, there would be no crisis of overproduction: as if in today's economy the ultimate destiny of *Homo sapiens* were to take on the exclusive role of consumer, but one who, on account of his low wages and present circumstances, in reality is first a producer who produces more than he can consume. As a result of the contradictions of the existing economic system, the relationship between production and population is presented in a mind-boggling conundrum of numbers that are being multiplied with each other, where every rise in overpopulation (meaning populations without means) is represented by an increase in the numbers of an ever-more impoverished proletariat (i.e., impoverished because of the reduction of their buying power) that corresponds, relatively speaking, to a rise in overproduction, which of course leads to a lowering of overall sales and consumption.

The American journalist Will Rogers recently voiced his dissenting opinion on this matter in an article published in the *New York Times,* where he speculated that the crisis of capitalism is being caused by the existence of too many people. To alleviate this situation, he proposed a campaign for the wholesale destruction of goods and sources of production: "The agriculture department has recently hit on a brilliant idea with its regulation to destroy every third bale of cotton. Unfortunately, the main defect of this policy is the fact that there are too many people: Therefore, shoot every third person and prosperity of industry and business will return!" The paradox of overproduction is not to be found in the contradictions between population and capitalist production for profit but is rooted in the fact that production has somehow become an end in itself—production for production's sake—and even though production has increased manifold, it has been unable to increase its markets and raise consumption.

Here we touch on the very core of the historical role of capitalism, which reveals itself in a most unambiguous way by expanding the productive forces of society, while at the same time the structure of capitalist society prevents the working masses from benefiting from its achievements. This represents the basic contradiction between tending to increase production and at the same time placing limitations on consumption by curtailing the buying power of the impoverished broad masses, between upswings in production and the gradual narrowing of the consumer base: "As a consumer, the worker is important for the market. However, when he sells his only 'merchandise,' namely his work, capitalist society attempts to pay a minimum price for his efforts" (*Capital,* vol. 2). The general tendency of production is to push

toward the limits of its capacity, that is, to an absolute saturation of consumption. However, it runs up against a contingent limit set by the buying capacity of the proletarianized masses. Thus, the growth of production exceeds the growth of individual consumption capacity in accordance with the antagonistic features of capitalist society.

The housing shortage cannot be equated with an absolute shortage of apartments. Neither is the building industry technically incapable of satisfying any demand that may be caused by the increase in population numbers. Even though statistics show that the number of housing units in most cities is considerably less than the number of households, they do not prove that there is an absolute shortage of houses, especially if one takes into account that a wealthy minority presently occupies the bulk of available dwelling space. This proves that the opposite is actually true: the housing market (a significant factor of the internal market) is currently relatively saturated. Only affordable low-cost houses available to financially weak members of society are in short supply, but these are not being produced by the free market, simply because they are not profitable. Thus, with the exception of houses for the poor, the current market is well saturated, supply exceeds demand for financially qualified buyers, and the so-called housing shortage actually obscures the reality of a relative overproduction of houses. The proof of this contention can be found in the fact that a certain percentage of apartments remains vacant, while at the same time a significant percentage of the population remains without adequate housing, simply because their income is insufficient to cover the required rent. This obvious class character of the housing shortage reveals itself unambiguously in the discovery that **on the one hand there is a substantial number of medium- and large-size apartments available, whereas on the other hand, there are thousands of people without an apartment.** The shortage of smaller apartments has two causes: the first is that small apartments are not being built in sufficient numbers, because there is no guarantee that they can be rented; and the second resides in the fact that the huge demand for small apartments tends to push up their price.

We are confronted here by a fundamental discrepancy: the discrepancy between building activity and housing shortage. It can be explained by the fact that **any increase in the number of apartments is usually accompanied by a concurrent increase of home seekers who cannot afford these apartments,** which consequently remain empty. This relative overproduction of apartments therefore actually worsens the housing shortage and the misery of the proletariat and the poor. The solution to this discrepancy, which lies at the heart of the problem of the dwelling for the so-called subsistence minimum, can be found only in the socialization of housing. Nor is the housing shortage a direct result of the overpopulation of cities and the migration of country populations into cities; it is essentially caused by economic conditions that have brought about the population increase in the cities in the first place. It is modern industrial expansion that has triggered the dizzying growth of cities and caused the migration of country populations to industrial centers. However, this growth of city populations is not by itself the cause of the housing shortage. Instead, the housing shortage in our cities is the consequence of a phenomenon that can be explained by the fact that migratory population movements are closely associated with economic and social dislocations taking place within those populations. Nobody talks about a housing crisis when the population of a spa grows rapidly with the intermittent ebb and flow of wealthy visitors who build their villas there or for whom big hotels are built: such summer resorts grow like mushrooms and yet they experience no shortage of housing. The housing shortage in our cities is not caused by the vertiginous increase of city populations as such but by changes in the social structure of these populations: that is, the population is increasing mainly because of the influx of wretched country folk and because within the city population itself pauperization is increasing, with the

result that the numbers of the poor and the proletariat mount as a percentage of the overall population of the city. The housing shortage is not becoming worse just because *x* number of people are added to the population of a city, but because *y* number of proletarians and those actually or potentially unemployed have been added as well, so that the pauperization of the population is advancing more rapidly than overall population growth. The reason for this is that the country poor make up the majority of the overall number of immigrants to the city, while at the same time those who have already settled in the city are becoming increasingly impoverished.

The influx of populations into cities and industrial centers is, after all, a characteristic symptom of capitalism: it represents a rural exodus caused by the intensifying contradictions between city and country, the rivalry between industry and agriculture, and the clash between the interests of capital and landowners. Traditional small-scale land ownership was weakened and eventually ruined by capitalism, for it is in the nature of capitalist production to increase the size of its industrial population at the expense of the agricultural sector, thereby giving impetus to the rise and growth of industrial centers, which lured populations to move into cities and which naturally had a significant impact on the structure of the village and thus ultimately on the state of housing in the country: "Small-scale land ownership, which unavoidably placed the farmers at the mercy of capital, has changed the masses of the French nation into troglodytes. Sixteen million farmers with wives and children live in cellars, of which a great number do not have a single window, while a few have to make do with two, and a lucky minority may boast three. Windows in a house are what the five senses are for the head. The bourgeois order, which at the beginning of the [nineteenth] century established the state as the custodian charged with the protection of the newly redistributed small plots of land, has instead become a vulture tearing at the flesh of its victims, only to scatter the carrion into the magic cauldron of capital: the Code Napoleon is nothing but a law promoting judicial murder and forced clearance sales" (Marx, *The Eighteenth Brumaire of Louis Napoleon*).

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As discussed in the preceding, we believe that as a social crisis, the housing crisis cannot be explained exclusively by the dynamics of population changes, but that it has its roots in the structure of populations with reference to society, that it represents a basic inescapable side effect of the ruling economic system, and that it is codetermined by the pauperization of the broad masses in conjunction with the intensification of the contradictions between city and country. It is for these reasons that we consider the housing shortage to be a class phenomenon, best characterized as a relative shortage of apartments for the working class and other poverty-stricken segments of the population—in short, people of the subsistence minimum. The housing question is therefore not only a problem affecting the working class and a social evil **afflicting the proletariat most,** but it touches other economically weak strata of society as well, including the impoverished petite bourgeoisie, tradespeople, working intellectuals, and so on.

The housing conditions of the strata of the subsistence minimum are intimately connected with the social and material status of these strata. In times when profits are rising, workers still remain relatively impoverished, and their housing situation is thereby worsened as well. Incidentally, the housing shortage increased even during times of industrial booms, for in such times it was possible to invest one's capital into more profitable ventures than the building of housing. Naturally, such investment has also led to a further increase in rents. Con-

versely, during times of cyclical downturns, construction becomes more profitable because past curtailment [of building activities] causes an accumulated shortage of apartments and thus leads to an increase in demand, which—in turn—pushes rents up as well. Construction activity tends to expand only up to the point at which the saturation of the housing market has been achieved; that is, it expands until the time when a relative surplus of dwellings is registered, which—of course—does not help reduce the number of the homeless and the poor living in overcrowded quarters. Before the war, on the average 3 percent of all apartments remained empty. Even during periods of record building activity, the housing situation of the workers became worse and it will necessarily continue to get worse, as long as the exploitative wage system, capped by usurious rents and exploitation, remains in place.[7]

"In the present social order, the housing question is being solved by taking indirect advantage of demand and supply in the market, a solution that always breeds the same problem, which means that it is no solution at all" (Engels, *The Housing Question*).

The real cause of the housing misery of the strata of the so-called subsistence minimum is essentially poverty. The question of the dwelling for those earning the subsistence minimum is for practical reasons impossible to solve, simply because the so-called subsistence minimum is identified with a living standard that, in effect, precludes them from a dwelling that, for all intents and purposes, would provide a minimally adequate standard as something affordable rather than as an unattainable luxury. In other words, the housing shortage is an inseparable part of the exploitative capitalist system. Under these conditions and generally speaking, the cause of the inherent inability to solve the housing problem may be found in the discrepancy between low wages and high rents. A study of wage rates shows that the average wage level—especially if a correction is made to account for the number of unemployed—can be characterized as a "subsistence minimum" only in the most euphemistic sense. It is also a mistake to consider only the official, tax-free minimum survival wage; here, one must also include the hundreds of thousands and millions of people whose wage has sunk below the lowest margin of bare physical survival, causing permanent undernourishment and hunger. This fact has to be pondered, especially in the current period of a persistent economic crisis and massive unemployment, a time when industrial wages are rapidly approaching the lower limit for physical survival. The full extent of the term "subsistence minimum" is defined best by the formulation of the Berlin hygienist Dr. Paul Vogler: "the upper limit is the real *minimum vivendi* (the minimum that still allows one to survive), while the lower limit is the *modus non moriendi* (a condition in which one still does not die of hunger). For those living at the margins of the *modus non moriendi* today, even the cheapest minimal dwelling is out of reach."

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"The troglodyte has his cave, the Australian aborigine his clay hut, the Indian his own hearth—the modern proletarian, however, effectively hangs in the air" (Proudhon). "I studied with religious zeal the private life of workers' families and I dare to declare that the unhealthiness and filth of their dwellings is the consequence of all the misery and vices, of all the calamities of their social condition. No reform deserves more attention by the friends of humanity" (Blanqui). These quotations capture graphically the extent of the tragedy of the hous-

[7]) The building boom is to a large extent an indicator of the economic situation. A French saying goes; *Quand le batiment va, tout va:* when construction prospers, all prospers. Construction investment is dependent on long-term loans and is subject to stagnation during economic crises. Building booms generally revive much more slowly than industrial booms.

ing misery of the proletariat, even though they fail to formulate its cause, a failure that creates confusion and leads to incorrect solutions. Blanqui considered the housing shortage as a primary social evil. Proudhon's solution was actually applied here and there in less radical form, by lowering rents, by subsidizing construction costs with tax revenues (Vienna), or by trying to determine a desirable ratio between wages and rents.

When we consider the relationship between wages and rents, it behooves us to be aware of the fact that a wage represents the value of the worker's labor, which is just like the value of any other merchandise or business expense. Expressed in more concrete terms: it is an expense essential for the production and reproduction of labor, an expense that covers the needs most essential to keep the worker alive as a member of the workforce or, in other words, to allow the worker to maintain his bare existence (food, clothing, and an abode), apart from coercing new workers into the work cycle.[8] The only consideration governing the purchase of labor is whether the laborer will produce surplus value. The relationship of a tenant to the owner of an apartment is different from this wage relationship in that the rental of an apartment represents neither the production of value nor the buying and selling of labor to create surplus value, but the selling of a good, that is, the renting out of an existing value. Rent consists of the recovery of land rent (property taxes), interest on construction investment capital (including the profit of the entrepreneurial builder), repair and maintenance expenses, taxes, and amortization of the construction capital, including profit. Any attempt to solve the housing crisis by the abolition or control of rents, as well as other attempts to establish a desirable "correct" relationship between tenants' income and the percentage of that income to be spent on rent, is more often than not the result of a faulty understanding of the economic fundamentals of the housing problem.

It is important to remember that any increase in rents or apartment prices is primarily caused by an increase in land rent: this is also why rent increases in rural areas are lower than in cities. The increase in the value of home ownership can be traced back to the rise in land values, not an increased value of the house itself, whose worth actually tends to decline with age. In cases in which the owner of a house is not at the same time the owner of the land on which the house stands (common in England), his profit will be substantially lower: on the average, the yield of rent income will be approximately 7 percent on capital invested, including profit. Eliminating or lowering rents does produce a reduction in the worker's expenses; and since his wage is the only means of covering his expenses for bare survival, rent relief does help in lowering those outlays—but at the same time, it brings into play the unfortunate inclination of employers to lower wages. And indeed, rents have been lowered by various legislative provisions and financial programs, but their reduction has usually been followed by wage reduction, for the simple reason that rent control effectively reduces the labor production costs of industry as well. Thus, the lowering of rents is of no advantage to the worker, but favors only the capitalist. When rents are lowered, less money is needed to maintain a worker's basic work performance; it is thus possible to pay him less.[9] The lowering of rents effectively provides in-

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[8]) In our day, gradual pauperization has reached a point where an apartment is no longer considered as a part of labor expenses essential to ensure a worker's bare survival: mere lodging is considered sufficient and, given the current surplus of labor, capital does not consider hygienic measures necessary to protect the well-being of its labor. Rationalized industry is, after all, no longer interested in paying much attention to the care of its workforce, since its labor needs are below the numbers available in the labor market. They are indifferent to whether the worker becomes incapacitated by fatigue, or falls ill from malnutrition.

[9]) "Production outlays for labor become cheaper and hence the value of labor drops" (Engels, *The Housing Question*).

dustry with an export premium, since it can then sell its goods more cheaply in foreign markets. In effect, this represents a special case of "social dumping." The lowering of rents is frequently vaunted as being of direct benefit to lower-income segments of the working population; instead, it represents—possibly indirectly, but more effectively—a benefit to industrial capital. A good example is Vienna, where it was possible to keep wages far below those of the rest of European industry (about 8 percent lower than in Czechoslovakia), simply by lowering rents.

Legislative measures such as rent regulations or laws that protect tenants and provide rent control—in short, the reduction of rents to artificially low levels—have thus benefited above all the interests of industrial capital and helped it compete in world markets. Laws for the protection of tenants as well as regulations controlling the housing market can be considered to be social policy only to the extent to which they prevent forced evictions from apartments. For example, during the most severe housing shortages after the war in Vienna, a group calling itself the "Black Hand" encouraged illegal occupation of empty apartments by the homeless. Special laws to protect tenants were introduced at that time primarily as a temporary security measure under the pressure of critical conditions, when the state authorities realized that "the extent of the housing crisis represents a danger to public order." During the inflationary period of the postwar crisis, the legal control of rents was expected to help stabilize the financial disparities between various capitalist interest groups: property and real estate had become more valuable with inflation, while money had lost value. As a result mortgage lenders and financial credit institutions were suffering.

Some countries (e.g., Germany) introduced a tax to be paid by property owners on excess profits made during times of high inflation. Part of this tax was to be used to build low-cost housing. With the gradual dismantling of tenant protection laws, the burden of this tax was gradually shifted to the tenants as part of their rental fees. The money thus extracted from the tenants was subsequently used on the one hand to plug the holes in federal and municipal deficits, and on the other hand to cover the construction costs for so-called low-cost apartments, which, even though they were financed with public money (as *fonds perdus*), could be afforded only by the better-situated middle class (i.e., those earning more than a minimum poverty wage). The result was that the better-off were able to profit from the lower rents of their new apartments, which were effectively subsidized by the proceeds of various direct and indirect taxes paid by the poor.

From the beginning, tenant protection laws were the subject of violent political arguments, since they meant a reduction in, and in some cases total loss of, profit by the lessors. At the same time, the preservation of low rents was to the advantage of industrial capital, since low rents made possible the maintenance of low wage rates; the differing interests of real estate and of industry ignited a political conflict, taking the form of a clash between two forms of property ownership, represented by the owners of real estate on the one hand, and the owners of industrial capital on the other.

Another way to lower rents is by means of housing subsidies, as introduced by most European governments. The primary aim of these subsidies was to revive and stimulate construction activities, with rent reduction only a secondary goal, since without lower rents the new houses would have been out of the financial reach of even better-situated tenants and thus would have remained empty. The situation right after the war was the following: incredibly expensive land; shortages of building materials, which generated a black market for construction materials; high mortgages; and a shortage of capital. As a consequence, investment in new housing became unprofitable, regardless of postwar population shifts, the return of soldiers from the war, and new marriages and household formations, all of which had created a large

but financially shallow demand: construction stagnated, and building activities were reduced to a minimum. Lively speculation developed in the housing sector, because in times of declining currency values, buying real estate was the safest way to preserve one's capital. However, priority was placed not on investing in new construction but on purchasing houses built before the war, which in turn resulted in a large turnover in property ownership. Construction was in the hands of financially powerful individuals or institutions: what was actually built were banks, offices, and villas. Investment in the construction of rental apartments, which promised small returns and were saddled with long-term mortgages, was not considered attractive. Instead, the building of private villas and detached family houses for rich clients took precedence.

Essentially, the politics of subsidies do not prove anything, other than that at a given moment it is considered impossible to revive construction without such subsidies and that the market is incapable of providing apartments at "reasonable" rents. Thus, the primary aim of all laws designed to support the construction of housing is to provide the building industry with work. Depending on the country, construction is being subsidized by different methods: housing financed with public, state, or municipal funds; state support of builders, be they municipalities, cooperatives, or private individuals; and tax abatements, as well as mortgage and construction loan guarantees. Governments prefer to give priority to supporting private or cooperative builders, rather than embarking on their own planned construction development; only in Germany have government-supported planned housing projects been undertaken on a large scale. In one form or the other, subsidies are usually made available mainly to financially powerful builders, even for the construction of quite expensive family homes, for—as discussed above—state subsidies were devised primarily to provide profits for construction firms and entrepreneurs, and only secondarily to mitigate housing shortages and lower the cost of apartments in new projects. In most countries, legislatures consider the workings of the free market to be the normal way of doing business, while providing construction subsidies out of public funds and regulating the housing market are seen primarily as temporary emergency measures.

Even the maximum lowering of the cost of housing achieved by state subsidies, low mortgages, or reduced construction costs has not succeeded in providing decent housing at a reasonable price for the poorest of the poor. And so, the outcome of all these partial methods of reducing the cost of housing with government subsidies in effect helps only the better situated, especially the middle classes, at the expense of the poor. A survey of the German Economic Committee, "Der deutsche Wohnungsbau 1931," states that is not possible (!!) to build houses for the unemployed and the poorest, because the rent of each new apartment, even the least expensive, is necessarily higher than their "ability to pay."

The above shows clearly that the lack of housing for those living at the subsistence minimum cannot be addressed by state subsidies: they are merely an aid in patching up certain shortcomings of the construction sector, proving all the more that the old, craft-based methods of construction are incapable of solving the problems of our own time. But given the technical and organizational requirements for industrializing construction methods, a change that most modern architects are convinced would bring about a substantial reduction in the cost of buildings, the comprehensive transformation of the construction sector to mechanized serial production will not be accomplished without radical land reform and a planned consolidation of building sites, since industrialization can become effective only with large-scale projects on large sites. In short, it can become efficient only when construction is guided by a comprehensive plan.

Almost all the reports of the International Congresses of Modern Architecture show that the problem of human habitation cannot be solved by the private construction sector and within

the framework of a free market, even if subsidized. The fact that private capital considers the building of apartments for the "subsistence minimum" unprofitable is, in effect, an all-European problem.[10] The Swedish country group [of CIAM] has based its research on the assumption of no state subsidies and a completely open market (where the lower financial limit is defined by the inability to produce a certain type of house for the market). However, the Stockholm exhibition of 1930 provided conclusive proof that it is impossible to build affordable housing for the poor in Sweden, which in fact has the highest living standard of all the European countries.

As far as the relationship between rent and wages is concerned, most of the congress participants agreed that spending 15 to 25 percent of an average wage on rent was normal and desirable. The report of the Dutch group summarizes the housing conditions prevailing in Holland: with tenant protection laws in place, the rent for apartments for the less affluent made up 9 to 14 percent of their income. After the repeal of these laws, the ratio increased to approximately 16 percent, where indeed it had been before the war. In contrast, the Hungarian report states that the rent required for a one-room apartment in Budapest devours from 60 to 70 percent of a worker's average wage: this means that a worker earning an average wage cannot afford even the smallest new apartment in Budapest. The Polish report informs us that in Warsaw and Lodz, a worker's average wage will procure only a one-room apartment in old houses and that none of these workers can rent apartments in new buildings. As a result, the only feasible solution was to build for the poor temporary barracks that did not meet sanitary norms.

Studies tying the regulation of rents to an acceptable rent:income ratio lead us along the wrong path. It is hardly reasonable to accept a norm of spending 15 to 25 percent of average income on rent, when the poor can scarcely afford 8 to 10 percent. Incidentally, we should not ignore the additional fact that if we were to consider tying rent to the total income, the obverse is actually the case: namely, the amount of a worker's pay does in effect partially determine the amount of rent he can afford, once food, clothing, transportation, and so on have been taken care of. In addition, it should be noted that any increase in wages is usually quickly followed by an increase in prices of basic consumer products. Finally, we must remind ourselves that the housing shortage is least burdensome and is relatively benign not in times of low and legally restricted rents, but in times and countries of relatively high wage levels. This observation holds true particularly for America, but it applies as well to Europe during its few decades of peace, when the reserve army of the unemployed was relatively small and when America and the European colonies absorbed the excess of the workforce and part of the overpopulation emigrated across the ocean instead of into cities—all of which led to the easing of the housing shortage and slowed down the overall process of pauperization.

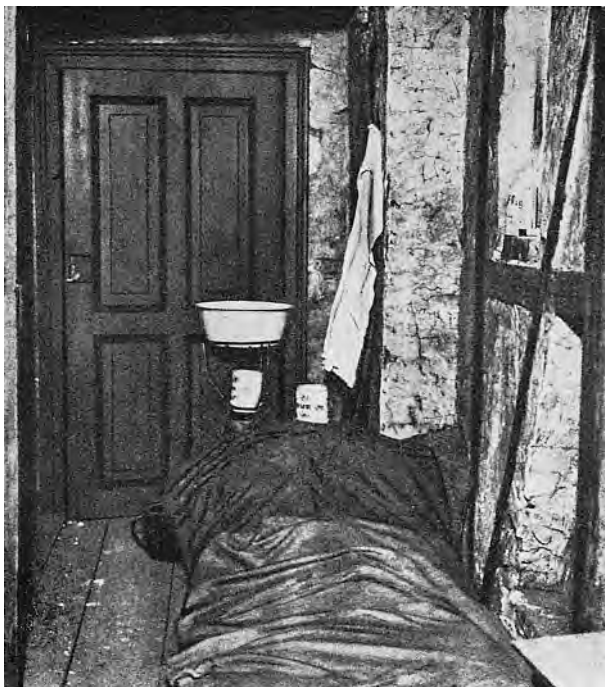
Current policies are not really aimed at solving the housing crisis but exploit to the maximum the absorption capacity of the existing housing market, in which increased demand for small and cheap apartments has pushed up their price. It is well known that profits are the highest on small and quite frequently the worst apartments. In the end the various legal provisions and regulations pertaining to housing and to cooperative and private building projects are in essence nothing other than modified methods of speculation in the housing market: they are business first, with social policy coming in a poor second.

Proudhon's slogan "For everyone a house, yard, and garden" is also the slogan of various building cooperatives, which promote small family houses, so-called minimum little cottages,

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[10]) "Is it at all possible to make the building of workers' homes profitable, without ignoring all sanitary laws?" (Engels).

1830–1930–?



The jungle of housing misery in the slums and on the periphery of all European cities, cities of today's culture and civilization, world-class cities of light: the reverse side of splendid representativeness and the sumptuous monumentality of boulevards and districts of grand villas. New construction and slum clearance do not eliminate but on the contrary produce such housing cesspools and sharpen the class contrast in how housing space is distributed.

as the ideal and most authentic housing type and, presumably, most favored path toward the elimination of the housing shortage. They maintain that the garden of a detached family home helps lower the cost of housing by providing fruit and vegetables, as well as making it possible to raise chicken and other animals. However, Dr. Behrend in his book *Die kleinste Landwirtschaft* [*The Smallest Farming,* 1916] proves that domestic gardening and the raising of small animals is really not very cost-effective. The small cottage actually imposes a heavy burden on its inhabitants, by adding more toil to a family's already heavy workload. Moreover, gardening is not an ideal recreational activity, especially for a laborer who, on top of his physical exertions in the factory, must now perform additional physically harmful manual labor in the garden, where the required work movements deform the body, aside from being very exhausting. A small family house at the periphery of the city, in a depressing suburban community and close to the first open fields, is nothing other than a sentimental throwback to the atavistic ideal of a "shepherd's little cottage"; it is fit only for those who have recently moved into the city from their rural huts, and who are therefore accustomed to the most backward and primitive housing conditions.

Even the smallest family house, which is nothing but a ridiculous miniaturized caricature of a villa, even if equipped with modern appliances, represents a step backward in the advance toward the solution of the housing question: the detached family house is in principle a reactionary housing type, a relic dating back to agrarian medieval times, when even the smallest house bore the honorific title "my home is my castle" [English in the original]. In reality, instead of being a castle, it is nothing but a cage. This paradoxical "minimum castle," a miniature version of the family-housekeeping economy, propels its inhabitants back into an age

when everybody milked a cow or a goat on the premises, and ate pork from a pig kept and slaughtered in the yard. Even if we ignore all the above, the ownership of a "minimum cottage" effectively reinforces both practically and psychologically the ideology of private ownership and family; and it is precisely here, in minimum family houses and cooperative settlements, where a fertile ground for the spread of social opportunism is prepared, posing a serious threat to the worker's movement.[11] "If the worker owns a small cottage along with a radio and a tiny vegetable garden, it is easy for 'silly thoughts' to enter his head." Our garden colonies may be compared to a million little societal lightning rods: "the more the worker becomes stressed in the factory, the more he can relax at home, in his little cottage" (*Bauhaus Journal,* 1929).

Furthermore, even from an architectural standpoint, the single-family house is a type with no certain future, since it is not possible to utilize modern techniques and equipment in its construction—techniques that, in any case, would be too expensive to apply to custom houses. Nevertheless, the single-family house endures as a sentimental fetish; there is a steady stream of advertising recommending the advantages of the small single-family house, and the Svaz Českého Díla [Association of Czech Design] imagines that it was acting in the interests of architectural progress by launching a competition for the design of a small-family house in 1930, that is, "a house for those beginning a new life." (The results of this competition were published in the book *Nejmenší dům* [*The Smallest House*], showing eighteen competition entries. The only project worthy of mention is that of Antonín Urban, who tried to solve this incorrectly posed problem in a remarkably rational manner.) Two years later, in 1932, preparations were made for another housing exhibition—again a colony of villas (!!), called "Baba," in Prague. It is well known that the various "public interest" institutions and "self-help" cooperatives that have built projects of small villa colonies, here and abroad, are purely commercial ventures; though they hide behind the catchphrase of self-help and philanthropy and the rhetoric of public concern, they are, in effect, nothing other than camouflaged attempts at hidden speculation and other scandalous financial machinations. Building cooperatives, which make their members become the owners of their houses immediately or after a certain period (usually fifteen years), set the price of their shares so high as to exceed the reach of an average worker's wage, with the result that the majority of the owners in these self-help cooperatives are not common workers but members of the so-called workers' aristocracy [foremen, supervisors, shop stewards, etc.] and its bureaucracy.

The building of factory colonies is another attempt to solve the current problem of worker's housing. The English garden city must be considered the most mature and highest form of these company towns. Developed by leading industrialists, such as Lever, Cadbury, and others, they were established with the principal aim of increasing the productivity of their labor force by providing more hygienic housing. This singularly English construction policy is based on both economic and practical considerations with a similar aim: namely, to increase productivity by providing members of their workforce with relatively cheaper and better housing near their jobs.

Founded by industry, company towns are represented in their most accomplished and lavish form by the English garden cities. However, these are not fundamentally the result of social

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11) In his pamphlet *The Housing Question,* Engels argues against Proudhon's proposal for solving the housing crisis by buying out houses and abolishing rents, in order for everyone to become the **owner** of his own house with a garden (antiquarian petit bourgeois socialism). He counters Proudhon's lament that the modern proletarian "hangs practically in the air" with these words: "Will the troglodyte in his cave, the Australian (aborigine) in his hovel, or the Indian with his own tent lead an uprising of the Paris commune?"

relief initiatives; they are instead part and parcel of capitalist utilitarian calculations. These offer to relieve the worker of his rent burden by providing him with "in kind" housing (in Germany, the so-called *Werkwohnung*) or with tenancy in cheaper apartments than those offered in suburban rental barracks, figuring that the rent saved by the worker can subsequently be subtracted from his wage, while the better housing conditions provided will increase his productivity. The same calculation also figures that if the worker continues to be robbed of his health in rental barracks, his productivity will suffer accordingly. Thus it is useful for industry to provide its workforce with more or less adequate, cheap, or even free housing, which at the same time supplies a rationale for keeping wages low. Company towns in other countries are in most cases not on the same level as the best-known English garden cities. They are usually built close to their factories on substandard sites, and are thus exposed to the factories' smoke, soot, and dirt.

For all these reasons, company towns must be regarded as part of a social welfare system invented by capitalist industry and its factories mainly to protect its own interests: this is also why this kind of social relief—welfare work [English in the original]—was only practiced as long as it paid off. In other words, while this "in kind" type of housing may help relieve the worker's rent burden, it is at the same time used by industry as a special form of blackmail to prevent labor unrest, by threatening striking workers with eviction from their homes. Thus, "in kind" company housing, food cooperatives, and so on, as well as many other company-sponsored social welfare projects, bind the worker and his family to the company by ties other than his immediate work situation; so-called welfare work [English in the original] has become an instrument that assures the factory owners full control of the worker.[12]

What about the company housing built by the utopian Robert Owen for his workers in New Lanark, which by now has become an inseparable part of the gospel of the early period of the worker's movement? It is nothing but another attempt to realize the utopian dreams of the so-called Home colonies [English in the original], Ikaries, and phalansteries. These new company towns have turned the concept of worker's housing relief entirely on its head and transformed it into its complete opposite: relief and welfare have become the instruments for the further domination of the worker by the company and, if need be, a means to break their resistance.[13]

The ideology of the single-family house as "the roof over one's head" is pushed by certain industrial concerns, financial speculators, housing developers, and so on, but it is really part of the philanthropic philosophy of the social reformists and of Proudhon as well. Currently, we are inundated by cottage ideology. In his book *Americké domečky* [*American Cottages*], Berty

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[12]) Company housing, or so-called *Werkwohnungen,* is often offered by the factories as a rent allowance (against wages?); sometimes the worker in company housing even gets his heat and electricity for free. However, his pay is reduced accordingly, which means that the apartment becomes in effect part of his wage. Another method is the so-called truck system [English in the original], by which the worker receives his full wage but is obliged to rent an apartment in company housing, buy his provisions in company stores, and eat his meals in company cafeterias. The system of "in kind" wages and the "truck system" clearly increase the worker's dependence on his employer enormously. Obviously, in times of stable purchasing power, a full wage is of greater advantage to the worker than all these free (?) apartments, food cooperatives, and cafeterias, so loudly hailed as philanthropic undertakings but in reality nothing other than instruments of double exploitation.

[13]) Let us cite the failure of such a colony of utopian socialists of the forties: Owen's Harmony Hall or the French Fourierist settlement in Guise, each of which was initially founded as a socialist experiment but (after 1885) reverted to the mode of normal capitalist exploitation. The company town of Mühlhausen in Alsace, built by André Koechlin, was never intended as a socialist experiment but was merely meant as a showcase for the social demagoguery of Napoleon III.

Ženatý suggests that "the broadest segments of the populations should arrange their life with a small cottage in mind and should be strongly encouraged to embrace the single-family detached house as part of their feelings and dreams." In a similar vein, G. K. Chesterton preaches in his book *What's Wrong with the World* [1910], albeit in a brilliant and humorous way, the gospel of a small family cottage, the family hearth, and the subordinate role of women, all in line with Catholic church doctrine. The journal *Žijeme* pushes the same cottage propaganda. Of course, it is not mentioned in all these accolades that America—the prototypical country of single-family housing—is also the country most representative of the workers' aristocracy, whose material conditions are incomparably better than those of even our middle classes and working intellectuals. Proudhon's slogan of a cottage and a garden for everybody is also echoed in a curious way in Baťa's slogan: "Let us develop a construction industry that will make it possible for a worker to afford a home for the total of one year's wage."[14] In practice this slogan turns out somewhat differently: what is actually built are standardized houses, made of cheap materials; seven laborers assemble a single house in a week. The bathroom is supplied with a tub, but the worker-owner has to supply the heating equipment at his own expense and, in addition, must cover the expenses for all connections to services in the street and so on out of his own pocket. In other words, he must finish his house at his own expense; but should he move away, he is obliged by law to leave all these improvements in place, though he was charged an annual rent of 10 percent of the money invested in the cottage.

This cottage ideology is best expressed by the sentimental slogan "small but ours." It is a typical petit bourgeois reaction, attempting to solve the housing question and alleviate the housing shortage by creating illusions that politicians, election campaigns, and building speculators use to their own advantage. Single-family house projects are frequently a popular theme in demagogic propaganda campaigns: newspapers beat this drum as well, and political mass rallies often stir up false hopes with deceptive slogans that promise to eliminate the housing shortage by fulfilling the dream of single-family homes. A good example of this misleading election propaganda is provided by the election promises of certain Prague city council candidates, who vowed, if elected, to build 10,000 small and cheap units of both detached single-family houses and apartments. Another well-known example is Loucher's Law in France, which promised the creation of 500,000 cheap apartments in 1925. The promise was repeated in 1929, but with a smaller total (200,000 apartments): in the end, it all turned out to be nothing more than demagogic claptrap and the arousal of false hopes, since no large-scale housing construction was actually launched during those years.

The housing question is basically a social question, and therefore its solution is not without difficulties for the ruling class. At the present, the housing shortage is being addressed by so-called humanistic and philanthropic methods; but one way or the other, directly or indirectly, these methods are nevertheless expected to return a profit when all is said and done. Naturally, the subsequent solutions turn out to be either illusions or frauds, as our political past, with its long history of housing speculation, has amply illustrated. Long before the promises

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[14]) *Translator's note:* Tomáš Baťa was the founder of the first fully mechanized shoe factory in Czechoslovakia. The business grew from a small family shoemaking shop in 1894, owned by the Baťa family, into one of the largest shoe companies in the world. Like Henry Ford, Baťa introduced efficient assembly-line methods to production, thus lowering the price of shoes to a point where everybody could afford a decent pair of footwear. He also offered his workers participation in management and profits, free health care, day care centers, schools, cultural facilities, and housing. His "shoe-city"—Zlín—was built on modernist principles during the early decades of the twentieth century, with Le Corbusier and Josef Kotěra involved in its planning.

of Loucher's Law, Louis Bonaparte (Napoleon III) launched a national subscription for the construction of so-called workers' cities, investing personally in this venture considerable sums, which he never recovered. And so the "speculation for socialist castles in the air" ended in a fiasco. (See also Marx, *The Eighteenth Brumaire of Louis Napoleon.*)

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During the preindustrial era, the ownership of a small house, a kitchen garden, and a home-based small cottage industry made it possible for the working class to maintain a certain minimum level of prosperity or eke out a bearable existence. However, this condition turned into its complete opposite in the course of a few decades, when it became apparent that the ownership of a house and garden has become a burden for the worker, while at the same time effectively leading to a reduction of his wages below the average norm. The amount earned by rural workers in their cottage industries has generally led to a lowering of the overall wage level, meaning that the competition with rural workers who have their own houses and are paid lower wages is used to push down the wages of city workers. As part of its historical evolution, both the rural and the urban working class had to get rid of or were forced to abandon their small houses and gardens (the cottagers had to be ruined), leaving their rural homes to find work in the large industrial centers.[15] The rural workers had no choice but to abandon their "native soil," leave for the cities, accept a job in a factory, and become propertyless proletarians; they were forced to exchange their old world cottage for accommodation in city rental barracks, cut up into tiny apartments frequently located in cellars or garrets, where every cubic meter is put to maximum use and where a large family of three generations (or more than one family) had to lodge in a single room.

Engels described the conditions of such workers' housing in his 1845 book, *The Condition of the Working Classes in England.* Not much has changed since, and similar conditions can still be found in every European city even today. "The General Report on Health," compiled by the English physician Simon and quoted in the first volume of Marx's *Capital,* was published in 1864. Unfortunately, any sociologically grounded investigation of the hygienic conditions of workers' housing today would no doubt document a similar depressing state: "Long before we can record the effects of undernourishment on health, and long before a physician decides to count the grams of carbon and soot in the air that envelops those condemned to a life and death of privation, any trace of comfort has disappeared from the household. Clothing and

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[15]) Unlike in the days of early industrialization, which ruined the cottagers and forced the workers to give up their houses in the country or at the outermost periphery of cities, today we experience a completely opposite tendency in our economic life: both industry and government try to house the unemployed or partially employed in sundry barrack settlements and huts with small vegetable gardens that enable these impoverished workers to survive by cultivating their small gardens, thereby relieving the state budget of the burden of their support. In other words, this strategy is used to lower or eliminate altogether unemployment compensation, effectively introducing forced labor for the unemployed as the cost of their pay is saved. The pauperization of the workers is thus effectively made even worse by the establishment of these cottage colonies for the unemployed, which are the most recent achievement of this so-called housing relief. Resettlement from the metropolis to the country of workers driven by poverty, the deterioration of industry and cities, the collapse of municipal economies—all these mark the agony of the prevailing economic system. The concentric force of industrial expansion, when the cities attracted inhabitants from the country, has reversed itself in this time of decline: this "de-urbanization" is nothing other than a sign of the bankruptcy of our cities.

fuel for heating are in some ways more lacking than food. There is no adequate protection against the harshness of the weather. Apartments are so overcrowded as to cause or aggravate illness; there is hardly any trace of household utensils or furniture; even basic cleanliness has become expensive and difficult, for anyone who wants to take proper care of his or her person, or tries to maintain rudimentary personal hygiene, faces the prospect of having to spend additional money for soap, and so on, and thus has less money to spend on food. Households are established wherever shelter is least expensive, in districts with the most terrible hovels, a minimum chance to move about freely, a maximum of outside filth, the worst and most pitiful water supply—all this in cities where adequate access to light and air is already at a premium."

Health and crime statistics of numerous districts in all European cities describe a terrifying situation. We find shocking examples of monstrous apartments, not fit for cattle to live in: we build clean and light cages for rabbits and provide exemplary stables for horses, but the social hygiene and health care of the people seem to rate a lower standard than what veterinarian science deems proper for animals. In his book *L'urbanisme nouveau* [*The New Urbanism*], Émile Malespine reports the following: "In certain districts in London more than one family live in a single room. In one of the cellars a health inspector found two children and three pigs. In another place, it was discovered that in a subterranean space accommodating seven persons, the corpse of a small child had been left rotting for two weeks. In another room, a man with a contagious disease lies next to a woman who has recently given birth to her seventh child; in yet another room an elderly widow sleeps in its only bed, while the remaining few square meters of the bare floor are occupied by three married couples." These conditions were confirmed in 1900 (Richard, *Encyclopédie d'hygiène,* vol. 3, quoted in Pierre Gayot's study, "Les logements insalubres du 15, février 1902," Lyons, 1905). Actually, it is really not necessary to look for examples in London or Lyons. In the slums in Prague, Brno, Bratislava, and other cities, we find similar conditions. A room whose dimension are suitable for accommodating one to two persons becomes occupied during the night by six to ten persons with children. People in these hovels sleep in two shifts just as they work two shifts in the factory, and beds crowded with two to three persons never cool down: after the night shift has left the bed, the day shift arrives to get its sleep.

In every large city there are thousands of dwellings where "the winter becomes a catastrophe for the poor, who dread it like the plague: they shiver with cold in their unheated tiny rooms, without warm clothes and without sufficient food: during the cold months of sleet, snow and rain mortality rises quickly" (Herzen, *From the other Shore* [1855]). Health officials acknowledge that as far as the health of the people is concerned, there is more at stake than just providing healthy recruits for the "defense of the fatherland"; but our legislators are evidently of a different opinion, made clear in the annual budgets they endorse. Hundreds of thousands die in Europe annually in hovels and unsanitary apartments, and thus are directly or indirectly killed by their dwellings. Maps of health statistics designate some of these districts in black: most of these happen to be workers' districts and districts housing the poor, which are the same districts that harbor tuberculosis; other districts are marked white, like snow. There are no unhealthy cities, but only insalubrious proletarian city wards.

Frequently, we are told that big cities and their high population densities create a health hazard, and that the countryside is a reservoir of health. Contesting this view, Dr. L. Graux has proven in some detail that the growing mortality due to tuberculosis is caused by the excessive crowding of inhabitants in their houses and apartments, not by the overall size of the city as such. Deaths from tuberculosis are on the average ten times higher in worker's districts than in the districts of the well-to-do. For example, it is ten times higher in Saint-Ouenu at the

A photograph of old Prague

Houses fit to be torn down are occupied by the poorest of the poor. The inner courts are full of garbage, soot, and germs. The apartments have no light or air. Proponents of historical preservation consider such disgraceful housing picturesque.



George Grosz: "Poverty is the glow of inner light"



periphery of Paris than in the VIIIth district near the Place de l'Etoile. The Societé française d'hygiène concludes its statistics of 1905 with the advisory that "mortality is inversely proportional to the number of windows in a house or an apartment." In certain districts of Paris mortality due to tuberculosis is 7 to 10 percent. Seventeen such districts in the twelve municipal arrondissements, the so-called *ilots,* were identified as being permeated with disease and filthy poverty; in the districts of the Étoile, the Champs Elysées, and the Bois de Boulogne, none such was found.

Sunlight is the principal enemy of tuberculosis. Unfortunately, the metropolitan proletariat and the poor "camp on a few square meters, in apartments crowded into small streets so narrow that not a single ray of sun is able to penetrate" (Dr. Noir). Hundreds of thousands of city dwellers ruin their life in hovels; their children need sun and air, but the sun is unable to

penetrate into these courtyards and subterranean apartments, where death arrives in the dreary dark. Society and its institutions permit its members to become ill with tuberculosis in their hovels, while at the same time speeches continue to be made about grandiose health initiatives to eradicate tuberculosis. The centerpiece of today's public and social health care system is the infirmary: it is a place for treatment, where many fine words of solace are being dispensed to boot. The issue, however, is not treatment after the fact, but whether modern hygiene should focus instead on prevention: it would be more effective to build healthy houses than sanatoria. The German artist Heinrich Zille, who is well acquainted with the misery of Berlin's suburbs, proclaims that it is just as easy to kill a man with his apartment as with an ax. The dwellings of the proletariat and the poor are good indicators of the creeping illness of our cities. Many of our cities are too old, with whole districts decaying and ready to fall down; old houses are run down and close to collapse, and indeed some already have collapsed—for example, in Marseilles (where some houses collapsed because their foundations were gnawed away by rats), and in Paris, Lyons, and Prague as well. All over Europe, we still live in ancient tumble-down houses, hundreds of years old and older, built so badly that they will not be able to last much longer. Any disturbance of their old walls during attempts to rehabilitate these old houses may cause their collapse. Other old houses are dirty and unhealthy, lacking light and air, and by modern standards are not fit for habitation. In certain old quarters tuberculosis has taken deep root. Here, it may not be sufficient to pull the houses down: doctors suspect that in order to disinfect these breeding places of germs, the only remedy now available is to burn them down to the ground; well, perhaps one day they will be decontaminated by shrapnel, gas, and bombs.

Inhabited cellars, garrets, storage spaces, and sheds are to be found not only at the periphery and in suburban municipalities but also close to the city center, in narrow lanes of old city districts, where a small room must accommodate different generations of more than one family; rental barracks that seem to have materialized from centuries of drudgery and misery into the century of capitalist civilization devastate the health of their inhabitants. All these are the dwelling places of the proletarians and the poor. This struggle for a modicum of habitable space—leading to the outrageous exploitation of tenants by their landlords and tenants by their tenants (subletters), so that certain apartments are sublet not only by individual room but by individual bed and space on the floor, demarcated by chalk lines—makes the housing situation even worse. Everywhere, the price of every square meter of dwelling space is pushed to astonishing heights; in the end, renting out a hovel or running rental barracks becomes a lucrative business, effectively bringing in more profit than does renting regular apartments (in ancient Rome, too, hovels were rented for astounding sums).

All this testifies eloquently to a formerly unimaginable level of impoverishment of working people, which only contrasts with the dazzling splendor, wealth, and luxury of the European metropolis. It confirms Marx's insight that "if capital is to be accumulated, misery accumulates as well; wealth is piling up at one end; misery, slavery, ignorance, bestiality, on the other, that is, on the backs of a class that by its labor creates capital." Moralists and the yellow press call these proletarian districts the seamy side of the metropolis, the **cesspools of the city.** They do not mention that the city poor are forced to live there by the bourgeoisie, that they are being denied access to decent shelter because of their poverty, not their status. And so the dregs of society, the lumpenproletariat, settle in the slums. But since these cesspools of misery are also a source of dangerous infections and social decay, they become blessed with the solicitude of various philanthropic and social welfare organizations. More effective than building large hospitals (or jails) would be to correct the health and housing situation of the workers and the destitute first.



Overcrowded apartments. Many families living in a single "lock-up" apartment.

The condition of workers' housing, whether they live in rental barracks, in the industrial suburbs, or in trailer and tenement colonies on the periphery, evokes the words of Liebknecht, whose sarcastic humor mocked the "admirers of today's world, who talk about the battlefield of industry on which they say there are no defeated corpses! . . . No matter whether this be self-delusion or fraud, what about the evidence of the countless corpses of working women and men, the living corpses inhaling the poisoned air in workshops and hovels, slowly perishing by exertion, exhaustion, accidents. . . ."

As explained above, workers' barracks and tenement or trailer colonies are a fertile breeding ground for all kinds of social ills. Our society moves millions of new inhabitants into cities and subsequently drives them to live in places that force proletarian couples—especially the more upstanding ones—to forgo the traditional "blessings of posterity" (even if we ignore starvation wages and the generally miserable conditions of the working class). It is precisely the misery of the housing conditions in large cities, exacerbated by the dizzying rates of immigration, that is the strongest cause of depopulation. The most brutal form of proletarianization and pauperization of millions takes place in such housing conditions in the large cities and is caused by the large cities, thus perpetuating the fraud of a continuing housing crisis. Demographic data prove that on the average, in the large cities a family will die out in the third generation. (This too is proof that population movements are driven not by biological but by social factors.)

The residential rental barracks, old houses ready to be demolished, emergency shelters—in short, **all these proletarian types of habitation cannot be considered as dwellings in the true sense of the word as it is understood by our society,** that is, as the center of

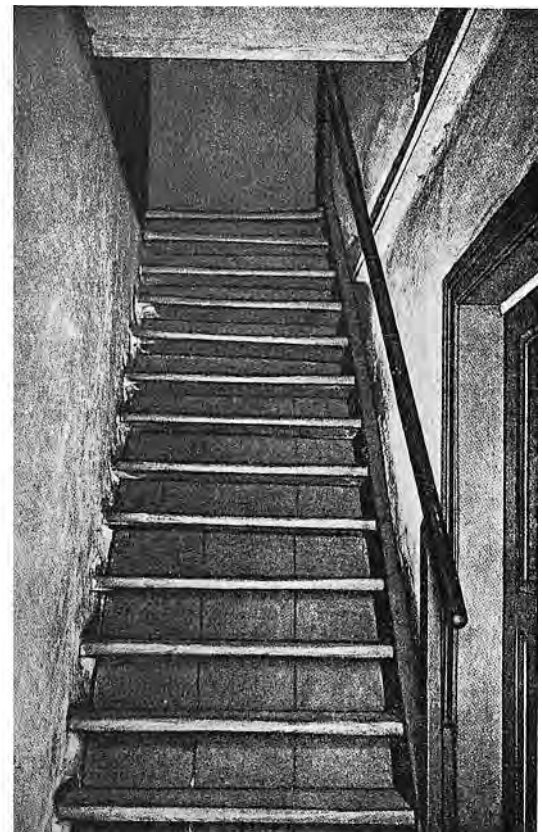
1870–1932–?

Rental barrack
(Berlin)

The results of unbridled rent and land speculation and exploitation: overcrowded site coverage; closed blocks with interior courts, with no attention paid to orientation toward the sun and no possibility of air movement. A breeding ground for tuberculosis and other social ills.



inner court



staircase in courtyard wing

1830–1932–?

Homeless and without a roof

The result of the building boom and slum clearance: eviction of poor tenants from their homes that have been demolished. Emergency shelters in sheds become the permanent abode for the unemployed and for all those who are unable to pay the market rent for even the smallest apartment.



A photograph from Düsseldorf: a shed, accommodating 200 persons of whom 70 are children. One table has to serve 2–3 families in shifts.

family life and of a family-based household. They are merely shelters that offer lodging. **From the shelters of the homeless to jail-like rental barracks to tenement colonies to shelters in abandoned brick kilns, the workers' habitations have one thing in common: these are not dwellings but merely lodgings.** The poor must find shelter anywhere, under any cover, any roof—below a bridge, or even in the open air.

The established model of the property-owning classes and the better-situated middle class is the **family-based household:** family life, family housekeeping. The model of the proletarian abode is essentially represented by a **lodging.** Today's proletarian dwellings provide the most graphic illustration of Marx's *Communist Manifesto,* which states that the "life conditions and the habits of the old social order have already been effectively destroyed by the conditions in which the proletariat lives." The proletarian is without property, and his relationship to his wife and children has nothing in common with the family relationships of the bourgeoisie. Rental barracks may be compared to a pressure cooker, which transforms its inhabitants into people without homes, without a family life—*heimatlos* [homeless; German in the original]. Mature industry has brought about the disintegration of the patriarchal family: sons and

Dwelling use and frequency of occupancy

Home used as workshop and family household. (3–4 generations) (medieval type)

	morning	afternoon	night
male (grandfather)	at home	at home	at home
female (grandmother)	at home	at home	at home
children	at home	at home	at home

townspeople and middle classes

	morning	afternoon	night
husband	at work, office, or factory	at home	at home
wife	at home	at home	at home
children	in school	at home	at home

in proletarian conditions (dwelling reduced to lodging—ceases to be **dwelling**)

	morning	afternoon	night
husband	at home	at work	at home
wife	at home	at work	at home
children	at home	school or work	at home

daughters, father and mother leave in the morning for work in the factory, and return only in the evening. In cases in which material conditions permit a worker's family to rent a decent apartment of two or three rooms (i.e., less than a modest middle-class apartment), such an apartment, with contents, dimensions, and floor plan originally designed for a conventional family household, ceases to function for its intended purpose and for all intents changes into a lodging: it lacks the "soul," the intimacy and the coziness, of a small bourgeois household. The disintegration of the family, caused by the integration of women into the production process and the changes that make the proletarian dwelling different from a conventional family dwelling, is taking place in our modern society at a catastrophic, desperate, and inhuman pace: yet this process is also preparing us for a new, higher form of family life, just as the process that has driven millions of proletarianized inhabitants out of their old homes and houses into lodgings of this or that kind is setting the stage for a new and higher style of dwelling, quite different from the patriarchal family household: boardinghouses and hostels, which in capitalist society most closely resemble a proletarian type of dwelling, will be transformed into the collective dwelling of socialism. "Large industry, by forcing women, the young, and children of both sexes to take their place in socially organized production processes outside the sphere of domestic housekeeping, has at the same time created a new economic base for a higher form of family and a better mutual relationship between the sexes. It would be a folly to regard the Christian-Germanic family form as absolute, just as it would be absurd to consider as unalterable ancient Roman or oriental family structures, which—by the way—represent a historically evolutionary progression. It is evident that the introduction of a mixed workforce, consisting of members of both sexes and different age groups, which during the most brutal capitalist stage brought about ruin and slavery, will change under proper circumstances into its opposite and into a source of human evolution and progress" (Marx, *Capital,* vol. 1). In effect, the dynamics of today's production processes tend to foster and at the same time to develop the constituents of new and higher forms of family organization and dwelling style, currently manifested by the disintegration of the family and the family-based household of the working class.

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As demonstrated above, the housing crisis must be considered as an inherent feature of today's economic and social system. Basically, we are dealing here not with a shortage of apartments but with the fact that even the cheapest apartments are beyond the financial means of the proletariat, or are at best difficult to afford. This means that only the strata of the so-called subsistence minimum are affected by the housing crisis—in other words, the working class, working intellectuals, and the impoverished middle classes. Given this situation, the housing shortage can be relieved only by an equitable apportionment of apartments, rather than by the construction of new, albeit small and cheap, apartments. We have further indicated that the worsening of the housing crisis is accompanied by the impoverishment of the laboring class and is exacerbated by the accumulation of capital, which creates the preconditions for these processes; at the same time, it is part of the ongoing process of the repudiation of bourgeois forms of dwelling, including the family-based household. Only by first passing through the hell of hovels, shacks, and hostels can the way eventually open up toward a higher form of dwelling in collective houses, devoid of family-based housekeeping. Workers' asylums and hostels, currently attached to factories, will be transformed (i.e., reproduced on a higher social-historical level) into new forms of collective dwelling in new types of socialist

What percent of the population lives in one-room apartments?

in Bern	0.5%
in Berlin	3%
in London	6.2%
in Stockholm	7.5%
in Warsaw	28.7%
in Vienna	4.2%

cities, which will be organically linked and integrated with their industrial-agricultural base: just as Bournville is the settlement of the cocoa factory in England, so Magnitogorsk is a settlement of the local metallurgical giant on a socialist level.

The housing shortage is not a primary evil but the result of the machinations of the current economic and social system: therefore it cannot be solved by this system. The housing shortage seems to be the unavoidable fate of the proletariat, which is why it can only be solved by the proletariat. It cannot be solved by today's social welfare methods, philanthropy, and social welfare politics. Like all social questions, the housing question too can be addressed only in conjunction with the reconstitution of all relations of production. Various partial attempts to deal with the exigencies of the housing question, even if proposed by current spokesmen of the workers' movement or the architectural avant-garde—housing relief for workers, mortgage home insurance, rent equalization based on a percentage of income, various floor plan reforms, construction of housing with public, state, or municipal funds, improvements in site planning, expropriation of land for housing construction (as for the building of roads and railways), and so on and so forth—are important only to the extent that in certain cases they succeed in mitigating the worst excesses of rent and land speculation.

The key to the solution of this problem lies in the question of private property in particular, and of the production and social situation in general. Within the framework of the prevailing system, all questions of social policy, whether they concern workers' rights or housing demands, are only by-products of the class struggle; any occasional successes result only in a partial alleviation of the evils of greed and usury. Because they never touch the root cause of the problem or change anything in the basic constitution of the system, they remain a palliative and a superficial treatment of symptoms, never leading to a real cure. Since the housing question, as an inseparable part of the housing crisis, is inextricably linked to the current economic system, it cannot be eliminated unless this system is eliminated and a new one established. "As long as the capitalist method of production exists, it will be impossible to solve the housing question or any other question concerning the fate of the workers. The solution lies in overcoming the capitalist methods of production. Therefore, there is only one way to put an end to the housing shortage, and that is the elimination of the exploitation of the working class by the ruling class once and for all. One thing is sure: even today, there are enough houses in our cities to allow for the mitigation of all housing shortages by a rational utilization of these houses. This can be achieved only by the expropriation of their owners, and by the occupation and seizure of apartments by the homeless and those deprived of decent shelter . . ." (*The Housing Question*).

After all, approximately one hundred years before the publication of Engels's book on the housing question, Gracchus Babeuf proposed during the course of the French Revolution to eliminate the housing shortage by confiscating and breaking up large apartments: "The poor of the whole republic will be housed in the residences of the rich and supplied with their furniture" (see Buonarotti, *G*[*racchus*] *B*[*abeuf*] *et la conspiration des égaux*). It is in the spirit of the suggestions contained in Engels's book on the housing question that the Soviet Union has taken the first step toward eliminating its housing shortage by the confiscation and redistribution of all housing properties.

The bottom line of European construction activities:
During the last half century, within the overall number of apartments, the number of owner-occupied apartments has decreased: i.e., the overall number of rental apartments has increased.
According to the 1927 German census, in cities of more than 5,000 inhabitants, a **single dwelling space** is apportioned to one person (more accurately, 0.9 person), while at the same time there is a greater number of individual apartment spaces than the overall number of apartments available: a similar situation can be found in the majority of civilized countries. This statistic proves that given an **equitable distribution of apartments, every individual could have his or her own living space.**

the international housing shortage 3.

In no country is the average wage sufficient to obtain a home that would meet today's requirements at a price that would actually be affordable.

—S. Giedion

The majority of city inhabitants lack cheap and healthy apartments whose rent would be compatible with the income of this population.

—Resolution of the Third International Congress of Modern Architecture in Brussels, 1930

Aside from the fact that the dwellings of the needy do not anywhere conform to the requirements and reforms for good housing, the current economic crisis in many countries has resulted in the lowering of housing standards even more.

—From the theses of the International Federation of Housing, Berlin, 1931

The International Congresses of Modern Architecture [CIAM] has placed the question of the **minimum dwelling** on its agenda as a top priority and declared it the most urgent task to be undertaken by the architectural avant-garde in all its practical work and theoretical deliberations, to be coordinated by its members in international cooperation in order to clarify and study the subject in all its complexity and ramifications. Subsequently, members and the collective body of the international avant-garde have discussed and elucidated this question from many perspectives. CIRPAC [Comités internationaux pour la réalisation des problème d'architecture contemporaire]—the executive committee of these congresses—has called on the representatives of its various country groups to report objectively on the economic, social, financial, and political conditions needed for a rational solution to the problem of the minimum dwelling in each of the individual countries represented, and to give an account of the obstacles that are standing in the way of such solutions.

The author of this book was appointed by the committee to summarize, edit, and—above all—supply supplementary material to the extensive but fragmentary and uncoordinated reports of the various country groups (*Landesgruppen*). This chapter is the result of that task: it is an attempt to provide a broad overview of the current state of housing for the subsistence minimum in Europe and America. Any review of the current international state of housing for the subsistence minimum will necessarily be incomplete: the material furnished by the various congress reports is extremely uneven and seems to have been gathered rather haphazardly; as a result, it was necessary to add a wealth of supplementary information—a

task not without difficulties, since relevant literature on this subject matter is currently still rather scanty. This chapter is an attempt to provide a first step toward such an international comparison of the housing conditions in the principal countries of Europe. It was found useful to supplement the various reports of the country groups of the International Congresses of Modern Architecture with the results of a survey of the Internationaler Verband für Wohnungswesen [International Association of Housing] with the title *Der Bau von Kleinwohnungen mit tragbaren Mieten* [*The Construction of Small Apartments at Low Rents*], published in 1931.

The reports of the International Congresses of Modern Architecture contain extensive statistical material, which, in general, describes the housing conditions in Europe quite accurately. Of course, it proved necessary to extend and define this material more precisely, since current official statistics frequently are insufficiently specific, often fail to provide answers to a whole range of important questions, and tend to paint a more favorable picture of social conditions than is actually prevailing at the time of the reports.[1] In some instances, it was necessary to undertake our own independent statistical and sociological research. The research of Prof. Andreas Walther on the social conditions of cities, presented when he led a seminar of sociologists at the University of Hamburg, should be adapted as a good model for analyzing urban social conditions: by means of cartographic methods, he superimposes the results of statistical and sociological investigations graphically on the plan of a city (see *Zeitschrift für Völkerpsychologie und Sociologie*). Such visually explicit methods of statistical compilation provide a more effective way for architects and planners to communicate to their constituencies the real needs of their cities. Statistics are stultifying, unless graphically enhanced. Statistical authorities accumulate and catalogue endless quantities of numbers, generating labyrinths that are impossible to penetrate.

Be that as it may, the citing of statistics is never really sufficient. In addition, what is needed is an overview of the facts and a record of underlying processes—i.e., we need to know which tendency, whether growing, stable, or diminishing, is accompanied by certain events and phenomena over a certain period of time.[2] We need visually enhanced statistics, which will facilitate quick understanding and prompt comprehension, and which will reveal in shorthand the trajectory of certain life processes. They will not only show us graphically how the floor area of an apartment, or this or that number of square meters of habitable space per inhabitant, is related to a given lifestyle but furthermore enable us to decipher the social structure of cities and register where and how people work (whether in factories, shops, offices, or at home), how long it takes to travel from home to work, what means of transportation people use, where transportation difficulties exist, how people have settled on the periphery of cities, where the most dense population concentrations in cities are to be found, and so on and so forth.

The state of housing for the strata of the so-called subsistence minimum in various countries is as follows.

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1) It is especially important to realize that with the exception of the Soviet Union, the material standard of the majority of the population, especially the workers, has gradually and palpably deteriorated; under the influence of the economic crisis, wages and income have fallen and unemployment has increased dramatically.

2) In this book, we restrict ourselves to citing only those statistics that are symptomatic or that reveal some developmental tendency. Any one of today's specific numbers will be obsolete tomorrow. Therefore, it is important to pay maximum attention to primary data and important trends.

germany

In Germany, the housing shortage has lasted to a larger or lesser degree ever since the so-called *Gründerjahre* [founding years], that is, the 1870s. The memorial publication of the Imperial Ministry of Labor on housing conditions in Germany acknowledges the housing shortage before the war [World War I], particularly in industrial regions. During the war, construction of housing had ceased completely; and after the war, owing to the shortage of building materials, the lack of capital, and the inflation that wiped out profits, it was impossible for a number of years to launch any significant construction. However, the current housing shortage cannot be entirely blamed on the building of nothing or only very little for four to eight years, or on an accelerated increase in population—which, by the way, especially in Germany, is insignificant if compared to 1914 (5 percent). Instead, the housing shortage can be confidently traced to associated sociological factors. The housing census of 1927 shows that **1,500,000 families were looking for housing** during that year: there is an absolute shortage of 550,000 dwellings, 300,000 of the apartments now occupied are unfit for habitation and ready to be demolished, and 300,000 are needed to ease the overcrowding in existing dwellings. Altogether, this adds up to a shortage of 1,150,000 dwellings.[3] In Berlin alone, 220,000 people are looking for housing.

Since 1918, Germany has built 1,700,000 dwellings. Of all the new houses built since 1918, half are single-family homes. The single-family house has received special support by legally instituted state guarantees. One-fifth of all these single-family houses were built after the war. In Berlin, for every 100 old houses, 9.6 percent are single-family homes; for newly built houses, the figure is 61.6 percent! Just the same, the initial enthusiasm for garden colonies has cooled. New construction in Frankfurt-am-Main has followed a similar pattern. As far as apartments are concerned, nine-tenths of all are small apartments (one to three rooms, including kitchen and storage closets). Goecke confirms that four-fifths of the Berlin population lives in these very small apartments; 70 percent of all apartments in Berlin are small apartments. Only 8.6 percent of all the dwellings in Germany are of postwar vintage. At first, after the war, medium-size apartments were favored, albeit designed with smaller rooms than in the past. From 1924 to 1925, the number of newly built small apartments increased. Out of every 100 apartments, the small apartments in medium-size cities totaled 24 percent; in 1928, as much as 43 percent. One-room apartments were not being built after the war in any great number (only 1.4 percent). In 1927, the number of empty apartments was for all practical purposes nil. In 1929, Germany registered a housing shortage of 450,000 units, not counting substandard dwellings: since 1927, the situation has not improved in any significant way, despite the intense building activity during 1929.

The main indicator of the housing shortage is overcrowding: density of habitation is defined as the ratio of dwellers to overall dwelling space (*Wohnungsdichte je Wohnung*), or the ratio (in each individual dwelling) of the number of persons per room (*Wohndichte je Wohnraum*). Three million people living in German cities live in overcrowded dwellings.[4]

In Germany an apartment is defined as overcrowded when more than two persons inhabit a single room. Statistics tell us that in Germany every tenth person in the cities lives in an over-

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[3]) *Wohnungsnot und Wohnungselend in Deutschland* (publication of the German Association for Housing Reform, 1929).

[4]) In Berlin there are about 70,000 basement apartments, in which 50,000 children were growing up during the year 1930.

crowded dwelling. However, this number applies only to small apartments. Moreover, disproportionately excessive overcrowding exists in one-third of the apartments, where four persons or more are forced to live in one room. In general, it may be stated that prewar overcrowding was slightly worse, for the simple reason that overall birthrates have decreased since the war. New (more expensive) apartments are generally more overcrowded than older ones. Widespread subletting contributes significantly to overcrowding: 10 percent of city dwellers live in sublets. Of this number, 81.4 percent live with their parents, the remainder with relatives or in strangers' apartments. Overcrowding of apartments with many children is especially high. Thus, the children suffer twice: first from overcrowding and second from their abject poverty. More than half the families with a high number of children live in overcrowded quarters.

During the year of the greatest construction activity (1929), the number of newly built apartments nevertheless lagged behind the number of new families formed. During that year, in Prussia alone approximately 600,000 couples entered into new marriages, while only 300,000 new dwelling units were built in all of Germany. Beginning with 1930, building began to slow down, accompanied by a crisis in the housing market, growing unemployment of construction workers, and a steep increase in the number of homeless people. Public financial subsidies, earmarked for the support of construction, were reduced and private capital remained idle. Rents in new buildings consume 40 percent of an average wage earner's income. The reentry of defeated Germany into world markets was aided by the fact that German industry has benefited from its own "export premium," with low rents as its primary cause; these, in turn, were made possible by lower wages and high inflation that has further lowered the living standard of the workers below international norms. Both of these factors also represent a kind of "social dumping." In this connection, it may be useful to mention that even after all efforts to rationalize construction and reduce the overall area of dwelling space, today's real rents for small apartments in Germany are 170 percent higher than before the war. According to the document "Richtlinien für Wohnungswesen" ["Guidelines for Housing"], submitted to parliament in 1929, the housing shortage was supposed to have been eradicated by the year 1940, after which time so-called normal (i.e., prewar) housing occupancy densities were to be restored. The abolition of tenant protection laws was supposed to bring about the "planned equalization of old and new rents": the experience in countries where this was partially or wholly implemented shows that the end result of such a policy is a slight decrease in new and a high increase in old rents. In order to return to such "normal" conditions, it would be necessary to build 4,500,000 new units by 1940, which means building 400,000 apartments annually. However, the years 1930 and 1931 have ushered in a sharp decrease in the rate of new housing construction, confirmed by the publication *Der Deutsche Wohnungsbau*[5] which predicts that in the next five years it will be possible **at best** to build only 100,000 units, a number that will not even cover the needs of new arrivals in the housing market (*Zuwachsbedarf*)—not to mention the need to replace the deteriorating units slated to be torn down in slum clearance programs, currently estimated at 350,000.

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[5]) Published by the Ausschuss zur Untersuchung der Erzeugungs- und Absatzbedingungen der Deutschen Wirtschaft [Committee for the Study of the Input-Output Conditions of German Economy], 1931. This economic anthology recommends the reconstitution of an open housing market and private enterprise, but the state authorities consider it necessary to continue the controlled housing economy until ca. 1935, when they expect that the general housing shortage will have subsided.

Despite paragraph 155 of the German constitution, which guarantees the right of every family not only to its own apartment but to a healthy apartment to boot, reality shows that this paragraph is nothing other than one of those phony social reform declarations—worthless pieces of paper, full of demagogic promises—which postwar Germany has produced in overabundance. During times of prosperity and economic boom, promises were made to end the housing shortage by the year 1945. That year was chosen because then the postwar generation (born between 1914 and 1918) will have reached maturity and the increase in population generated by this cohort was forecast to be considerably less (more than 50 percent less) than that of the generation born during the years 1900 to 1910. This also means that in Germany and other countries that took part in the war, the need for new housing will effectively begin to decline after 1945. Naturally, all these predictions will only remain valid if conditions remain the same, as a *clausula rebus standus:* any change in economic conditions will have its effect on construction and the housing market, for it was the construction sector that reacted first to early signs of the current general economic crisis—hence the decline of construction activities and the attempt to curtail the building of small apartments everywhere. Here are some facts, concerning the number of rooms, size, and comfort of an apartment: the bathroom disappears from the floor plan again and the live-in kitchen is reintroduced, signaling a regression to the most primitive form of a dwelling layout. The latest step is an emergency program that provides for the building of tiny cottages with small garden plots for the unemployed outside the cities, in the open country.

france

By the year 1927, France reconstructed approximately 300,000 dwellings destroyed during the war. In the same year, it was announced in parliament that a **shortage of more than one million dwellings** existed in France. Fewer new houses are built annually than are demolished. State intervention dedicated to solving the housing problem in France is of marginal significance: private enterprise is officially considered the normal way of dealing with the problem of housing, and neither the state nor the municipalities wish to compete with builders or owners of houses. Health surveys have identified seventeen unhealthy districts infested with consumption and fourteen poor proletarian quarters, scattered throughout the city of Paris. It is in these districts where the highest mortality caused by tuberculosis is recorded. In France 200,000 people die annually in unhealthy apartments, hovels, and shacks as a direct result of the terrible hygienic conditions of their miserable abodes, and their number is growing.

Most construction enterprises are in private hands and serve the needs of the better situated. Of newly built houses, the majority consist of three- to five-room apartments, which are generally equipped with elevators, central heating, and a separate stair for servants, while workers' houses have no central heating and—as a rule—have no bathroom.

The standard dwelling type in France is a rental house of variable size. In Paris, these are usually three to seven stories high. Currently, entire blocks of apartments containing up to 1,000 units each are built in Paris. The garden city type of settlement did not gain much popularity in prewar France, with the exception of summer resorts, small colonies of summer cottages, and so on. A number of workers' colonies, vaguely based on the garden city concept, were established in the northeastern provinces, but they are of much lower quality than their English counterparts: they are settlements of rather wretched small houses, built in the vicinity of factories and polluted by their smoke and dust.

Pessac near Bordeaux (1925–1926), designed by Le Corbusier and Pierre Jeanneret and built at the expense of the industrialist Henri Fruges, is the only garden city worth closer scrutiny.

This colony has a peculiar history. Even today it is uninhabited—a modern Pompeii, gradually falling into disrepair. Its story reads like a Balzac novel.[6] The local builders and building cooperatives consider this colony a threat to their existence, for it was built with the aid of modern industrial methods (fifty-six houses built in one year), thus precluding the use of traditional handicrafts. To add insult to injury, the contract was awarded to a Paris firm and no local workers and tradesmen were given jobs. The response to this exclusion of local business and labor was sabotage: despite the intervention of the ministers de Monzie and Loucher, the local authorities have up until now refused to issue the required permits to build access roads to the project and approve the construction of sewers and water supply pipes, without which the finished houses cannot be sold, rented, and occupied.[7] The Pessac project is actually the only garden city in France of high architectural quality. The majority of the other garden colonies (supported by state construction subsidies), as well as the garden suburbs around Paris and other cities (Suresnes, Stains, Dugny, Charanton, Chatenay-Maloby, Plessis-Robinson, 1930), are without architectural merit.

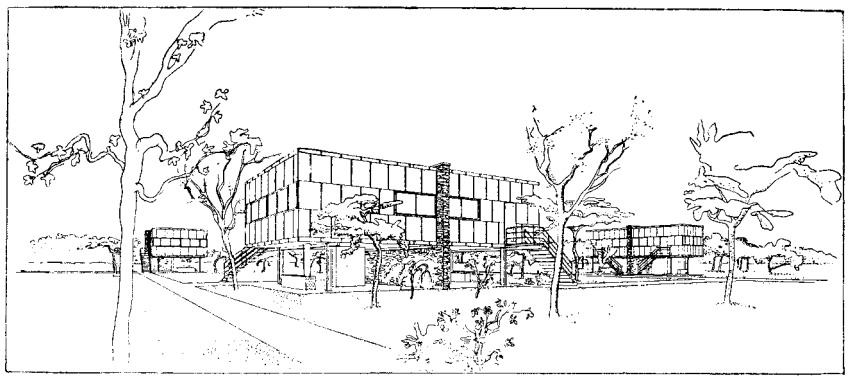
As far as laws regulating the building of houses are concerned, first mention belongs to the Loucher's Law, the so-called Loi Loucher of 13 July 1928, amended by the Loi Bonneway of 28 July 1930, which increased state support not only for small apartments but also for lower categories of medium-size apartments (*logements à loyer moyen*). Loucher's Law of 1928 is actually a pared-down revision of an earlier version of such a law; in 1921, Loucher proposed a program to build 500,000 small apartments. This bill was postponed indefinitely by parliament. Seven years later, the law was finally adopted, but the original number of apartments was reduced by more than half, even though at that time the shortage of apartments in France was five times greater than Loucher's program would provide. Loucher's plan, which may be considered a kind of mini-five-year plan, and which promised to build by 1933 a total of 200,000 small houses with a floor area of 45 m^2, has received wide publicity.[8] However, in the opinion of the majority of modern architects, this law has had extremely negative effects (see the survey by the journal *Monde,* with comments by Lurçat, Jourdain, Mallet-Stevens, and others); they consider it to be a retrograde and limited law, incapable of effectively helping to solve the housing problem for the strata of the subsistence minimum. Its provisions were exceptionally confusing and full of contradictions: it attempts to work within the constraints of existing building laws and fails to consider the cost of land, merely requiring that the price of

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[6]) *Translator's note:* Teige's observations have been confirmed by Philippe Boudon, who conducted a survey in Pessac during the 1960s and published the results in *Lived-in Architecture: Pessac Revisited,* trans. Gerard Onn (Cambridge, Mass., 1972).

[7]) This is also the main reason why Le Corbusier and Pierre Jeanneret's designs for a standardized house, conceived according to Loucher's Law, used steel frame assembly methods as the basic construction system. This method was calculated to serve the interests of the steel industry, which after the war suffered from a lack of sales. As a concession to local building practice, the architects also incorporated into their designs one stone and one brick wall, to be erected by local masons: this was intended as a diplomatic ruse to prevent the repetition of the debacle in Pessac, and to stimulate "cooperation" between large industry and small producers and local tradesmen.

[8]) The norm of 45 m^2 per apartment was determined mechanically, without taking into account the number of family members. Assuming that two persons live in such a house, we arrive at 22.5 m^2 per person; if three persons occupy the same area, we get 15 m^2; and in the case of six persons, i.e., the maximum (in fact unacceptable from a health standpoint), a density of 7.5 m^2 per person is reached. That yields an average of 14 m^2 per person. Similar mechanical regulations can be attributed to the housing law of 15 September 1922, which set the rule that no habitable room should be smaller than 9 m^2. The Office public d'habitations à bon marché du département de la Seine fixes the size of a dwelling for three persons as an apartment with two rooms and a kitchen; for 5 persons, as an apartment with three rooms and a kitchen.



Le Corbusier & Pierre Jeanneret (1929): serial duplexes built according to Loucher's Law.

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land should not exceed one-quarter of the cost of the finished building. In spite of this provision, land values in France have skyrocketed: cheap land can be found only in the country, and even there, prices have risen because of accelerating construction.

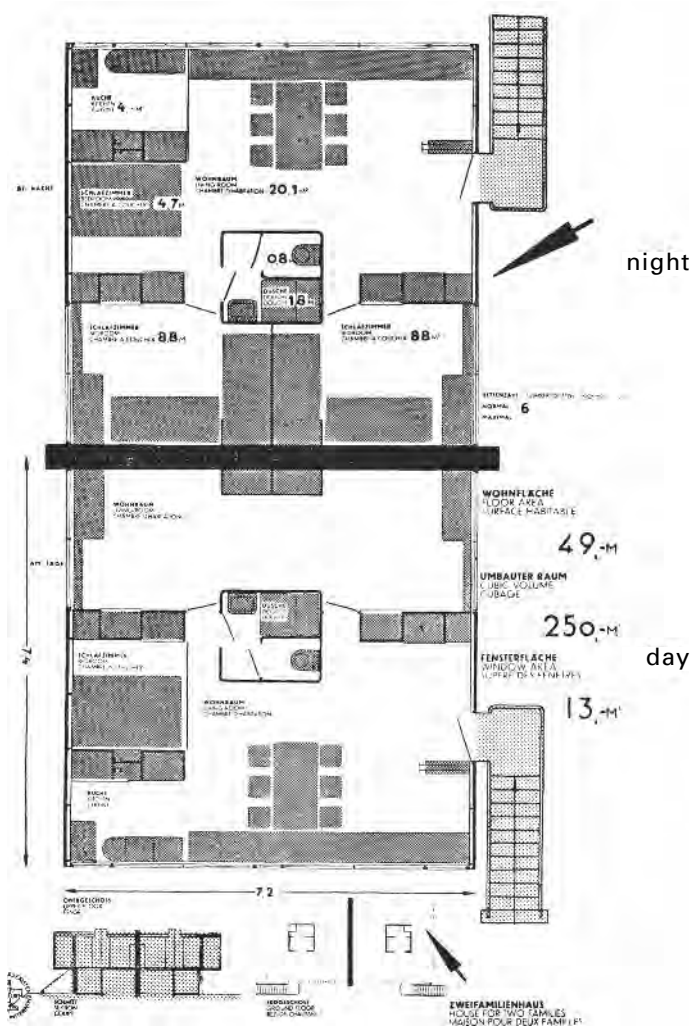
In essence, the Loi Loucher simply reactivates Robot's Law of 22 December 1922, while relying even less on modern architectural or economic principles. For example, one provision of Loucher's Law stipulates that the cost of building a small single-family house should not exceed 40,000 francs; yet to build a small house in France with an acceptable comfort level is today virtually impossible at this price. Moreover, the industrialized methods of construction and dry assembly methods proposed by Le Corbusier, which would significantly reduce costs, are of no use in France, because shipping costs are too high: it is for these reasons that in the French countryside building is done predominantly with local materials, very much as before the introduction of railways. In the end, Loucher's Law encouraged speculation in building materials and eventually led to further price increases. And so a house built under Loucher's program ends up being too expensive for a worker to afford. It may be of interest to mention that of all the French architects, only Le Corbusier and Pierre Jeanneret have taken a positive approach toward this problem by designing a family house within the framework of the requirements of this law. But even they were eventually forced to admit that their houses were too expensive for the workers.

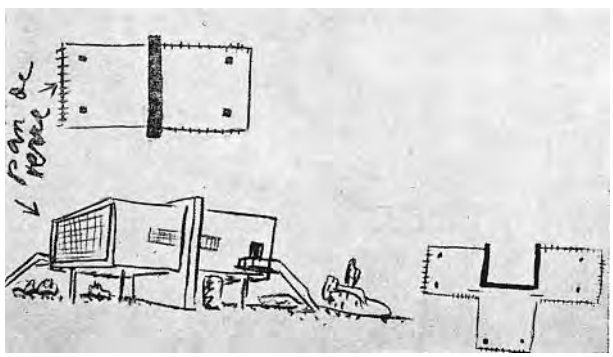
In Le Corbusier's book *Précisions,* we find a few sentences that prove again that given current conditions, their efforts have resulted in the opposite of their original intent: in an attempt to solve the problem of the worker's dwelling, Le Corbusier arrives at a conclusion where his proposed house becomes useless for the worker. "Let us have no illusions! The workers, whose lucid shrewdness I sometimes admire, will be horrified by our houses; they will call them boxes. For the moment, we can realize these so-called low-cost houses, built according to Loucher's Law, only by combining several structural skeletons of these houses for individual clients of the aristocracy and affluent intellectuals. It is not possible to leapfrog over stages: the hierarchical structure of society is expressed by a pyramid, and no revolution can change this. The base of this pyramid are the good people, who are currently wallowing in romanticism; the top are the elites. If a small house of 45 m^2 is sufficient to satisfy the most mod-

Le Corbusier & Pierre Jeanneret (1929)

Serial duplexes built according to Loucher's Law—Maison Loucher.

Floor area 49 m². Sliding partition used to close bedroom off during day and kitchen at night. Two folding beds in living room.
Heating by cast-iron stove. Apartments located on upper floor; storage and laundry on ground floor. Combination of steel frame construction and stone cross wall.





Combination of three serial houses results in a large villa "for aristocrats and intellectuals"—from small minimum dwelling to luxury residence, all according to Loucher's Law for the building of popular housing . . .

est requirements, it is subsequently possible to combine two, three, or four of the basic skeletons and offer 90, 135, and even 180 m^2 of floor area, as well as facilitating richer floor plans to satisfy higher requirements." If we ignore the reactionary and antisocial nature of this statement (remember, it was in this spirit that a popular worker's dwelling was being designed!), it is interesting to note the following paradox: one starts with a small house, which is rationalized, and arrives at a big house, three times the size of the original, because the small house is too expensive for people living on the level of the subsistence minimum. Incidentally, Loucher's project, like Le Corbusier's attempts to implement his program, came to a sad end. Aside from the scandal of its architectural failure, Loucher's Law prepared the soil for a number of other assorted financial scandals and plots. To conclude: the Loi Loucher was really not much more than a demagogic fraud. A few houses were built for reliable voters and loyal state servants, including a few apartments built for political favorites, who were thus able to become proprietors of small amounts of real estate, but none were built for poor people and the workers. From 1928 onward, nothing was done in France concerning the building of popular housing on any significant scale.

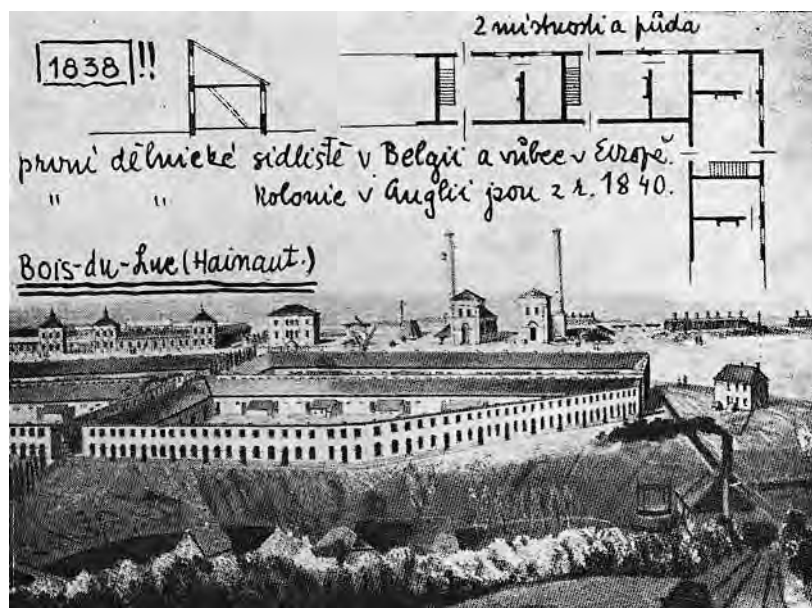
Attempts to solve the housing problem in France are at an impasse. There is no support for public welfare initiatives or construction financed with public money. Barracks and trailer colonies continue to proliferate around Paris, Lyons, Marseilles, and other cities.

belgium

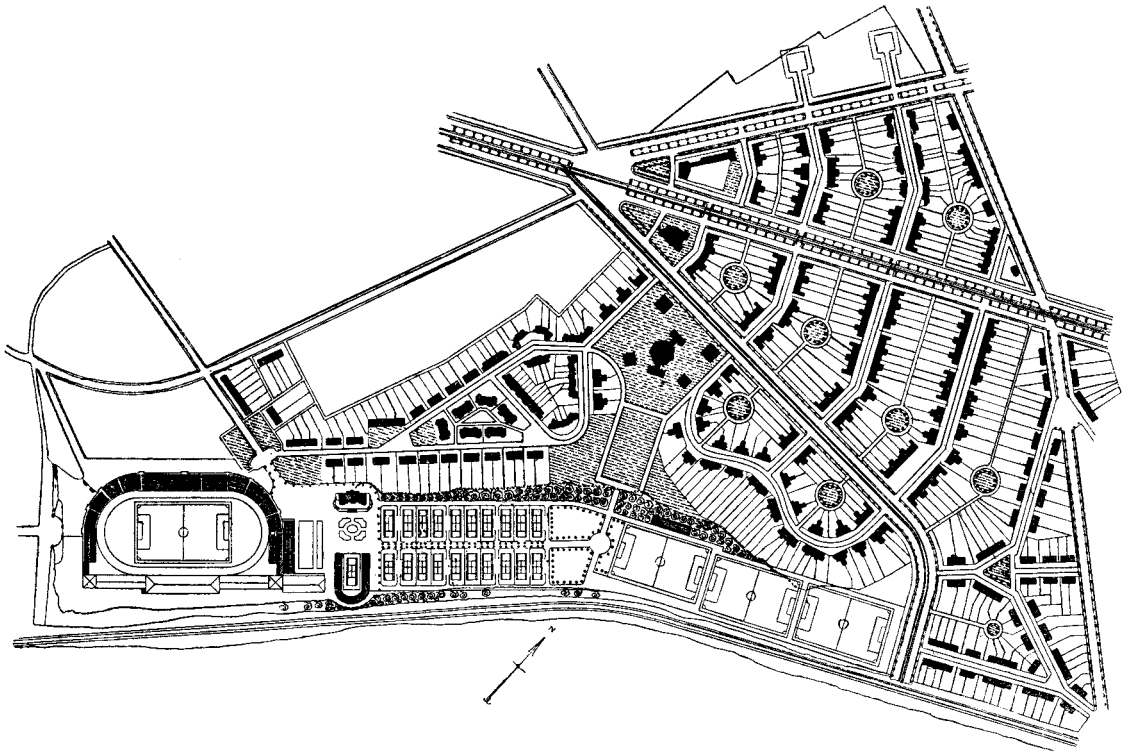
Half of the Belgian territory was devastated during the war. Successful reconstruction would have required a rational urban plan. Instead, the authorities accepted outdated site plans, which were inadequate even before 1914, and the reconstruction of cities proceeded according to existing historical plans, old layouts, and old elevations. As documented in 1927 by L. v. d. Swaelmen in his book *Seven Arts,* this approach led to a complete fiasco on all fronts—economic, urban, and cultural. Horrendous sums were wasted on the construction of excessively expensive houses, which could not find buyers or renters and which eventually had to be sold for half their real value.

The housing shortage in Belgium has persisted for many decades. Belgium, a country of early industrial development, is also the cradle of workers' settlements. The first such settlement is Bois du Luc (Hainaut), built in 1838, whereas the first English settlements came later, in 1840. An apartment in this colony consisted of two rooms and a garret, and a worker, earning at that time 1.09 francs per day, paid rent of 60 francs rent per year—that is, about 20 percent of his total wage. The direct predecessors of these workers' settlements are the so-called Béguinages in Bruges, Ghent, and Termond and the so-called *Massenwohnungen* [mass housing] of the Middle Ages. After 1889 no action in favor of workers' dwellings was taken. Even before the war, there existed a great number of unhealthy and overcrowded dwellings and filthy hovels in areas of large industrial development and in the mining districts (especially in the district of Campine and in the industrial center of the country, in Charleroi). In 1926, more than 118,000 unhealthy apartments were counted in the 109 districts with more than 10,000 inhabitants, which make up more than 42 percent of the whole country. There were 10,000 overcrowded and unhealthy apartments in Antwerp, 17,000 in Brussels, and 5,000 in Ghent. The Société Nationale des Habitations à Bon Marché (National Association for Affordable Dwellings) initiated an action to improve the housing conditions (see F. Gosseries, *L'habitation à bon marché,* 1927). However, the society did not engage directly in the actual construction of houses, but instead provided financing and credit for 275 different building cooperatives, which by 1928 had cumulatively built 30,000 single-family homes and 8,000

rental houses. All of these were relatively large houses or apartments, which only better-situated clients of the middle class were able to afford.
Belgium, with all its provinces, whether settled by the Flemish, the Vallons, or the French, is a country of the classic small, single-family house; buildings higher than three stories are the exception. Only in the spas and in Antwerp can there be found large multistory hotels and even skyscrapers. Brussels consists mainly of one- to two-story houses: it is a city with a population of one million, spread over an area larger than that of Paris. In addition, building plots in Belgium are extremely fragmented. A typical plot is occupied by a narrow house with a facade of diminutive dimensions (two windows wide): the lots are narrow (ca. 5 m) and deep; the main room of the house is without light and ventilation. Freestanding or attached family houses are therefore more popular than these deep, narrow row houses. The area of a house, generally without a bath, is 36 to 45 m^2. Central or district heating appears to be of little advantage, given the changing climatic conditions of the country, and stoves are still the predominant way of heating. Even though the single-family house represents the most common housing type in Brussels, it by no means provides the abode for most of the city's inhabitants: many single-family homes are crowded with sublets, besides the numerous residential barracks where the workers live.
Belgium, which some thirty to forty years ago was counted as one of the most significant centers of the modern architectural movement, is not a very hospitable place for today's generation of modern architects. In its own time, the Belgian Secession style was very influential, with its conspicuous industrial art movement and with personalities such as van der Velde and Horta giving it direction. Prominent members of the contemporary Belgian avant-garde, such as Bourgeois, Hoste, Eggericx, Verwilghen, de Koninck, and others, work in an extremely



Belgium—Bois du Luc 1838
The first company town with worker's housing in Europe.



Belgium–Kappelleveld

Louis van der Swaelmen (1923). Site plan of the garden city Kappelleveld.

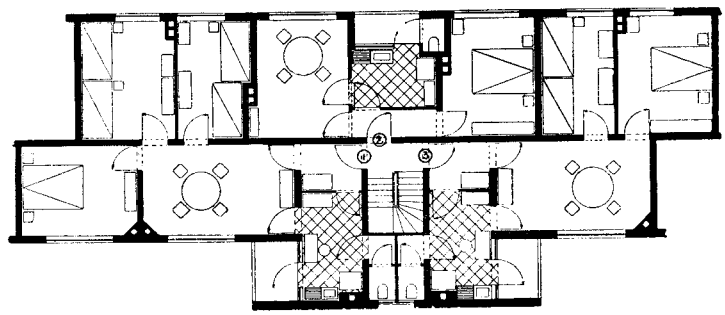
Apartments for clerical workers. Vehicular roads cut through the settlement. Houses designed by the architects Hoste, Pompe, Hoeben, and Rubbers.

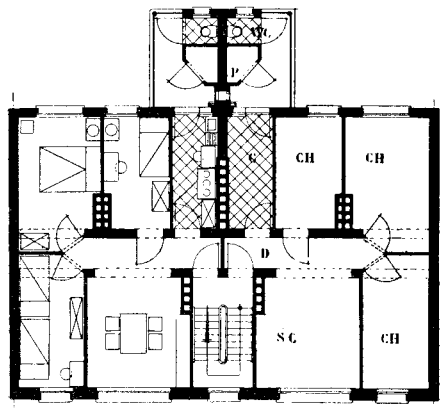
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hostile climate. The avant-garde was given hardly any chance to take part in the booming construction of the postwar years, nor did it play any role in the reconstruction of Belgian cities devastated by the war. Instead, construction held fast to historical styles and folkloric themes while the spas built abominable and, in the words of a tourist guide, "coquettish" Secession-style villas, houses, and hotels. Some of the more significant achievements for their time (1922) that should be mentioned in this context are the adroit and excellently planned settlements, with central service facilities, of the Cité Moderne near Brussels by Victor Bourgeois; the housing development for office workers Kappeleveld (houses by H. Hoste); Jumet near Charleroi, by Fleral (1922–1930); and Le Logis (1922) near Brussels, and some other projects as well. All are "garden cities" with a mix of low and high buildings. The idea of *Cité-jardins* in Belgium has taken deep and firm root, owing mainly to the influence of L. van der Swaelmen. Standardization of building materials was combined very successfully and consistently with handicraft assembly in these settlements, facilitating a 30 percent reduction in construction costs, as long as at least 200 units were built at the same time and in the same place.

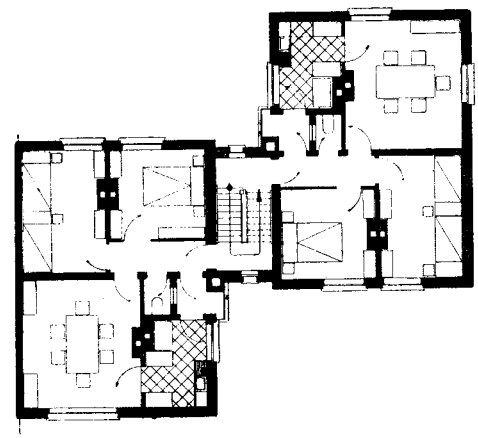
Unfortunately, new industrially produced materials and industrial construction methods do not have great prospects for overall success in Belgium, because the building sites are small and scattered, raising the financial risks by making it unlikely that any significant reductions in costs can be achieved. Even so, experiments in this direction continue. For example, in Liege-Triboullette, Victor Bourgeois used the Farco-Metal system to construct the walls and

Type A.
Cité moderne.

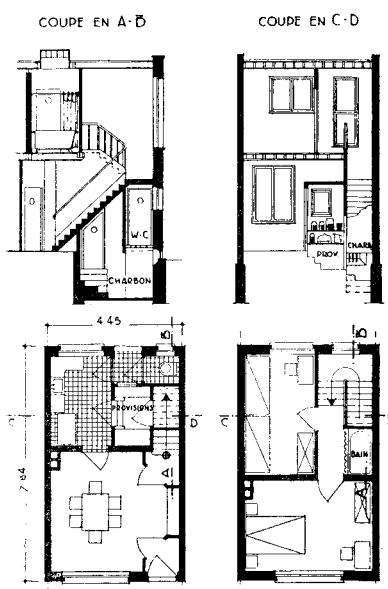


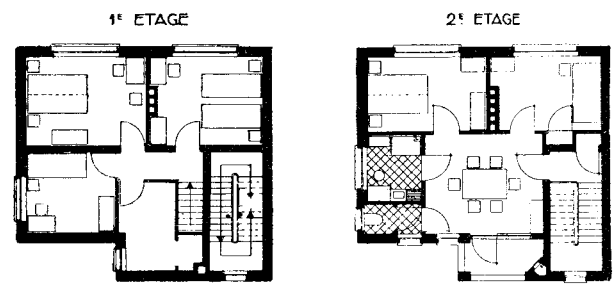


Cliché n° 8. — Type B. — Foyer Koekelbergeois
2 appartements par palier (1921).

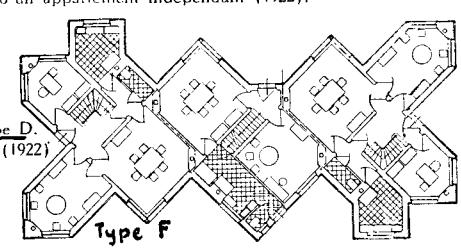


Cliché n° 8. — Type C. — Cité Moderne. — Un appartement par palier avec hall ventilé directement (1923).





Cliché n° 8 — Type E. — Cité Moderne. — Maison individuelle surmontée d'un appartement indépendant (1922).



Cliché n° 8. — Type D.
Maison individuelle (1922)

Victor Bourgeois (1922): floor plans of houses in the "Cité moderne" near Brussels.

Houses for clerical workers; mixed settlement with detached houses and rental apartments. Open site plan. Density 204 persons per hectare. Children's crèches and playground.

ceilings of minimum dwellings, and de Koenick's concrete houses with minimum apartments used the same system.

england

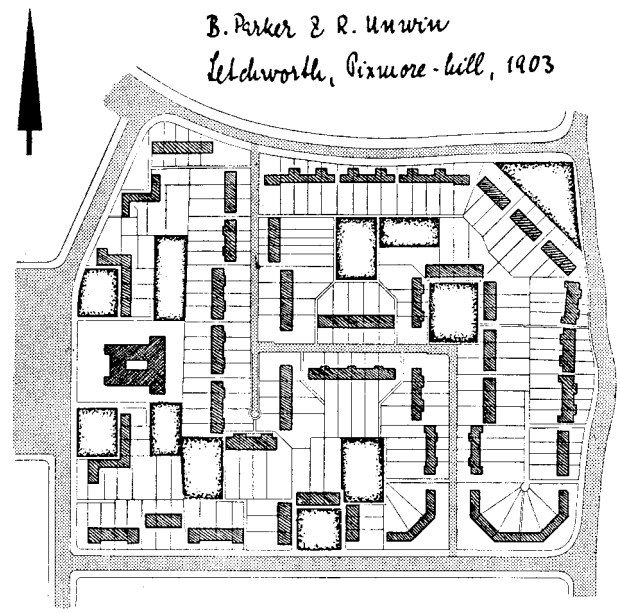
Between 1918 and 1927, one million single-family houses were built in England. From the year 1928 until 1939, the building of another 1.5 million new family houses is planned. At the moment, there is strong emphasis on the principle of decentralization, inspired by the ideology of Ebenezer Howard. The number inhabiting garden cities is upward of 80,000 souls. The English single-family home continues to conform to the traditional type: on the average it has three to four rooms in a middle-class small house; masonry wall construction prevails, as do high-pitched roofs with an attic; it is usually built in traditional styles. Municipalities, cooperatives, and industry develop these cities. The land usually belongs to an endowment, administered by a special trust. It is by such means that land speculation is virtually monopolized: the companies and institutions that own the land lease out individual parcels, granting the lessee the right to build on them for a period of 99 years. This privilege is actually to the advantage of builders, since they can acquire parcels by lease rather than by purchase. However, after the lease expires, the house becomes virtually worthless and is ready to be demolished; the trust retains the right of ownership to the parcel, which in the meantime has increased in value.

The urban proletariat is settled in old, unhealthy rental barracks around the periphery of large cities. Incidentally, not all garden cities are of high quality: in England, the birthplace of modern capitalism and the proletariat, quite a number of workers' colonies are on the same low level as the mining settlements in the German coal region of the Ruhr valley, or as company towns in northeastern France, Belgium, and parts of northwestern Bohemia. We will cite only one example: the coal-mining town Tan y Pandy in South Wales is the perfect opposite of the petit bourgeois garden cities of Letchworth and Welwyn.

The layout and style of English cottage–type houses are determined by the relatively high living standard of the middle classes, the highly cultivated family lifestyle of these strata, and their innate love of nature. These traditional family houses with gardens, in the country or at the periphery of large cities, have a long tradition, reaching back to the time of Shakespeare. Their basic layout has its origins in rustic Elizabethan farmhouses and has evolved in our time under the aesthetic and romantic influence of William Morris and the works of Voysey and Baillie Scott (who articulated their program in his work *Houses and Gardens*), as well as the designs of Rennie MacKintosh, who decided not to use the traditional rural farm cottage as his model but has tried instead to create more abstract, purified forms in the massing of his houses, diametrically opposing the southern, classic Renaissance concept of a villa. In its essence and character, the English cottage is a product of the north, with its high-pitched roofs and attics, and its bay windows (an authentic Gothic element) that do not extend the space of the room beyond the confines of its outer walls. It is opposed to the southern, Flemish, or Mediterranean principle, exemplified best by the summer pleasure house with its system of open spaces—balcony, veranda, open courtyard, and loggia—where outside space merges with the interior in a seamless symbiosis.

Up until the present, England has continued to build its garden cities relying on traditional concepts of design and planning, paying little attention to the advances of modern architecture in other countries. Nowhere do we find a modern floor plan, or modern construction methods (concrete is out; it has not proven itself, since masonry construction is still 10 to 18 percent cheaper than concrete or steel); nor have many row houses been built in England as

Letchworth, 1903
B. Parker & R. Unwin



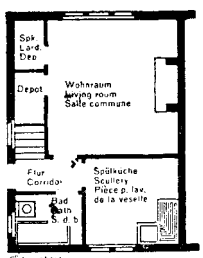
A garden settlement for middle-income people. Separation of vehicular from pedestrian traffic. Orientation ignores compass. Return to village-type plan.

yet. Anything higher than two stories is not allowed in the garden cities. In place of row houses, we find clusters of three to four small houses. The English single-family house is characterized by a plan containing a live-in kitchen and three bedrooms; heat is generally provided by a traditional fireplace. Rents are substantial, the highest in Europe.

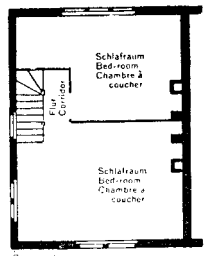
The most important garden cities are Letchworth; Pixmore Hill, a middle-class settlement with a villagelike site plan (1903); Hampstead (1907, completed in 1926); Welwyn, based on the principles elaborated by Ebenezer Howard, which has ceased to be a garden settlement and has become an independent town with 10,000 inhabitants (1920); and the newer Watling Estate (1930), consisting of 4,000 family homes. Other satellite garden cities have sprung up not only around London but around other large cities as well: for example, Norris and Springwood, outside of Liverpool.

The English garden city movement, founded in 1898 on the initiative of Ebenezer Howard, was an attempt to deal with the overcrowding of cities. A leading theoretician of this movement is R. Unwin, who formulated his theory as follows: "a city of industry and healthy dwelling, limited in area, which will support modern life to the fullest, surrounded by a continuous belt of rural land, either owned publicly or administered by the company." Unfortunately, this principle of decentralization will not succeed in solving the problem of overcrowded cities, simply because it fails to address the question of the city center: on the contrary, it complicates traffic problems, while the horizontal nature of urban sprawl and the remoteness of the settlements from the business center causes serious collateral loss of time. The historical significance of Howard's, Unwin's, and Lethaby's theories lies in the fact that they insisted steadily but in a substantially one-sided manner on the need to fundamentally distinguish industrial districts and the "city" from districts containing only housing: the English garden city is essentially nothing but a place for dwelling. All the other European colonies, villa districts,

Welwyn 1920

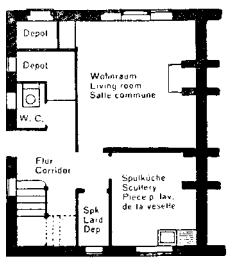


Erdgeschoss
Ground floor
Rez-de-chaussee

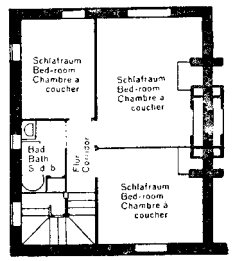


Obergeschoss
Upper floor
Etage

EINFAMILIENHAUS
ONE FAMILY HOUSE
MAISON POUR UNE FAMILLE

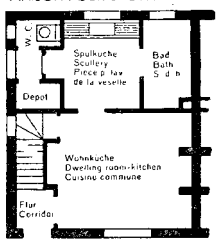


Erdgeschoss
Ground floor
Rez-de-chaussee

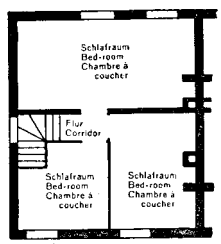


Obergeschoss
Upper floor
Etage

EINFAMILIENHAUS
ONE FAMILY HOUSE
MAISON POUR UNE FAMILLE

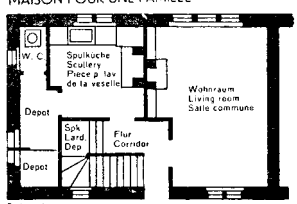


Erdgeschoss
Ground floor
Rez-de-chaussee

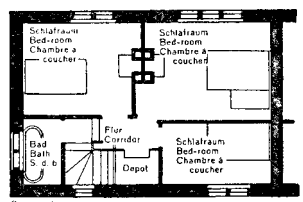


Obergeschoss
Upper floor
Etage

EINFAMILIENHAUS
ONE FAMILY HOUSE
MAISON POUR UNE FAMILLE

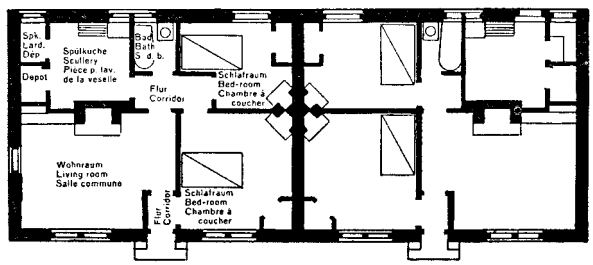


Erdgeschoss
Ground floor
Rez-de-chaussee

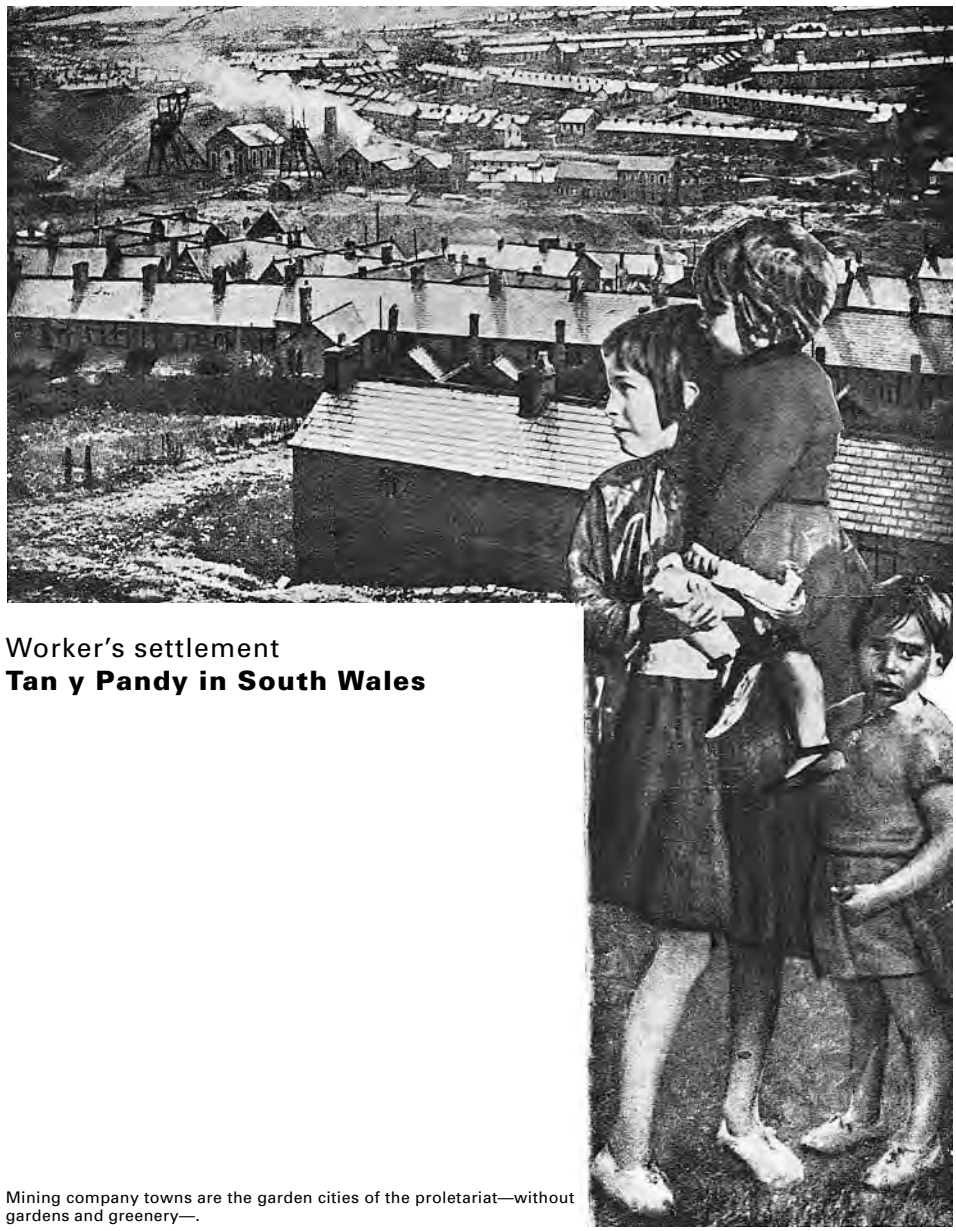


Obergeschoss
Upper floor
Etage

EINFAMILIENHAUS
ONE FAMILY HOUSE
MAISON POUR UNE FAMILLE



Typology of row house floor plans in garden city.



Worker's settlement
Tan y Pandy in South Wales

Mining company towns are the garden cities of the proletariat—without gardens and greenery—.

workers' settlements, and so on—beginning with Tessenow's Hellerau, the reformist tendencies of Muthesius, and Kotěra's colony in Louny and ending with the housing colonies of Frankfurt-am-Main—are based on the principles of the English garden city.
In spite of the traditional preference in England for using traditional construction methods and materials, the first attempt at factory production of houses can also be traced to that country. Ever since 1924, when the English steel industry experienced a serious loss of markets and suffered from serious unemployment and when the construction industry had a hard time satisfying demand, the steel and iron company G. and J. Weir in Cardonald, Scotland, decided to manufacture steel houses of a traditional bungalow type.

the netherlands

The country of a prosperous middle-class and entrepreneurial individualism has nevertheless developed an interesting form of collective dwelling, the so-called flats found mainly in The Hague. These are large complexes with a central kitchen, up to seven stories high (again, mainly in The Hague), which prove that high-rises are suitable for collective dwelling. However, they are targeted at the more prosperous classes, whose number is steadily increasing. Popular housing is provided by numerous building cooperatives: genuine forms of collective dwelling are rare. Nevertheless, even in these projects some collective facilities are provided, such as common baths, meeting halls, playgrounds, and so on. In the popular housing category, the only truly collective type are bachelor flats.

The Dutch report states that the authorities and legislators consider the normal state of affairs to be reliance on the free market and private enterprise. State subsidies, housing financed from public funds, and price controls are considered emergency measures only (the Dutch report states explicitly that state intervention is seen solely as an emergency measure): in effect, all tenant protection laws were abolished in 1927, and the old housing laws of 1901 are being enforced only perfunctorily and more cautiously. The result, given the all-pervasive influence of private enterprise (which controls approximately 73 to 83 percent of all construction, including firms receiving state support), is that few dwellings are built for the less prosperous and almost none, or at best only the most primitive ones, for the workers.[9] In fact, during the last few years there has been no attempt to initiate any kind of large-scale attack to solve this problem. Only the City of Amsterdam has built some minimum dwellings (architecturally inadequate and poorly sited in terms of urban planning).

By the way, very little gets built today, simply because the housing market is actually **saturated**—with the exception, as usual, of dwellings for the subsistence minimum. This deficit does not show up in official housing statistics, since the poor are excluded from the private housing market simply by being **unable to afford** the rents demanded by the market. For the same reason, no credit is available for the construction of minimum dwellings (since they are not profitable). The banks will approve only primary mortgages, and it is virtually impossible to obtain credit for the purchase of a minimum dwelling. There is a certain surplus of dwellings for the more prosperous, and thus the competition in the housing market encourages developers to strive for improvements in the category in which supply to some extent already exceeds demand, whereas in the category of minimum dwellings no improvements can be registered at all. Naturally, it is in the interest of banks to allocate capital to construction and mortgage loans only at times when no other, better investments are available. As a rule, opportunities for commercial and industrial growth detract from capital investment in construction. The Dutch group states explicitly that truly affordable houses cannot be built by private enterprise. Instead, they demand that such houses be financed and built by the state and the municipalities.

One of the earliest examples of a successful dwelling for the subsistence minimum in all of Europe is J. J. P. Oud's workers' houses in Spangen and Tusschendyken of 1918 to 1920. Currently somewhat antiquated and considerably run down, they nevertheless have a certain historical significance: the settlement consists of closed three-story blocks, built along the pe-

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[9]) Concerning the relationship of rent to wages: before the war, rent consumed approximately 16 percent of a tenant's income. During the period of rent control, the figure was 9 percent for the better situated and 14.5 percent for the poor. After the abrogation of the rent control laws, rents rose, causing these percentages to increase significantly.

Rotterdam
1918–1921

J. J. P. Oud
Popular housing in
Tusschendyken



Closed block, built up to periphery of site, without inside buildings. An open large interior space, converted into a garden. All apartments face the garden. No orientation toward the sun.

riphery of the site, with apartments oriented toward an interior garden court; only the stairs, bedrooms, and service spaces are oriented toward the narrow streets. Later in his work, Oud occupied himself exclusively with the design of small row houses, such as the Weissenhofsiedlung in Stuttgart (1927), the Oud-Mathenesse colony (1922), the row houses in Hoek van Holland (1926), and the Kiefhoek project in Rotterdam (1925–1929). The Kiefhoek project consists of apartments with a floor area of 40 to 60 m² of rather poor layout, insufficient sun exposure, and overly cramped blocks; a crowded site plan contains small, single-story houses with a density of 521 units per hectare.

Modern postwar Dutch architecture has focused primarily on aggregations of houses, consisting of medium-size to small apartments, such as Wilson's colony Daal an Berg, the Papaverhof in The Hague, Granpré-Molière's colony Vrywyk in Rotterdam (an adaptation of the English garden city concept), and Van Loghem's Rosenhage in Harlem (1919), as well as the exceptional projects of Rietveld and Dudok's romantic solution in Hilversum. In most cases, Dutch modern housing adapts traditional construction methods, especially masonry construction, which has reached a very high degree of sophistication with the development of the "single wythe wall" (a load-bearing cross wall, with a light facade, that can be opened up with large windows), and which has proved to be the most economical construction method. In some areas of Holland, a housing type containing a live-in kitchen is favored: the living room





Rotterdam 1929

J. J. P. Oud: Kiefhoek settlement

Apartments for minimum subsistence–-level population. The settlement suffers from a poor site plan, imposed by official planning regulations, which results in corner houses not being oriented toward sun. Blocks built up to property line. Spacing of rows too tight. Relatively high density (521 persons per hectare). Apartments from 40 to 60 m^2 floor area.

doubles as a kitchen. This has the advantage that the mother-housewife can keep an eye on her children while preparing meals. Bathrooms in workers' homes are still an unattainable dream, even in a country as prosperous as the Netherlands.

denmark

The Danish report states that the architectural requirements for the minimum dwelling are best expressed by the slogan "to each adult his or her own separate room"—a requirement that is currently beyond the financial means of an average worker, even in countries of relatively well-paid industrial workers, such as Denmark and Sweden. The Danish group demands that the construction of housing be financed directly by the proceeds of taxes and not by loans (of course, they reject taxes that would burden renters); it moreover states its conviction that the most appropriate and correct way to solve the housing problem is by increasing wages and salaries.

In Denmark, the situation of workers has materially improved by about 12 percent since the end of the war in 1918. Before the war, rents for apartments of an area of 40 to 50 m^2 consumed about 15 percent of an average wage. The extent of the housing shortage in Denmark can be estimated by extrapolating from the data on overcrowded apartments: in Copenhagen there

are 18,000 overcrowded apartments, with more than two persons per room; 19 percent of the city's inhabitants live in these apartments. About 2 percent live in heavily overcrowded apartment (four or more persons per room). In Copenhagen, there are 151,000 apartments in regular street locations, and 3,000 apartments in temporary barracks. The poorest segments of the population live in houses under totally unacceptable hygienic conditions: for a large percentage of the residents, rents in new houses are beyond reach, mainly because of the high cost of new construction. Official safety codes (pertaining to fire, etc.) are overly restrictive and therefore add even more to the cost of new construction: they may decrease the danger of fires, but they also contribute to the high incidence of tuberculosis, as high construction costs and high rents in new housing leave the poorest no choice but to live in unhealthy homes. Rental apartments are generally built as closed blocks, and low-rise single-family houses are frequently built in rows; the settlements of Damhussoen, Bakkehusene, and the Vibevej colony with their two-story houses are also of a regular row housing type.

sweden and norway

The Swedish group also reports excessive overcrowding of apartments and unsatisfactory housing conditions for the strata of the subsistence minimum. Even though the living standard of the workers has risen during the last few decades, the rent for a decent apartment still consumes a large proportion of a worker's wage—that is, approximately 35 percent and more, whereas the maximum should not exceed 20 percent so that the tenant can eat, clothe himself, and live in a civilized manner on what is left. The Swedish group put great emphasis on the need for modern housing norms and standards: for every adult his or her own separate room, as well as a spacious living room for each family. In addition, each room should have direct access to outside light and be exposed to sufficient direct sunlight: ensuring that dwellings have proper access to daylight is really a matter for city planners to address.

The current median size of an average worker's apartment in Sweden is one room and a kitchen. The majority of the population lives in accommodations consisting of a kitchen and one to two rooms. A Swedish rental apartment usually conforms to very old-fashioned floor plans, in which secondary rooms receive daylight only indirectly or not at all. Bathrooms, halls, and other small rooms have no windows at all: this makes it easy to solve the problem of corner houses. Up to the present, the most common type of urban multistory development is a closed block without courtyards. In low-rise construction, the single detached house or duplex is favored; row houses are rarely found. A bathroom is included in most newly built apartments, even in small ones.

In Norway and Sweden, detached houses are usually made of wood, which is processed industrially in great quantities. Reliance on wood is also the reason why the density of their settlements has to be kept low: clusters of houses are separated by open green spaces to prevent the spread of fire. Multistory houses are almost always built with brick; concrete and steel construction is rarely used here. The colony Hästholmen near Stockholm (architects E. Sundahl and O. Thunström) is an outstanding architectural achievement.

finland

There are multistory rental brick houses in closed blocks; there are detached single-family houses in garden cities, predominantly built in wood. The traditional Russian type of wood construction is prevalent. Official building regulations require that each new house have its own properly ventilated toilet; but because of the cold climate the toilet tends to be located

inside, not near the facade, and is usually windowless. Similar to Russian custom, windows have a small ventilation flap that is kept open even during the winter, while the windows themselves are kept sealed tight throughout the season. To this day, full bathrooms are the exception, but public baths (saunas) are provided even in the smallest settlement and are used by everybody.

latvia

Of all small rental apartments built during the past few years, 90 percent are the multistory rental type. Only 10 percent are detached single-family homes. The smallest new apartments have a floor area of 50 to 60 m^2. These "minimum dwellings" are clearly not meant as apartments for the subsistence minimum. The poor and the workers in the cities live in even smaller apartments (30–38 m^2) and in old houses.

switzerland

Municipalities subsidize construction from current operating budgets; they guarantee second mortgages with relatively low rates of interest and long periods of amortization, which turn out to be most advantageous for owners of large houses. As a rule, rents for popular apartments consume 25 to 30 percent of a worker's average wage. The housing needs of the poorest classes remain unmet by new construction. The most widely supported housing type is the small single-family detached house, even though statistics show that family size in Swiss towns has recently declined quite dramatically; as a result fewer single-family houses are being built, largely replaced by rental walk-up houses. A recent tendency in site planning is the attempt to save space by providing narrower access streets and rows of housing up to 70 meters long.

The Swiss exhibition WO-BA (*Wohnen und Bauen*) in Basel (1930) has made the works of the Swiss avant-garde well known not only in their own country but abroad as well. It is the youngest architectural avant-garde movement in Europe: Artaria and Schmidt, Steiger, Werner Moser, Kienzle, M. E. Haefeli, Salvisberg, the Italian Sartoris, and others.[10] The beginnings of Swiss modern architecture coincided with the founding of the journal *ABC,* which acts as the mouthpiece of the group around Hannes Meyer, Mart Stam, and Hans Schmidt. At the occasion of the WO-BA exhibition, the Swiss Werkbund built the model settlement Eglisée in Basel, consisting of small and medium-size houses. There were 120 units of 60 single-family and 60 multistory houses (a cooperative project), based on the designs of thirteen modern architects and dedicated to the problem of the small dwelling. WO-BA was preceded by another exhibition, *Das Neue Heim* [*The New Home*] in Zurich (1928), which was organized by the local School of Industrial Arts and the Swiss Werkbund: as part of this exhibition a small group of houses was built (three-family homes and a three-story house by the architect Max Ernst Haefeli). Swiss conventional floor plans, based on a patriarchal family structure, in larger dwellings are distinguished by their large number of bedrooms, which accommodate families with many children and make it easier for three generations of relatives to live together in one house. The colony Neubühl in Zurich was built in 1930; it consists of thirty groups of buildings with medium-size apartments, designed by the collective of the CIAM group, that is, the architects Artaria and Schmidt, Steiger, W. Moser, Hubacher, Roth and, Haefeli.

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[10]) Currently Schmidt works in the USSR as a member of the Ernst May group.



120 apartments in 60 detached family houses and multistory walk-up apartment houses, designed by 13 different architects. Cooperative enterprise.

Basel-Eglisée 1930

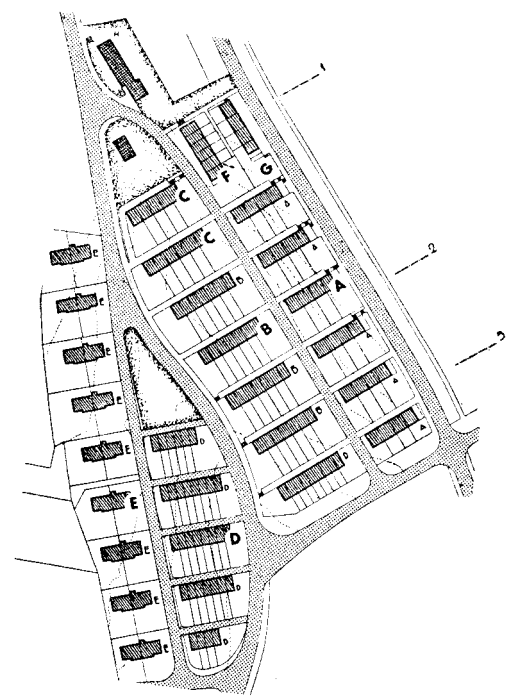
Colony Eglisée, built on the occasion of the WO-BA (Wohnen und Bauen) housing exhibition in Basel.

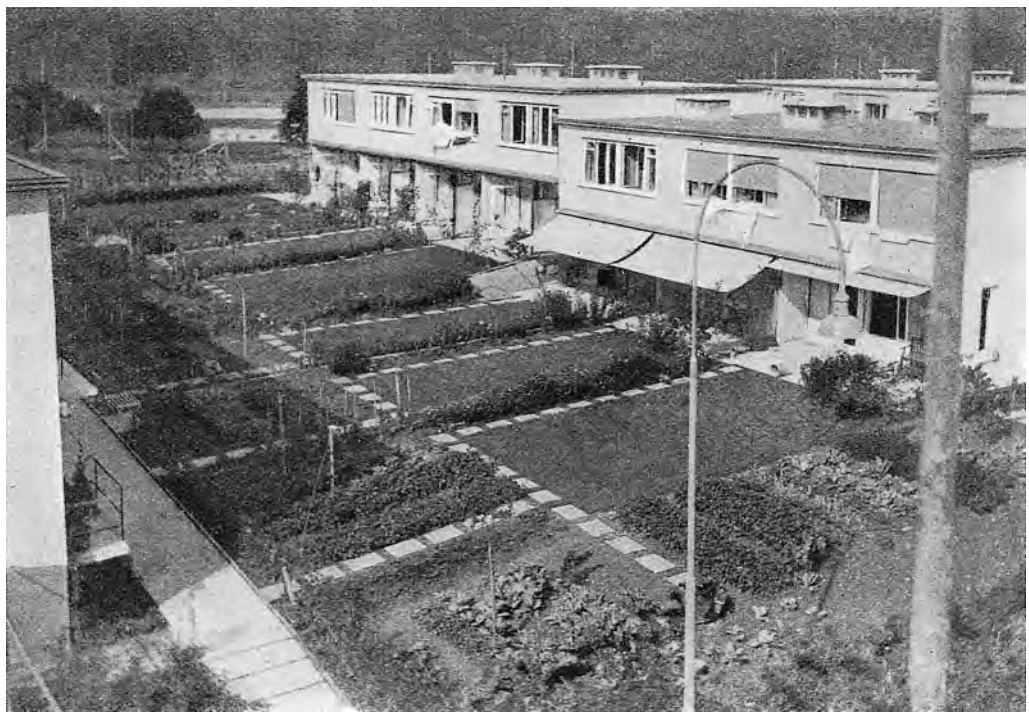
Colony Neubühl in Zürich, built according to the designs of the Swiss CIAM Group of modern architects.

Collaborators: **Artaria & Schmidt, Hubacher & Steiger, Heafeli, W. M. Moser & Roth.**

Apartments for well-to-do-middle class clients wih floor areas 35–118 m². Orientation toward sun on south slope of site. 117 persons per hectare. Separation of pedestrian from vehicular traffic. 200 apartments.

Zürich—Neubühl 1930–1931



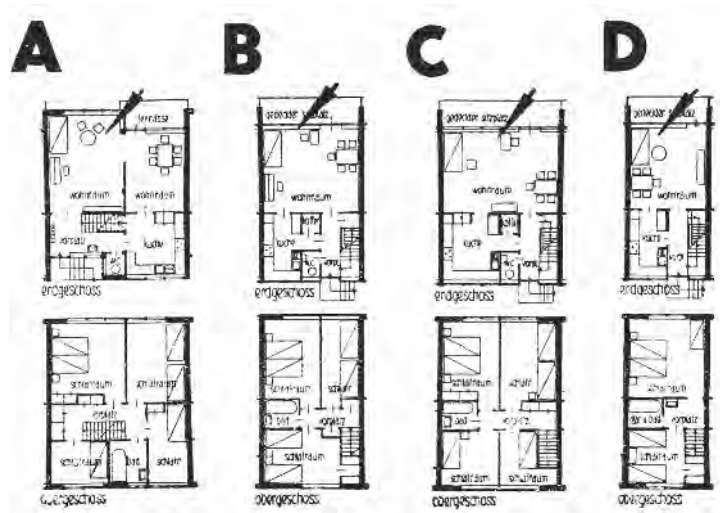


type c

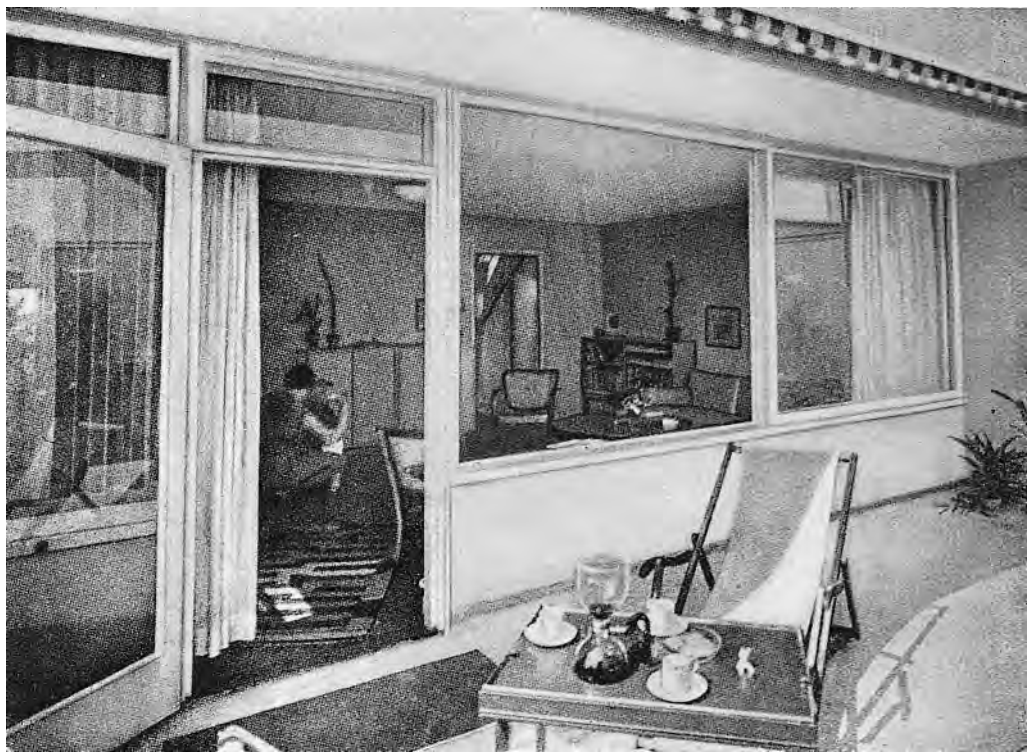
Zurich
Neubühl 1931

Type A = 118 m²
" B = 83 m²
" C = 97 m²
" D = 65 m²

Types A–C = 6 beds
Type D = 4 beds

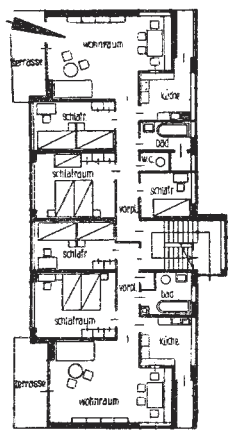


Artaria & Schmidt, Hubacher & Steiger, Haefeli, W. M. Moser & Roth:
Colony Neubühl in Zurich.

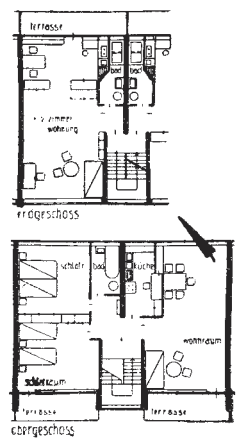


Type c

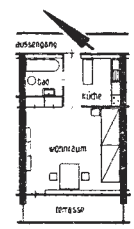
E



F



G



Zurich
Neubühl 1931

Type E = 118 m²
Type F = 80 m²
Type G = 97 m²

Type E = 9 beds
Type F = 2–4 beds
Type G = 2 beds

Type G = gallery

The collective of the Swiss CIAM Group of modern architects:
Neubühl settlement near Zurich.

spain

Neither the architects nor the authorities have paid much attention to the problem of popular housing. Incidentally, modern architecture has yet to develop in this country. A law to support the construction of new housing has been passed, but it is of little significance and has in no way succeeded in curtailing land speculation. In Spain a cheap apartment simply means a bad apartment, and building cheaply means building badly.
To the extent that one feels obliged to mention the activities in Spain of modern architects whose work has yet to gain international recognition, it suffices to draw attention to the journal *AC,* first published in 1931.

italy

In Italy, housing conditions are approximately the same as in Spain. Modern architecture is still in its infancy; construction technology is by and large antiquated and below the level of other European countries. In Italy, as in Spain, construction is permeated with the spirit of traditionalism and historicism.
Italian architectural modernism is represented by the Movimento di architettura razionale, which has fifty members; during the four years since the founding of this group, they have been able to collectively realize—six houses!

poland

Between the end of the war and the year 1929, Poland built about 40,000 new housing units. Assuming that the life expectancy of a wooden house is about 100 years (most of the time we are actually talking about wooden shacks), this means that annually 1 percent of all these houses will have to be demolished—that is, 8 percent in eight years. During those eight years the population in Polish cities will have increased by a million, while the number of dwellings has decreased by 70,000: the result is that annually more houses are being demolished, or should be demolished, than are being built. That alone makes evident that Poland is the country in Europe with the most critical housing shortage. The classes of the subsistence minimum, workers and the poor, cannot afford apartments in new houses at all. Instead, they live in old houses and existing one-room apartments. In Warsaw, 40 percent of the apartments are of this type, and in the Warsaw suburbs, the figure is 61 percent; 15 percent of the total city population live in overcrowded apartments, with more than five persons per room (the average is four persons per room).
Statistics indicate that the housing shortage is continuing to worsen:[11] in 1921, of the total number of apartments, 39 percent in Warsaw and 59 percent in Lodz had one room; 17 percent in Warsaw and 10 percent in Lotz had three rooms. In 1927, of the total number of apartments, 71 percent in Warsaw and 77 percent in Lotz had one room; 4 percent in Warsaw and 1 percent in Lotz had three rooms. The following data show that this housing situation is even worse: only 1 percent of the apartments have their own toilet and none has a bath or shower; at the same time, apartments with a floor area smaller than 40 m^2 make up 50 percent of the total. Sixty-nine percent of all apartments have windows facing into a yard, and 94 percent of those

[11]) *Warunki Zycia Robotniczego w svietle Ankiet,* z. r. 1927 (Warsaw: Wydawnictwo Instytutu Gospodarstva Spolecznego, 1929).

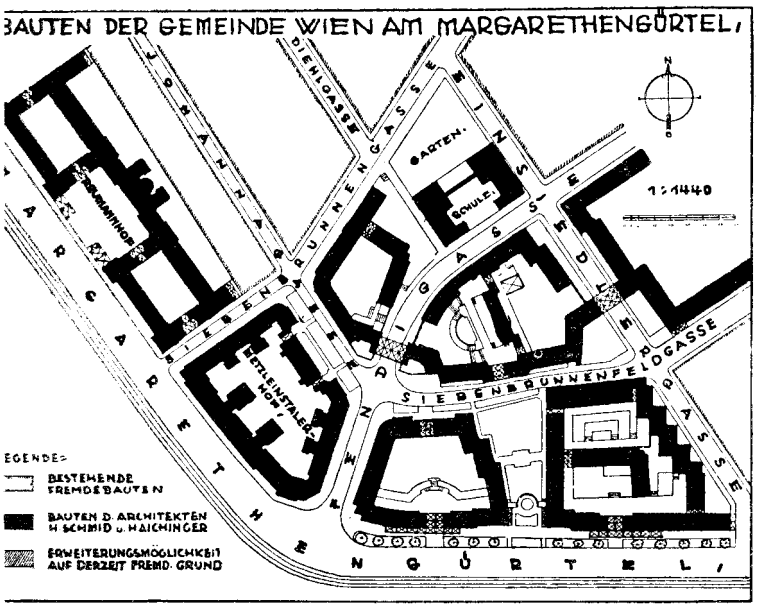
yards are narrow and dark. In the cities it is normal for two to three workers' families to share a single kitchen: hundreds of thousands of families live that way. A normal family life and family hearth do not exist for these classes. Not only that: in Warsaw there are only 42 beds for every 100 people. This means that on the average one bed has to accommodate 2.5 persons! Population density in the center of Warsaw is 2,000 persons per hectare; in the new districts, it is 1,000 persons per hectare. Suburbs lack sewers and water. The most hopeless situation exists in Lodz; the relatively highest standard of workers' housing can be found in Upper Silesia, where German industry had built a number of factory colonies before the war. Overall, Poland has a shortage of more than a million dwellings or—in the worst case—habitable rooms.

hungary

Hungary is also an agrarian country. The agrarian workforce vegetates under catastrophic living conditions. The death rate from tuberculosis is high. In Hungary only 4.8 percent of all dwellings have sanitary facilities. Construction is controlled by private capital in an relatively free market: rent control of small, old apartments has been imposed only in Budapest; elsewhere it has been abolished. The rent for a one-room apartment consumes approximately 60 to 70 percent of an average worker's wage. The housing market for the better-off is relatively saturated, and the availability of empty apartments gives the false impression that there is no housing shortage. The desperate condition of the poor makes it impossible for them to pay normal market rents. In Budapest alone there is a shortage of at least 50,000 small apartments: 130,000 live in overcrowded apartments with six to ten people per room.

austria—vienna

Vienna has been frequently cited as a model for the solution of the housing problem and as an example of a broad-based approach to eliminate the housing shortage. "The postwar construction boom in Vienna was organized on the initiative of that city, and above all of Mayor Seitz, who launched a comprehensive social welfare program for the broad masses, who had been ignored until that time and who languished on the periphery, or in cellars or garrets. Seitz's initiative deserves higher praise than that bestowed on similar actions in Germany, to which it is clearly related ideologically. Even though many objections, both fundamental and aesthetic, could be raised against the small apartments in Vienna's rental projects and despite the fact that the system chosen has elicited few favorable comments and has not been emulated elsewhere, it has nevertheless helped the Vienna's poor quite a lot: it was the first time during the worst moments of the postwar depression that someone decided to act, and it was this psychological moment that has significantly contributed to the rescue of Vienna" (K. Herain in the journal *Žijeme,* nos. 4–5, 1931). The Viennese building program was planned not only as an effective tool for eliminating the housing shortage but as an important act of social justice as well: we are told that Vienna carried out its broad-based socialization of housing within the framework of attainable political goals and doable social reforms. Given the importance ascribed to Vienna's welfare policies and subsequent construction activities, it may be of some interest to analyze the facts and review the data of this experiment in more detail. During the monarchy, worker's housing in Vienna remained at the lowest social and hygienic level imaginable. After the war, Vienna experienced a severe housing crisis, as did all countries that had participated in the war. Evidently, private enterprise, unable to expand after the



Vienna

Housing blocks in the Margarethengürtel district of Vienna; municipal small apartment housing, designed by H. Schmidt & Haichinger.

end of the war, was capable of alleviating this crisis neither in Vienna nor in other cities of Europe. In 1920, Vienna counted 20,000 homeless families, while there were 34,000 new marriages during that same year. To confront this massive housing need, the Vienna municipal authorities decided to impose a special tax on rents, which was to be used for the construction of new housing. The results of this provision were quite modest; at the urging of the city counselor Hugo Breitner, a steeply increased rent tax was imposed in 1923. With the help of this tax, the so-called *Wohnbausteuer,* construction soon reached prewar levels.[12] A program was launched to construct 25,000 housing units, both in the inner city and in the suburbs. Not only was this program implemented, but it had already exceeded its targets by 1928.

However, it soon became evident that even the proceeds of the *Wohnbausteuer* were not enough to cover the cost of such an intensive construction enterprise. Thus, even though 30,000 public housing units were built by the end of 1927, a large shortfall developed between the annual receipts of the building tax (35 million shillings) and actual annual construction costs (95 million shillings). Therefore, it became necessary to make up this deficit; as a result only one-third of the construction of new housing was financed by the proceeds of the *Wohnbausteuer,* and the remaining two-thirds had to be covered by other taxes. However progressive the *Wohnbausteuer* may have been, in the end, according to various estimates, the workers ended up paying at least 15 percent of its total. A major portion of the other taxes was also paid by the workers. From these facts, it may be reasonable to state that up to 85 percent of the building of popular housing was actually financed from workers' pockets, with only 15 percent realized from the progressive taxation of the propertied classes. Financially, this really made the whole program more a matter of building at the expense of the workers than a social action obliging the better-off to share their resources and profits to fund the building of popular workers' housing. Rents in the new housing were set very low; they were used pri-

12) Vienna had legal precedent for these and similar legislative acts because of its special status as a self-governing city within the Austrian Republic: in effect, Vienna formed a state within a state.



Vienna

Josef Frank: courtyard of municipal housing in Vienna.

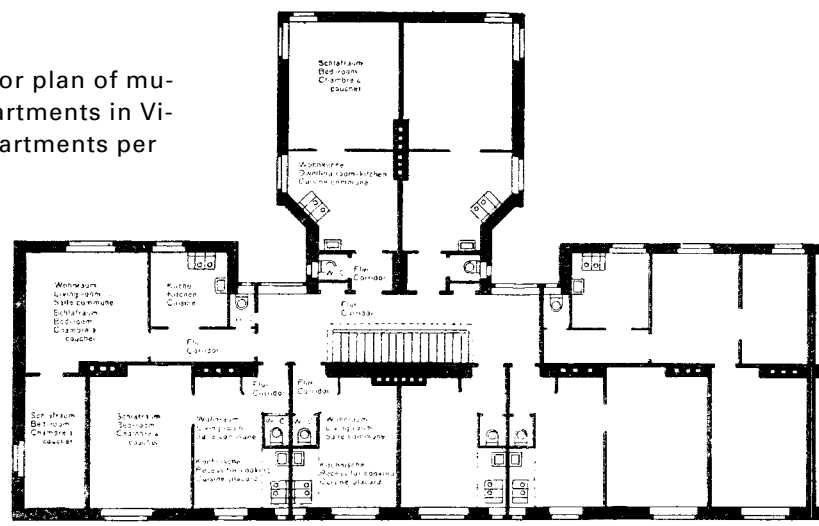
Closed block; built to periphery of site, open inside. Courtyard made into garden and playgrounds for children. This is a typical example of municipal housing built by the city of Vienna. Minimum-size apartments with interior courtyards, hence the name **hof.**

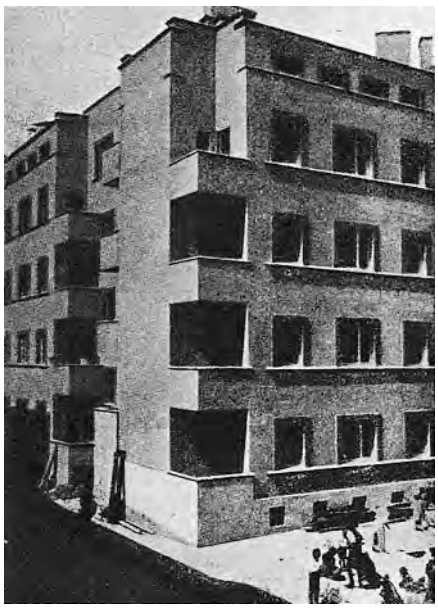
marily to cover the costs of maintenance and only secondarily as a means to defray the costs of construction. This reduction of rents to a minimum (close to Proudhon's plan to eliminate them entirely) also made it possible for employers to keep wage rates below west European standards. Thus, Vienna's industrial and commercial business interests were able to prosper primarily because rents were so low.

Here we are getting to the core of this reprehensible deception in Vienna's housing politics: heavy taxation is introduced in order to build cheap housing; threatened by such taxation, industry cuts back on production and unemployment becomes a serious threat; subsequently, help is offered to industry and commerce by lowering rents. By such a trick, instead of benefiting the workers, the lowering of rents works to the advantage of capital, thus effectively creating an export premium while at the same time paving the way for a further lowering of wages. By such means, a vicious circle of deception was created, whereby the attempt to reconcile all these inconsistencies and manipulate the accumulating deficits gradually weakened and eventually devastated municipal budgets. At the same time, the low rents charged in the

Vienna

Typical floor plan of municipal apartments in Vienna; 8 apartments per floor.

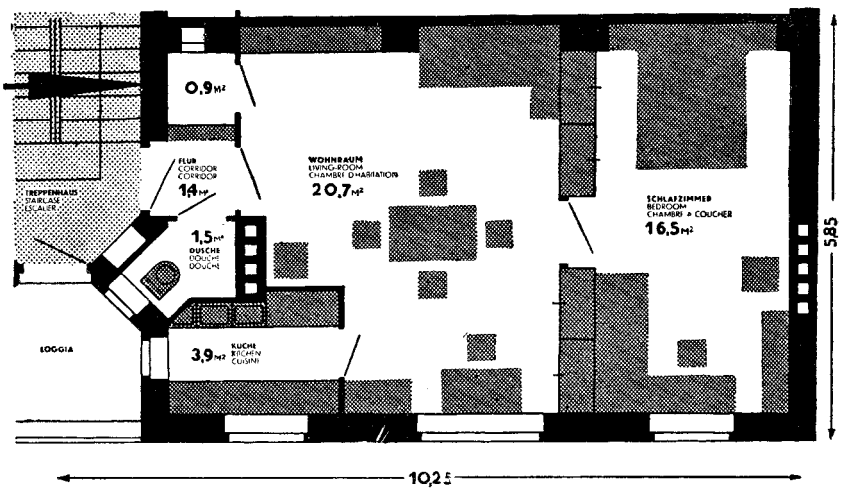




Anton Brenner: Viennese municipal housing with small apartments, Rauchfangkehrerstrasse.

Four-story houses with 32 apartments each. Two apartments accessed from open platform on each floor. Floor area 44 m². Built-in closets, folding beds, shower and toilet.

Vienna 1926



new municipal housing depressed the rents for old houses in the center of the city.[13] Rent income from these properties frequently evaporated altogether. Their owners could not cover even the cost of maintenance out of their rental income and eventually were forced into debt, since no bank was willing to underwrite loans for these unprofitable properties. Only the mu-

[13]) The rents in municipal housing did not conform to normal rent scales, which were set with expectations of maximum possible profit under existing economic conditions. They were set at half to a third of those paid in old private houses. For example, if the average rent in an old rental building is 36 shillings, then the rent in one of the new apartments of the same size is approximately 10 shillings. This is the opposite of our own practice. Municipal authorities in Austria take the view that if in today's conditions even the owner of a private property cannot realize a clear profit from his old house, then the municipality as the owner of new houses equally has no right to take advantage of its tenants by extracting higher rents to cover their deficits. It is for these reasons that the rents do not include the costs of amortization or the interest on construction outlays; they only

nicipality was able to offer such loans, but since the low rental income was sufficient to pay off neither interest nor principal, the result was the wholesale voluntary or forced selling off of these houses; here again, the city had to act as buyer of last resort. Despite the exacting of high transfer fees, which left the seller with only a fraction of the price of the sold property, eventually it was the municipality that suffered most, as it had become the owner of properties with a negative income, besides suffering losses from reduced property tax revenues. As a result of such deficit financing, it was necessary to curtail future construction activities: up until 1930, 43,000 units were built, that is, 1,500,000 m^2 of dwelling area, which was indeed a gigantic building effort. However, after 1926, construction slowed down considerably (which resulted in an increase in construction unemployment as well).

In 1920, 9,000 units were built; in 1927, 7,000 units; and in 1929, 5,000 units. Of the 200,000 housing applications for new apartments submitted in 1929, only 75,000 were processed. The current situation tends to exacerbate these fundamental contradictions even more. The number of homeless is increasing, as can be gleaned from the statistics of the number of people sleeping in night shelters.

Occupancy rates for night shelters in Vienna
In 1913—657,691 persons (1,287 children)
In 1929—662,449 persons
In 1930—700,195 persons (2,295 children)

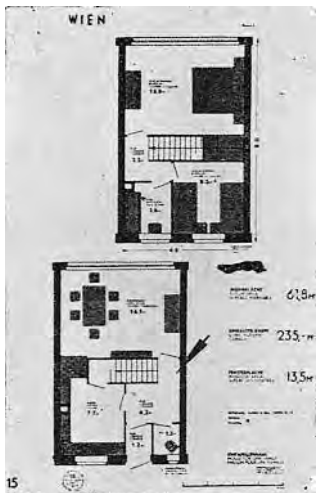
The same indication is given by the number of applications for apartment allocation. Unemployment is increasing (minimum estimate: 140,000 in 1930), wages are declining, and the municipal budget of 1930 shows a deficit of 16,500,000 shillings. There is no activity in public real estate and loans are unavailable.

The bankruptcy of the public purse and the subsequent collapse of housing construction financed with public moneys are final proof of the failure of the **Proudhonian solution** of the housing problem,[14] whether sought by socializing housing as a tool of social policy or by subsidizing the construction of new housing with public money. It is a fallacy to socialize housing without taking into account the existing social base and its contingent conditions of production: "Vienna is establishing municipal socialism under the conditions of capitalism" (Otto Bauer). That is like trying to build a house without first laying its foundations, that is, without

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cover administrative expenses. Vienna annually builds 5,000 small and medium-size apartments, but even this fairly significant number has so far not succeeded in eliminating the housing crisis: if we compare this number with the number of new marriages in Vienna, it becomes evident that the municipality has not been able to adequately meet growth in housing demand.

[14]) Vienna's municipal socialism, which the local Austro-Marxists consider as a continuation of the feats of the Paris Communards, is, in fact, nothing other than quintessential Proudhonism—in other words, petit bourgeois socialism. It is thus nothing other than an attempt to solve social problems by trying to solve the housing problem, which—in effect—is actually of secondary importance. At the same time, moreover, it presents a difficulty that weighs on not only the proletariat but, in the end, even more heavily on the lower middle class as well. In times of acute housing shortages, the improvement of housing condition benefits not only the proletariat but also the petite bourgeoisie and the middle classes: the bourgeoisie in particular is the class that must be most concerned about the conditions in unhealthy workers' slums, which are the breeding grounds for various epidemics, for contagion can spread very quickly from the proletarian periphery into bourgeois residences. Moreover, the lower middle classes will always welcome any reduction in their rent, taxes, or mortgage rates, including subsidies or guarantees of mortgages, as providing a material improvement in their living standard. Vienna's "socialization of housing," facilitated by the construction of housing with public funds and the expedient buying of old houses from private owners, has nevertheless missed the heart of the social question and the principal reason for social change: production and production relations.



Vienna

Single-family row house, floor area 62 m².

A small service pass-through opening between living room and kitchen. Four beds.

Large-size multistory walk-up houses with small apartments were typical of the postwar building boom. The proponents of single-family detached housing were unhappy with this solution, and as a result a model colony of small detached houses was built in 1932 at the periphery of Linz—the **Internationale Werkbundsiedlung**—which built a few types of minimum-size family homes to propagandize their acceptance: even though the walk-ups are by no means of a satisfactory standard, the model colony is worse, despite its deceptive show of modernity. It consists of 70 houses, designed by 30 architects—A. Loos, Walter Loos, G. Rietveld, Neutra, Schütte-Lihotzky, Jacques, and others. Poor villagelike site plan. Irregular lots, tiny houses, but expensive. See also exhibition catalog, published by Jos. Frank.

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taking into account the economic-production base: it means taking a winding, foggy road, full of detours and unexpected hazards, where difficulties are dealt with superficially and where conflicts, resolved for the moment only, strike back later with a vengeance. At the end of this road is decline, decay, increased housing shortages, and catastrophic unemployment, all of which should suffice to give the lie to all the journalistic chatter extolling the redemptive magic of Vienna's social welfare system. Some years ago, the French review *Architecte* summarized the criticism of Vienna's housing policy as follows: "Industry and business, burdened by taxes more than anywhere else, refuse to cooperate under such unfavorable conditions; and hidden behind the imposing facade of its glorious building policy lurks the specter of unemployment: and so, Vienna's workers are dying of starvation in their splendid new kitchens." Though this critique was written from a liberal standpoint, it does capture vividly the frightening aspects of the flawed methods of the Viennese reformist solution.

One may only wonder what other results would have been achieved, if the socialization of housing had been conducted not in the spirit of Proudhon's doctrines but in the spirit of the precepts contained in Engels's pamphlet *Zur Wohnungsfrage* [*The Housing Question*], which the Viennese municipal authorities evidently stubbornly chose to ignore? To start with, truly socialist municipalities (or a truly socialist state) would have approached the housing shortage by first establishing its statistical basis. Thus, for example, statistical data from 1917, which were used as the basis for the first version of the tenant protection law and which mandated the confiscation of large unoccupied apartments to house the homeless, show that the housing situation in Vienna was at that time as follows:

406,000 apartments with one room
52,000 apartments with one to two rooms
70,000 apartments with three to four rooms
27,000 apartments with four to twelve rooms

And furthermore:

85 percent of Vienna's population lives in 470,000 rooms
15 percent of Vienna's population lives in 500,000 rooms

Thus, in small apartments one room had to accommodate 3.5 to 4.2 persons, while the ratio in large luxury apartments was one person per two rooms.
Even the most elementary calculation shows that under such conditions no absolute housing shortage exists (not even in Vienna), meaning that any perceived housing shortage is merely relative; in effect, there are enough houses and apartments, which, if distributed equitably and without waste, would immediately put an end to any imagined housing shortage. Put differently: the eradication of the housing shortage is not so much a matter of building new housing as of the confiscation and equitable distribution of existing housing (such a confiscatory policy would naturally apply only to unoccupied apartments and apartments larger than three rooms).
Vienna's private development concentrated mainly on building improved versions of large rental apartment buildings. The construction of small single-family homes on the periphery and in the greenbelt surrounding the city required relatively higher investments. This is the main reason why only small numbers of these houses were built. Barely 10 percent of all new single-family housing consists of houses built in garden settlements. In the past, home sites in the garden settlements were about 400 m^2; now they are only 180 to 200 m^2. Houses in these garden settlements have an area of 40 to 69 m^2. The floor plans of public housing can be traced back to the old Viennese tenement houses of medieval vintage. Any deviations from these ancient tenement layouts are purely quantitative: improvements consist in a slight increase of open space as compared with past land coverage ratios (i.e., only 30 to 50 percent of the site is allowed to be built on). There is also an increase in the overall number of apartments and stories, the use of larger building sites, and a looser arrangement of open spaces inside the housing blocks. One of the more typical features of an old Viennese tenement house was the provision of an inner court. Typical new municipal blocks have larger, lighter, and more open inner courts with a lawn. In both cases the blocks surround a closed courtyard, even in cases of a uniformly developed entire city block.
In spite of all the above-mentioned improvements, these new public housing blocks still have the appearance of "human silos" and are really not that different from the old tenement barracks. Significantly, the Congress of the International Federation for the Building of Towns and Garden Cities (led by Howard, Unwin, and Purdom), which took place in Vienna in 1926, also registered its disagreement with Viennese methods in solving the housing problem. This is understandable, as they observed that these six- to eight-story buildings "may be solving everything, except the need for a decentralization of the city; nor have they advanced housing reform according to garden city concepts, propagated by the federation, which perceives as the ideal dwelling form the single-family home in a garden setting, and which, given the choice between a multistory rental house and the low-rise family house, has always stood for the moral superiority of the latter." Modern architects as well condemn Vienna's housing for its minimal apartment sizes and frugal comfort, citing them as examples of an unacceptably low level of dwelling culture. Instead, they dream about any modern house to be lavishly equipped with all the comfort, spatial luxury, and opulence of a millionaire's villa. They seem to forget that with all the housing blocks' technical, hygienic, and other mandatory improvements, even though they may be considered as modest by the villa's standards, the new public blocks are (albeit only quantitatively) still an unquestionable advance over the old tenement houses. Of course, compared with the apartments of the wealthy classes, they offer only an insignificant improvement in dwelling standard; but when compared with the old workers' barracks, cellar or garret apartments, and so on, the minimum apartments provided by Vienna's public housing are indeed a considerable leap forward.
In their overall architectural quality, these projects are, by and large, a less-than-average accomplishment. Here the office of the city architect, in cooperation with approximately 150 private

architects, has achieved few gratifying results: for the most part it is an uninspiring, soulless, and eclectic architectural performance. There are a few exceptions, such as the projects designed by Jos. Frank, Ant. Brenner, J. Hoffmann (a few), O. Strnad, and P. Behrens (the unrealized projects of workers' terrace housing by P. Behrens and A. Loos are architecturally the most valuable). In contrast, the Matzleinstalerhof by Gezner, the Reumannhof, and the new, gigantic Karl Marx-Hof complex with its absurd tunnel gateways and turrets, which looks more like a preposterous medieval fortress than a dwelling place for workers, belong to the lowest category of architectural phony image making with their exhibitionist, eclectic-formalistic design features.

The equipment and comfort provided by Vienna's public housing are actually quite primitive; it is even more basic than that supplied by new housing in the Soviet Union. For example, the Karl Marx-Hof complex has 1,400 small apartments without bathrooms and central heating: "A fine Marxist house indeed, especially since we know that Marx fought consistently for high technology, while here we heat with cast-iron stoves" (Kaganovich). Compared with this, Moscow housing, also built with the utmost frugality, is supplied with central and often municipally supplied district heating. Instead, Vienna's public housing wastes its resources on formalistic architectural facades, marble, and statuary: outside waste is balanced by inside parsimony.

Vienna's housing estates have evolved into the form of continuous multifamily houses, built around an open court, or a closed block built up around its periphery and surrounding a large open green space. The buildings are four to eight stories high, of a closed stairwell type, without elevators. There are few examples of the open gallery type (*Aussengangtyp*), even though this would offer many advantages for large buildings with a great number of apartments. Efforts have been made to cluster as many apartments around a stairwell as possible—usually three to four, though Brenner managed to crowd as many as eight very small apartments around a stairwell on a single floor by using extreme economies in the design of their plan. Floor areas per unit range from 35 to 70 m^2. Building regulations stipulate that every habitable space must have access to direct light and outside air ventilation. Air shafts are not allowed. A typical floor plan consists of the following: live-in kitchen, toilet, plus an additional room. Less frequently, a small extra room has been added. The smallest apartments with a floor area of 35 m^2 consist of hall, toilet, live-in kitchen (12 m^2), and an extra small room (10 m^2). A small apartment in one of Brenner's houses (38 m^2) includes a hall (1 m^2), kitchen (4 m^2), and two bedrooms, each with a balcony or a terrace; the toilet was supposed to include a shower, but for reasons of cost it had to be eliminated. The 41 m^2 type includes the following: hall, toilet, kitchen (4 m^2), bedroom (18 m^2), and a small extra room (10 m^2). In order to save space, it was found desirable to include built-in furniture: for small kitchens this would seem essential. However, frequently a **live-in kitchen without built-in furniture was provided as a minimal apartment type for the most indigent,** because it was feared that built-in cabinets would tend to become infested with vermin and also because most of these tenants decided to hang on to their own furniture in case they later moved.

Compared to the old rental barracks with their small courts, the new public housing offers more daylight, sun, and air, providing gardens and play areas for children in the courtyards, playgrounds, and so on. **The Vienna apartments are the most comprehensively developed and best example of a minimum dwelling type in the context of the conventional bourgeois rental house. Nevertheless, these minimum apartments are in fact no more and no less than petit bourgeois apartments, whose features have been reduced to an absolute minimum.** They are small, family-based household–type apartments (even though the family situation of the proletariat has nothing in common with the situation of the bourgeoisie), in which household routines have been pared down to their essentials but

not eliminated. And so these apartments, heralded as a socialist achievement, have little in common with a collective socialist lifestyle and its associated dwelling forms; they are really nothing more than a scaled-down "popular version" of conventional bourgeois housing. Occasionally a few common facilities are included: children's day care centers in the courtyards, where children are looked after when their parents are in the factory or the office; common laundries and drying facilities; public baths and gymnasia close by (there are no bathrooms in the apartments, and frequently no showers either); and so on. However, it is a long way from a common laundry to a socialist dwelling: collective dwelling will come into existence only as a new cultural dwelling form serving the proletarian way of life, a lifestyle that will set the woman free from the kitchen and liberate her from constant ministrations to her children. Common dining areas, children's homes, collective and cultural halls—these are the new nerve centers of a truly socialist dwelling complex.

To put it less delicately: Viennese public housing is the last hurrah of the old bourgeois rental house type (not to mention the fact that for reasons of economy, none of the new achievements of modern design—e.g., the gallery-type open corridor system, open block siting, and row house development—was utilized). Even if one makes allowances for the extreme economic and technical constraints on the development of Vienna's housing experiment, these buildings nevertheless still owe their allegiance to the old bourgeois order. They certainly do not represent a distinctive form of proletarian dwelling. In the end, Vienna's minimum apartments are nothing but puny replicas of petit bourgeois dwellings, occupied by the bosses first and by the proletariat only second, if at all. The designs of their floor plans are certainly not based on an understanding of the proletarian lifestyle. Indeed, they are nothing but reduced versions of the family-based system of the old tenement houses; they unquestionably do not constitute their antithesis.

united states

In North America the housing market remains unregulated, unrestricted, and free of government intervention. Construction is subjected to only a minimum of restrictions. The liberal principle holds that the sole prerogative of the state is to enforce building regulations by means of housing inspections, with everything else left to real estate speculation. No housing construction is financed by public moneys. Cooperative development in the construction sector is minimal: the project of the Amalgamated Clothing Workers in New York is one of the few significant examples of cooperative development for rental housing. Quite frequently, cooperative apartment house projects are actually built speculatively by private developers. The apartments are subsequently sold individually to renters on an installment plan.

The land of the skyscraper is at the same time the country of the classic low-rise single-family home, which—in turn—traces its origin to its old English ancestor (the bungalow type) but has generally become bastardized by the addition of various other historical styles. As a rule, the floor plans of these family homes are much more imaginative than those of small European-style villas. Unfortunately, their architectural quality is truly abysmal. Some American garden cities have adopted English irregular site layouts: an example is Radburn (New York), a colony of villas (1929) also known as the city of the Automobile Century—Town for the Motor Age [English in the original]. It is a soulless adaptation of the English garden city Sunnyside Gardens. Others worth mentioning are Homeland, Chestnut near Philadelphia, and Kingsport in Tennessee, a workers' town of 15,000 inhabitants, designed by the architect Mackenzie. Otherwise the planning of both small and large cities is based on a regular grid or checkerboard system. Most popular American housing in the cities is equipped with a bathroom or a shower. How-

ever, in rural areas and in workers' districts, bathrooms are rare. In considering the American version of the "subsistence minimum," we should keep in mind that during the years before the crash [of 1929], the living standard of a qualified American worker and of the upper level of the working class was considerably higher than that in Europe. There have been several attempts at factory prefabrication of houses, or of their structural components and parts (Grosvenor Ettebury in New York and Milton Dana Morill), but so far without significant practical results, mainly because of the lack of long-term credits for the construction of these houses. In America, construction loans must be paid off quickly, and for this reason it is also necessary to build quickly, but poorly.

ussr

We have decided to limit our report on housing in the USSR to a few lines, as we will deal with the subject of Soviet city building and collective housing in more detail in chapter 13, "Toward New Forms of Dwelling."
Soviet housing policy moved quickly to ensure the wholesale elimination of the housing shortage in the entire country. Instead of provisional laws for the protection of tenants, a decree was issued in 1918 ordering the nationalization of all housing properties, as well as mandating the confiscation and reapportionment of all dwelling space according to the guidelines contained in Engels's pamphlet on the housing question. Unfortunately, the expedient of confiscation alone could not solve the housing problem, simply because even after confiscation there remained an absolute shortage of dwelling space; as a result, the currently imposed housing quotas setting square meters per person or per family are still highly inadequate. **The housing shortage was thus eliminated as a factor of social injustice, but it still persists as a relatively significant problem of physical overcrowding.** So far, the target of a hygienic norm of 8 m^2 per person has not been met; currently, the average space allotment is 4.5 to 6 m^2 per person. Rents are determined not by this or that fixed rate but rather as a percentage of a worker's income, with account taken of the quality of the dwelling; they consume approximately 7 to 15 percent of a tenant's income. Soviet law guarantees every working citizen the right to housing. In the cities, the majority of newly built housing consists of multistory, multiunit buildings; and starting with 1928, collective houses and the *dom-komuna* have become more common. Comfort levels provided by the new housing are basic, but adequate: long-distance central district heating in the cities is being systematically introduced. Site planning favors the open block concept and the more recent row housing type.

●

By soliciting the reports of the individual country groups (Belgium, Denmark, France, Holland, Italy, Poland, Germany, Sweden, Switzerland, the United States, Hungary, and Czechoslovakia), the Third International Congress of Modern Architecture (Brussels, 1930) has succeeded in compiling a wealth of important material on the question of the dwelling for the subsistence minimum on a European scale.[15] Based on these reports, CIAM has issued the following statement:

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[15]) The overall account of the data supplied by these reports is contained in a contribution of the author in the book *Die Wohnungsfrage der Schichten des Existenzminimums,* published by CIRPAC: Rationelle Bebauungsweisen (Stuttgart: Verlag Julius Hoffmann, 1931).

1. The majority of city dwellers lack cheap and healthy homes.
2. In the majority of countries the current state (of housing) is considered inadequate (the exceptions are the United States and Hungary). Measures have been taken to combat this situation. A certain reduction in the cost of new housing, which was built with traditional construction processes and conventional floor plans, was achieved by means of state subsidies of construction in the housing sector. Because the opportunities offered by current technology for a planned systematization of housing have not been taken advantage of, the reductions in cost that were achieved are totally inadequate. In fact, the reductions achieved so far are so insignificant that they have had only a marginal effect on rents, and even the lowest rents charged for new apartments cannot be afforded by the working population.

Obstacles that stand in the way of rationalizing housing construction can be categorized as follows:

a. Inadequate land [real estate] legislation and overly fragmented ownership of land. Site planning does not pay attention to rational methods of site subdivision and the most cost-effective distribution of infrastructural elements serving the parcels.
b. Continuing height restrictions in various city zones, limiting buildings by number of floors rather than on the basis of population density (especially applicable to France, Holland, Switzerland, Spain, and Czechoslovakia).
c. Historical protection of monuments, so-called house beautiful initiatives, and the aesthetic preferences of building commissions who fight against any formal expression, inspired by new construction methods, that does not conform to their conservative notion of beauty inspired by historical styles (Holland, Switzerland, Czechoslovakia).
d. The concept of the house as a capital investment or as a loan guarantee. Inadequate availability of loans for houses with small apartments (Denmark, Holland).
f. Lack of interest by leading authorities in the experimental housing planned and realized in other countries (Italy, Switzerland, Spain, Hungary).

4. modern architecture and housing in czechoslovakia

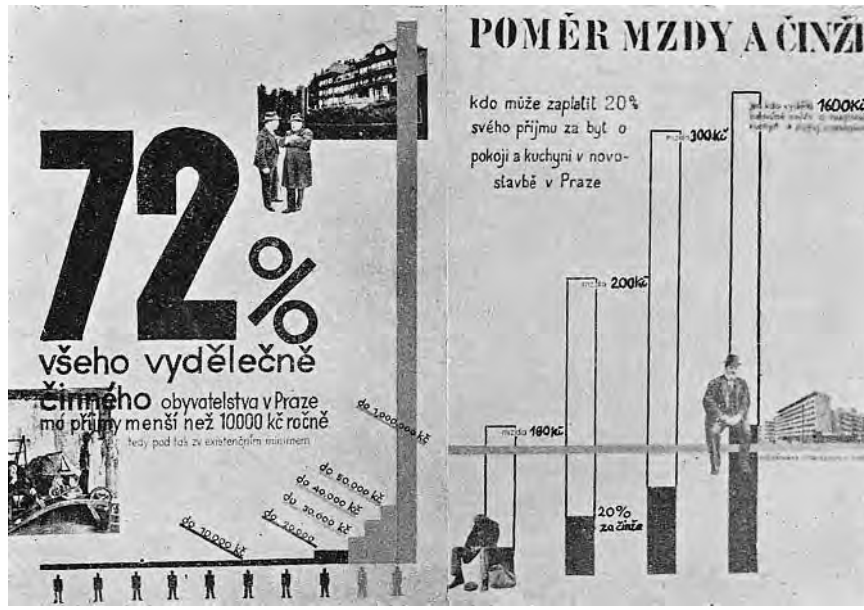
A review of all the postwar construction activity in Czechoslovakia leads up to the questions: to what extent is high-quality modern architecture represented in the new buildings overall, and who are the clients for whom these buildings were developed? The answers will be found in the most embarrassing shortfall of modern popular small apartments built in our country.

To a large extent, building activities during the last decade were dominated by academic, eclectic, and backward architectural styles. Even in cases in which modern architecture was able to assert itself to some degree—albeit only in isolated examples and in designs considerably compromised—we find mostly buildings of a commercial type, such as palatial office buildings or luxury villas; houses with small apartments are the rare exceptions. In past years, very little systematic work was done to achieve a broadly conceived, fundamental, and rational solution to the problem of the minimum dwelling in our country. Our modern architects as well have completely ignored research in this area, taking on commissions for small apartment projects only occasionally and without following a consistent approach. Aside from these objective impediments (economic, political, bureaucratic, and legal), a number of serious obstacles stood in the way of rationally addressing the question of popular housing. One is that among modern architects in our country, the idea of garden cities has held sway for too long a time; another is their adherence to the so-called cottage ideology, combined with a deep-rooted conviction that the ideal and only model for any kind of housing is the free-standing villa, representing one's own nest, surrounded by a garden. Villa settlements in countries of a higher living standard than ours have become the object of fascination of our own architects as well, who try to emulate these foreign examples.

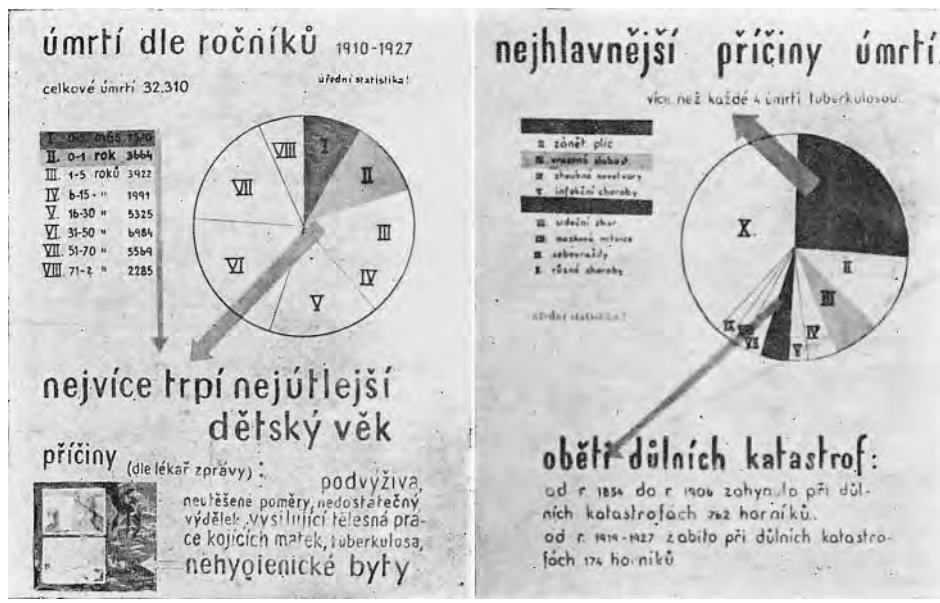
Our modern architects seemed to believe that this was the wave of the future—that everybody would aspire to live in the suburbs and that in the years to come, we too would achieve a higher standard of living and be able to build entire new villa settlements in our country. And, as is to be expected, our building laws also favor the building of single-family houses. However, the fact remains that apart from two rather modest model exhibition projects, a self-contained colony of modern family homes has yet to be realized in all of Czechoslovakia; we can boast of nothing anywhere in our country that even remotely resembles the Siedlungsbau

Diagrams of statistical material displayed by Levá Fronta during the exhibition **Proletářské bydlení** [**Proletarian Housing**], 1931.

1931



Prague



Moravská Ostrava

(Top left): 72% of all working wage earners in Prague have an annual income of less than 10,000 crowns (kč) [ca. $30], i.e., less than the so-called existential minimum.
(Top right): "The Relationship of Wage to Rent." Who can pay 20% of his or her income for a one-room apartment with a kitchen in a new building in Prague?
(Bottom left): "Mortality by Age Group, 1910–1927." The youngest suffer most. Reasons: Undernourishment, poor living conditions, insufficient earnings, debilitating physical labor of breast-feeding mothers, tuberculosis, and **unsanitary apartments.**
(Bottom right): "Main Causes of Mortality." No. 1: Every fourth death is caused by tuberculosis. No. 6: Victims of mining disasters. [Other causes listed are not clearly legible, even in the original illustration.]

in Frankfurt-am-Main. The only comprehensively planned project is the company-sponsored housing of the shoe manufacturing company Bat˘a in Zlín. Apart from a couple of luxury villa settlements in Prague (Vořechovka and Barrandov), Spořilov remains to date the largest project of a new garden-type housing estate: unfortunately, the quality of its architectural solution is dismal. These 2,500 houses (besides a school, no other public buildings and no market, etc., are included), were built in an entirely uncoordinated manner; they range in size from tiny birdcages of the "small, but mine" type to fancy luxury villas. This development is not only an architectural disaster but an economic one as well, and it certainly should help thoroughly discredit the naive and demagogic propaganda that is pushing the idea of garden settlements in Czechoslovakia.

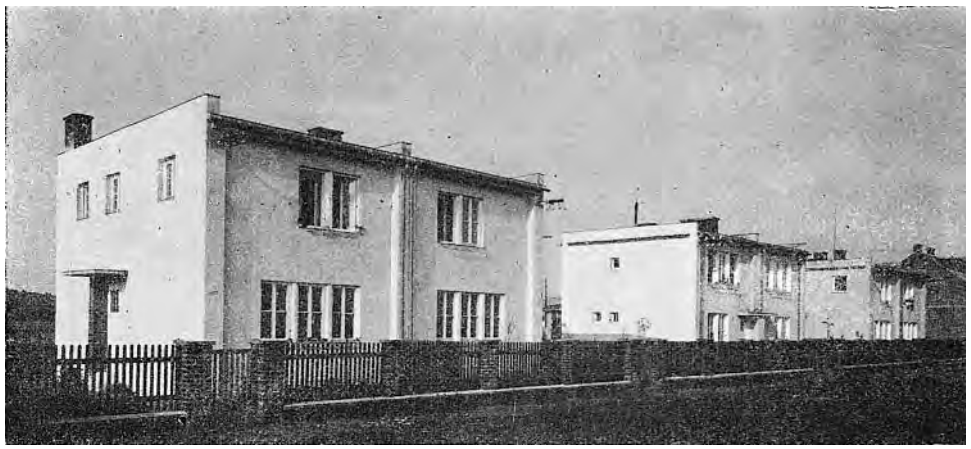
As far as examples of small rental apartment houses of uniformly planned blocks with central baths, laundries, and so on, similar to Vienna's public housing, are concerned, no examples of this type of development exist in Czechoslovakia either. A few modest examples of modern apartment blocks can be found in Prague (e.g., blocks of modest apartments in Žižkov and Hostivař, designed by Evžen Linhart), and a few solitary specimens in Brno, Bratislava, and Košice.

The minimum dwelling is a subject discussed by Czechoslovak architects only occasionally and then only perfunctorily: for example, during the time of the competition for a church in Prague (District 13), a great number of architects who considered themselves modern submitted their designs, virtually ignoring the problem of the popular dwelling in their practice. In fact, the subject was almost deliberately ignored. Hence, between 1920 and 1930 there are hardly any examples to report of small and medium-size apartment projects of high architectural quality, whether actually built or existing on paper only.

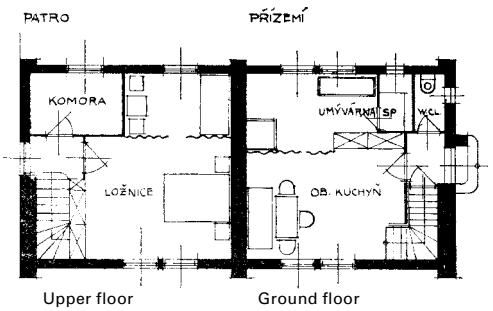
One such example is the Brno *Výstava Soudobé Kultury* [*Exhibition of Contemporary Culture*] in 1928, which exhibited a house with apartments of medium size by the architect Josef Havlíček. During the same period, Havlíček also worked out a proposal for a whole district of houses of this type, but only one house was actually constructed as part of the exhibition. At the present date, a few houses with small apartments can also be found in Kladno, designed by O. Starý. During the same year a small version of the famous Stuttgart housing exhibition was built in Brno in cooperation with a number of local architects. The project is located on a site below the Wilson woods, called Nový dům (the New House). It consists of a group of sixteen family houses, most containing small and medium-size apartments, of varying site layouts (row houses as well as freestanding houses), designed by nine modern architects. **B. Fuchs** and **J. Grunt** contributed in the category of small row houses. This small garden city colony is the only example of high-quality modern housing design built in Czechoslovakia to this day.

The first attempt to standardize a small family house was made in 1929 by **Jan Vaňek:** the housing company **SBS** built a few of these low-cost standardized duplexes in Brno. However, this initiative has not been copied, and modern architects continue to accept individually designed villas as the dominant housing type. The only other interesting example of standardized row houses is the design of **J. Hausenblas** (the colony Lenešice near Louny), of which unfortunately only a few houses were realized.

The Svaz Čs. Díla launched a few competitions aimed at addressing small dwelling types and thus first brought attention to a subject much neglected by our modern architecture. Unfortunately, in its program the Svaz also embraced the currently reigning cottage ideology, with its dream of a small family home: in all these examples, the problem of the **minimum dwelling** was posed in such a way as to preclude rational solutions of any kind. Even though the competition of the Svaz for the interior furnishing of its **minimum dwelling projects** featured



Jan Vaněk (1924):



Upper floor Ground floor

Serial duplexes, built by the SSB Housing Authority in Brno.

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the remarkable designs of **B. Kupka** (first prize) and **L. Honzík** (second prize), these designs were still intended for small apartments with relatively generous floor areas and without exception relied on plans of the traditional family housekeeping type. A 1930 competition, which focused on the "design of a house for a person starting life," envisioned not only row and detached houses but also a standardized "serial" house. Antonín Urban was awarded first prize for his outstanding and well-conceived design of such a standardized house.

The exhibition was launched in preparation for the experimental colony of the Svaz Čs. Díla in the Baba district of Prague. It stands as an ironic comment on a scenario so frequently encountered in the annals of modern architecture: a project intended to produce small popular dwellings ends up (five years later) as a settlement of large and expensive individual villas. The Baba colony thus must be considered as taking a step backward when compared to the Brno colony of 1928 below the Wilson woods. After Stuttgart, Wroclaw, Katlsruhe, Zurich, Basel, Brno, and Vienna, any attempt to build an experimental colony of modern villas must be judged behind the times. Even if we assume that in our environment the early small apartment competitions of the Svaz Čs. Díla actually did represent a positive though somewhat vague initiative, the colony Baba arrived too late with too little. It might have been relevant at the time of Weissenhof, but not today: it has long since been surpassed by subsequent examples of both our own and international architectural achievements. Moreover, owing to the rapid deterioration in the economic climate—the major cause of the worsening of both the material conditions and the general housing situation of the working class—this project must

be seen not only as elitist but as fundamentally antisocial and reactionary as well. At a time when the building of a healthy family house of good quality, fully equipped with modern conveniences, is no longer a problem for architects and builders, who prefer to serve clients with sufficient money to build private villas, it is inconceivable and unjustifiable by any kind of argument—even from a "purely architectural standpoint"—to build a model housing project of villas for a few wealthy individuals and call it an exemplary and socially relevant act, and an example of architectural progress to boot: the whole thing is nothing other than a sop to bourgeois money and taste.

The problem of the minimum dwelling was recognized by modern architects in Czechoslovakia and formulated more explicitly only after the 1928 CIAM [International Congresses of Modern Architecture] Congress in Frankfurt. Czech modern architects did not take part in the work of this congress, and were conspicuous by their absence from the congress exhibition (300 floor plans of high-quality small dwellings). Nor did they contribute to the congress proceedings, *Die Wohnung für das Existenzminimum* [*The Dwelling for the Existential Minimum*]. However, soon after the Frankfurt Congress, a Czechoslovak CIAM country delegation was formed that, together with the architectural section of *Levá Fronta* [Left Front], started to prepare immediately for the following 1930 CIAM Congress in Brussels. Both groups focused their attention on the hitherto neglected problem of the **minimum dwelling,** including the study of collateral questions of the sociological aspects of contemporary architecture. Owing to the intensive work of our CIRPAC groups, it was possible in a short period of time not only to catch up but to a remarkable degree even to outpace other European contributions in this formerly neglected area of expertise. As a result of these preparations, the Czechoslovak group came to play a prominent role in the proceedings of the congress; it effectively became the voice for the most progressive ideas of the extreme left wing of CIRPAC, promoting as well the most progressive ideas essential for the evolution of a modern ideology of architecture.

The Prague competitions of 1930 for the construction of houses with small apartments (the competitions of the City of Prague and the Ústřední Sociální Pojišťóvna [Central Social Insurance]) bear witness to this fundamental change: a number of outstanding projects among the entries must be rated as vastly superior to the average conventional small apartment designs published in the international collection of the Frankfurt CIAM proceedings, *Die Wohnung für das Existenzminimum.* Both competitions were primarily concerned with working out various solutions for the open gallery apartment type with small dwelling units (or apartments with a side corridor) and site plans for single-row housing. Of the most significant projects, the following deserve special mention: Ossendorf-Podzemný-Tenzer, Adolf Benš, Antonín Urban, Evžen Linhart and R. Rosůlek, L. Žák, F. A. Libra, and Antonín Černý. The projects of these architects (in conformity with the conditions of the competition) still treat the small apartment as a family household type, that is, an apartment with a small kitchen. At the most, common laundries are provided for individual buildings or a whole district.

But alongside these more or less conventional entries, we also find in both competitions designs for **collective dwellings:** these projects were designed by the core members of the Czechoslovak CIRPAC group, who tried by such means to demonstrate their fundamental position vis-à-vis the question of the **minimum dwelling.** It is a position that emphasized the need for a **new form and new organization of housing** with a new social content, and the need to find solutions that conform to the lifestyle and the ideology of a class that cannot and does not wish to live the life of a bourgeois family and occupy itself with the chores of bourgeois housekeeping. It was these ideas that formed the basis of the proposed hotel-style dwellings of the Koldom type by Havlíček and Honzík, the proposal of a collective housing

housing estate (housing, clubs, children's homes) by Gillar and Špalek (who submitted their projects to the Prague municipality), and a proposal for a collectivized housing district for the Central Social Insurance agency (the L-Project) on the Pankrác Plain in Prague, designed by the collective of the Czechoslovak CIRPAC group.

These competitions were supplemented by another important competition, launched by the Association of Workers' Cooperatives VČELA [Bee], for the construction of cheap apartments with collective service facilities, children's crèches, and a club. Its rules emphasized the political and social significance of new forms of dwelling for a progressive proletariat. The competition program defined the architect's task as follows: come to terms with the concept of collective dwelling not only by presenting an ideal proposal—that is, drawings of future, utopian forms of housing in mature conditions of socialism—but by offering concrete solutions within existing conditions, with the goal of creating a proletarian housing type as a new way of life in a capitalist environment. The VČELA competition elicited a number of remarkable proposals: first place must be reserved for the most coherent project, designed by Jan Gillar. Other excellent projects include those by Havlíček and Honzík, Rossmann and Zralý, P. Bücking and Aug. Müllerová, Ossendorf-Podzemný-Tenzer, Jiří Kroha, J. K. Říha, and others.

Unfortunately, all of these competitions ended up as disappointments. Even though a great number of high-quality projects were entered, the jury failed to choose the most outstanding designs, settling instead on proposals that were significantly below the average level of the more innovative schemes. The incompetence of the jury is best demonstrated by their inability to rise to the challenge of comprehending the true nature of what is required to approach the problem of the minimum dwelling, aside from their unwillingness to come to terms with the novel concept of collective housing. Practically speaking, the detrimental effect of these competitions is even more depressing: even though much time has passed, almost nothing that was then proposed has been realized; and if any building at all is to take place in the future, no doubt it will consist of conventional apartment houses with small, inferior layouts.

Of the recently built small apartments, the following deserve special mention: row housing in Brno, designed by J. Kumpošta; city apartment houses by J. Polášek;[1] clerk's housing in Košice by the same architect; and the large cooperative housing complex Unitas in Bratislava, designed by B. Weinwurm. The Unitas complex was at first planned as collective housing, but this idea was abandoned and small apartments with kitchens were built instead.

As far as projects of housing with small apartments are concerned, the conceptual project of Jan Gillar for the Ruzyň district in Prague also deserves mention: it consists of single rows of houses, and includes central kitchens, dining halls, clubs, children's day care centers, and schools; the dwelling units are not conceived as a traditional household type but consist of two-room units (for married couples) with a hall and a toilet. Here, the architect reduced the kitchens to a single piece of furniture (closets, shelf, hot plate, and sink), or included them as part of a single bachelor's room. Gillar's solution must be considered the most advanced and most progressive design in its cultural implications, even though it does not yet implement full collectivization—that is, the principle of a dwelling without a kitchen, so that each adult is allocated his or her independent dwelling space only.

Special types of relatively well developed collective dwellings are sanatoria, as for example the sanatorium in Trenčanské Teplice by Krejcar, and student dormitories, boardinghouses, and hostels, such as the student dormitories by B. Fuchs, two women's hostels (Vesna and Eliška Macková) designed by B. Fuchs and J. Polášek in Brno, the hostels of the French School

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[1]) A row house–type development in Brno-Králové Pole and the open block development in Brno-Zábrdovice.

in Prague designed by J. Gillar, and the proposal for student dormitories in Prague-Letná by the same architect.

Individual architects who have shown interest in the question of the collective dwelling and who have conducted systematic research on this subject are **Prof. Jiří Kroha,** a member of the architectural faculty of the Brno Technical University, and **Prof. Pavel Janák** and his students at the School of Industrial Arts (Umělecko-průmyslová škola) in Prague, who have investigated the problems of low-cost housing and worked on improvements in the design of small apartments in old houses.

As far as hotel-type housing (hotels for permanent living and pensions) is concerned, important projects include the guest house Arosa in Prague-Smíchov, designed by Karel Hannauer, and and the project of Havlíček and Honzík for the guest house Konvikt in Prague.[2]

As stated above, the problem of the **minimum dwelling** has been ignored for much too long by contemporary Czech architecture, a situation that suddenly reversed and substantially improved only after 1930. We further stated that credit for this reversal belongs largely to the Czechoslovak CIAM country delegation and the architectural section of Levá Fronta, both of which were founded at that time. A number of conceptual projects were developed by members of these two groups, as mentioned above. Finally, it is important to keep in mind that members of the architectural avant-garde associated with these groups did not limit their activities merely to the design of small apartment solutions; they have based their work on the principles of dialectical materialism and Marxist sociology, and it is clearly their scientific sociological analysis of the housing problem that enabled members of our avant-garde not only to best the achievements of west European modern architects but to occupy the position of the most progressive left-wing faction within the international forum of the CIAM and CIRPAC.

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[2]) For technical reasons, it was not possible to reproduce pictures of these projects for small apartments and collective housing designed by the Czechoslovak avant-garde and the CIRPAC group; it was decided that the least that we can do is to mention their names and give detailed descriptions of their designs.

Even the need for fresh air ceases to be a need for the worker. Man reverts once more to living in a cave, but the cave is now polluted by the intangible and pestilential breath of civilization. Moreover, the worker has no more than a precarious right to live in it, for housing has become an uncertain privilege, which can be daily withdrawn and from which, should he fail to pay, he can be evicted at any time. He actually has to pay for this mortuary. A dwelling in the light (*Lichtwohnung*), which Prometheus describes in Aeschylus as one of the great gifts through which he transformed savages into men, ceases to exist for the worker. Light, air, etc.—the simplest animal cleanliness—ceases to exist for man. Dirt—this pollution and putrefaction of man, the detritus (this word is to be understood in its literal sense) of civilization—becomes his life's element. . . . There are too many people. Even the existence of man is a pure luxury, and if the worker tries to be "moral" he will be economical even in his procreation. . . . The basement apartments earn the landlords more than the rental of a palace and, in comparison, represent even greater wealth. . . . As we said, man returns to his cave dwelling, but his return is in the nature of **alienation** and hostility. The savage in his cave, in his natural surroundings, **does not feel alienated,** but rather **at home,** like a fish in water, in his element. By contrast, a basement apartment is a hostile environment and feels like an **alien weight,** dragging down the poor, serving only if fed by blood and sweat, a place the worker is not allowed to consider as his own home, a place where he could finally proclaim: **this is my home.** Instead, he finds himself in the house of someone else, in a **stranger's** house, and this owner-stranger is on daily alert, ready to evict him if he does not pay his rent. And so, he soon recognizes that the quality of his apartment is the exact opposite of a human dwelling in a world, which is supposed to represent the horn of plenty.

K. Marx: *Economical and Philosophical Manuscripts* (1844)

1844

1932–?

the face of the contemporary city

5.

growth of cities ● influx of populations from rural areas ● the problem of the center and slum clearance ● skyscrapers and american city development ● population density and traffic ● city hygiene ● supplying the city ● english garden cities ● modern urbanism: tony garnier and le corbusier ● the crisis of cities and city economies ● the solution of the conflict between city and country



Photo: Moi Ver, **Stone Desert.**

I live here, surrounded by stone walls, on a vast plain with artificially piled-up stones. Stones, stones, stones. You will find no wild animals here and yet, they live here and get fed.
—The Eskimo Amarulunguaq at the sight of New York (from Rasmussen's *Thulefahrt* [1926])

The second half of the nineteenth century has confronted us with a new reality: the large metropolis. According to Sombard, the epoch of imperialism has ushered humanity into the asphalt period of culture. The metropolis is a combined economic, social, political, and technical as well as cultural phenomenon of our new age—the natural result of machine civilization and capitalist expansion, which has swept away all the characteristic experiences of the precapitalist condition along with its fragmented means of production and property relations and which has dispersed and uprooted entire populations. Populations in large cities have increased by the hundreds of thousands and millions—cities now interconnected by an ever more compact transportation network, served by railways, buses, and airplanes; all means of production have become centralized and property is concentrated in a few hands. The village has submitted totally to the hegemony of the city, and the global metropolises have come to rule over their overseas colonies just as they rule over their surrounding rural areas.

"The bourgeoisie has created huge cities and, compared to the country, has increased the number of city inhabitants enormously, thus rescuing a large number of the rural population from the idiocy of village life" (*The Communist Manifesto,* [written] 1847!!). The capitalist metropolis represents a new type of city, with its own characteristic socioeconomic conditions and experiences. It is the creation of concentrated capital and modern big business of global reach; it brings in its wake the intensification and acceleration of the tempo of modern life, accompanied by the fading of local idiosyncrasies: in a sense, all these large cities, with their huge stock exchanges regulating global trade, look very much alike. They are cosmopolises. Large cities are the workshops of modern culture and civilization: all our modern muses are the children of the metropolis. Large cities are a whole new modern world, which the bourgeoisie has created in its own image.

City plans—mapping the tissues of the city's built-up fabric and street patterns, recording the tempestuous growth of the periphery beyond the line of former fortifications, and highlighting the diverse character of its individual districts—reveal one and all the sociological structure and the nature of the cities of our era much better than do the dead features of architectural monuments, which are of interest mainly to tourists and art historians. We are dealing here not with the outcome of this or that individual artistic will, but with the direct consequences of social and economic imperatives: for those who are capable of reading this score, the plan of a city represents a most interesting and extremely significant social and cultural-historical mirror of its physiognomy.

The modern metropolis in Europe developed predominantly on the basis of urban patterns established during the Middle Ages and continued to evolve with a modified ground plan throughout the following centuries—mainly during the baroque period and the epoch of

mercantile capitalism of the seventeenth century (as the seat of the merchant bourgeoisie). Later, during the nineteenth century, despite a somewhat modified plan, it nevertheless embodied merely an enlarged version of a medieval town.

The changes experienced by the city during the last century were not only quantitative but also structural, brought about by the phenomenal growth of city populations. The modern metropolis is largely shaped by today's economic conditions, while it plays a very important and active role in the life of the commercial activities of our time. Subject to the above-mentioned factors, the large modern metropolis represents a new type of city, especially in countries that have experienced extensive economic and industrial development during the last few decades.

The medieval city, a city of trade and handicrafts, developed around the market square and was surrounded by defensive walls: a trading city, designed for defensive purposes.[1] Strategically, the plan of a medieval city is that of a fortress; moats and bastions surround the city in a broad and ornately composed girdle of fortifications. Inside, it was easy to get lost in the maze of narrow and dark streets. Even today, after many cities have torn down their fortification walls, we still live in virtual medieval fortresses: crooked streets becoming ever narrower toward the center, a design originally intended for defensive purposes; small, narrow houses hunched up against each other; and small, irregular lots wedged into each other, with tiny courtyards, and built up to the very edges of the property lines between them. Roughly speaking, the history of the development of medieval cities is the history of the emancipation of the handicraft workers. Once they were no longer appendages dependent on the agricultural base, not only were the burgher-craftsmen emancipated from their feudal bondage but eventually the various crafts specialized, constituting themselves into independent branches until they gradually were transformed into manufacturing enterprises, and ultimately into large-scale modern industry.[2]

Many medieval cities retained certain semiagricultural aspects. Brussels is a good example: houses at the edge of fields, gardens, courtyards, vineyards, and open arable land inside the city walls. Around the fifteenth century some of these open spaces were built over, creating small blocks, which in turn required a great number of small, dead-end access streets—particularly in the vicinity of market squares.

The separation of the city from the village is thus the result of work specialization, that is, the separation of crafts and industry from agriculture as well as the separation of the processing of raw material from where it is mined. The center of the city is the market square, the place for the exchange of goods; it becomes the **nexus of traffic** as well. However, the city is not merely the product of this or that geographical influence (good situation, fertile soil or mineral wealth, favorable climate, etc.); above all, it results from prevailing social and economic processes. Thus, it may be more correct to define cities according to their **economic-geographical** determinants, which therefore include various topographical and climatic factors as part of their economic base as well. The city is the nexus and the destination of all paths; it springs up near rivers and river junctions. In contrast, a village develops along a single route of transportation, not as a destination. Villages on more than one path or with two

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[1]) City fortifications were torn down in the nineteenth century: the strategy of defense against an external enemy had temporarily lost its importance in city development. It is only today that we again encounter such new militaristic thoughts in urbanism; in his Ville Radieuse, Le Corbusier includes weapons on his buildings to defend the city against chemical air warfare: the city becomes a fortress again.

[2]) European absolutism was able to become strong only thanks to the struggle of powerful cities against the privileged rural estates. The advance of capitalist democracy is thus intimately linked with the expansion of the modern metropolis.

major roads passing through, or villages that included a crossing or a bifurcation within their structure, frequently could be identified as places whose internal economic structure had changed, where the crafts had become separated from agriculture: it is not yet a city, but neither is it a village any more. It is the beginning or a kind of trial run of a city, marking the dissolution of the village and its reemergence as a market town.

The growth of the capitalist city proceeded from a feudal center, as it changed from market town to industrial city. The principal force driving the evolution of cities is the market. During the early Gothic period, new settlements established themselves freely outside and below the fortified walls. In the classical and late Gothic periods and up to the early Renaissance, cities grew in a more or less rigorously planned manner: a typical example is provided by Prague and the foundation of the New Town by Charles IV. As it develops, the capitalist city tends to appropriate the underlying structure of the medieval city plan while transforming it. However, the rapid and unplanned growth of industry also leads to the unplanned and uncontrolled growth of the capitalist city. The feudal city is generally characterized by its radial plan (e.g., Karlsruhe, whose concentric, symmetrical plan is a symbol of centralized power), which survived until the nineteenth century. In contrast, new American cities are generally characterized by a checkerboard-like grid system. The capitalist city mirrors in its plan the evolution of its economic base. Its progressive features proclaim the victory of capitalism over feudalism, while its negative features reveal anarchy, crisis, and ultimately decay. Its apogee is reached in the era of its greatest monopolistic expansion.

During the Middle Ages, the ratio between rural and city populations was 9 to 1. At the time of the Napoleonic Wars, Germany had 25 million inhabitants, of whom 18 million lived in rural areas. Prewar [i.e., pre–World War I] Germany already numbered 68 million inhabitants, of whom 18 million still lived in the country. In North America we get the following figures:

1820 88% of working population in agriculture
1850 80% of working population in agriculture
1870 47% of working population in agriculture
1900 35% of working population in agriculture
1920 not quite 25% of working population in agriculture

During the Middle Ages, approximately half the population was occupied with producing life's bare necessities. For this reason, in times of dearth cities were able to meet much of their own needs by producing their own food and other basic staples; during times of war, cities could hold out for a long time during sieges. There were sufficient green spaces, gardens, and sometimes even vineyards and fields inside the city walls; outside their gates, agricultural estates were close by. During the Middle Ages, mortality was on the whole higher in cities than in the country, because the concentration of inhabitants led to catastrophic epidemics (cholera and plagues) that decimated their population. As a result, despite their high birthrate, medieval towns frequently had negative or stagnant population growth. Already during the Middle Ages, stable population levels in the cities were achieved mainly by in-migration. Handicrafts produced in the cities were subject to the vagaries of the market, with considerable swings in prosperity that entailed considerable impoverishment. For example, in Hamburg during the years 1451 to 1530, 16 to 24 percent of the entire population was supported by charity: such statistics closely resemble those of today's unemployment. The Thirty Years' War destroyed the growing prosperity of central European cities, which took until the nineteenth century to recover from this catastrophe. By the end of the eighteenth century, only a few cities had more inhabitants than before that war began. Clearly, external influences alone (i.e., the aftermath of the Thirty Years' War) did not cause the collapse of the medieval city; it was primarily the result of a crisis of the city's internal structure.

The paradigm of the medieval town was, roughly speaking, a fortified market. Among the various types of old cities, one has to assign a special place to those that stayed in the feudal domain until the nineteenth century and therefore did not become cities in the true sense of the word, but remained fortresses or fortified towns. Feudal cities, founded during the Baroque period, are distinguished by their grandiose plans and their monumentality. A special case is Petrograd (St. Petersburg), founded in 1703 by Peter the Great. At first he developed it as a temporary wooden city on the Dutch model; only later was it rebuilt entirely in granite on the order of the czar, under the supervision of the architect Leblond, who provided the city with its majestic imperial character. Ordinary medieval cities, cities of trade, crafts, and manufacture, and the later cities of merchant capitalism (our own Kutná Hora, or the Hanseatic towns in Germany, Augsburg, etc.) have fallen into decay as a result of changes in important trade routes, the exhaustion of mineral resources, and other causes. The modern capitalist city, whether industrial, commercial, or administrative, has superseded these urban models on a higher level.

The medieval city of free trade was not only a city of privilege, providing political support to absolutist interests against the feudal lords, but also the basic source of the power and economic might of the burghers. It developed as the seat of government, but as a merchant capital it functioned above all as a market center, a center for the exchange of goods. Administration and government were never the main function of the medieval city: during the feudal era, administrative affairs were often conducted outside the cities, in castles and manors, while the cities developed mainly as market centers and took on the settlement type characteristic of the mercantile period. At the transition between the Middle Ages and the modern period, the distinction between city and country had not yet crystallized into its present form: at that time cities frequently still maintained their semiagricultural character and did not as yet exploit the villages (as they began to do during the era of industrialization). Hence, the class relationship between city and village was then still rather ambivalent, since the city was still acting as the champion of progress and culture in the struggle against feudalism.

Starting in the seventeenth century, cities begin to reveal their negative side; at the onset of the nineteenth century, the differentiation between city and country became more pronounced, mainly because of the exploitative hegemony of the city, urban industry, and the supremacy exercised by financial capital over the village. The opposition between the two principal classes of urban society also became more pronounced. It was at that time, during the early phases of industrial development and the beginning of today's industrialism, that a number of utopians accurately identified the roots of the antagonism between the city and the country, that is, the antagonism between two antithetical forms of settlement; these, in turn, have influenced social development during that particular stage of city development, best characterized as the separation of industry from agriculture.

At the beginning of the nineteenth century, Charles Fourier proposed a new type of settlement that was to be completely different from the cities and villages of the past; his phalanstery was an attempt to overcome the rift between city and country by amalgamating industrial production with agriculture. Owen's and later Dézamy's communal projects did the same.

As mentioned above, many cities demolished their fortifications during the nineteenth century and turned themselves into financial centers of global commerce. The modern capitalist city has unconditionally severed the nexus between industry and agriculture and has pushed the contradictions between city and country to their most extreme limit, while at the same time setting the stage for identifying the preconditions of these contradictions.

Green areas in city

Sanitary norm:
30 m² of green area per inhabitant

City	m² per inhabitant
Prague	3
Vienna	12
Dresden	27
Magdeburg	37
Frankfurt	122

"The separation of the city from the village was the first major division of labor that has condemned peasant settlements to a thousand years of torpor. . . . [I]t not only ruined the foundations of the spiritual development of the villager but arrested the physical development of the city dweller as well. By the division of labor, man itself became divided. The blossoming of any one of man's talents has been sacrificed at the expense of all his other talents, physical or spiritual" (Engels). "The contradictions between the city and the country are a crude expression of the subjugation of man to the division of labor, which transforms a previously whole person into a limited city animal and another person into a stunted village animal" (Marx). The separation of the city from the village (and the explosive growth of capitalist cities) has severed the human animal from his natural bonds with nature, the soil, plants, and animals, and has effectively led to the creation of a new biological species—if one may be permitted to use this expression—a species that differs as much from original man as original man differed from an ape. The century-long development of cities has upset the natural equilibrium between the life processes of the inhabitants of our cities and the forces of nature, its life processes, and the habits of living creatures inhabiting our planet: past contact of man with the forces of nature—the sun, water, vegetation, and animals—is lost. The village is part of nature, an integral part of its infinite horizon; the metropolis exists as a self-contained entity, severed from nature as if the vault of the sky did not exist: The bright luminescence of electrical lights and glaring advertising obliterate both time and space; above the roofs it is night, but below them the play of both white and colored lights deny infinity. The city dissolves the diurnal cycles of day and night, the seasons and nature. The rhythm of the solar day, equinox and the solstice, has lost its significance in the daily routines and the life of people in large cities. Their relationship to nature has been severed and their biological relation to geophysical events has been deformed. However, despite this complete violation of the oneness and wholeness of the unity of biological life (food, dwelling, and recreation) by the city, this very same socioeconomic development has at the same time created the preconditions for regaining biological unity—albeit on a higher level—by identifying and eventually surmounting the contradictions between city and country and by creating a more perfect symbiosis joining people, plants, elements, animals, and machines: the instrument for attaining this new reconciliation between city and country is socialist de-urbanization.

The city is the dominant form of settlement in today's economic system. It is an expression of that economic system, in which expansion of productivity and heavy industry enhances cities and, at the same time, links their specific importance to the growth of the number of unem-

Share of large cities as percentage of total population

Of the total population of a country, the following percentages live in large cities:

%	Country	
70	Great Britain	
65	Germany	
50	USA	
46	France	
18.5	1918	
15	1922	
18.5	1927	
20.5	1932	USSR (Moscow registers the largest rate of growth among all other large cities of the world)

Average rate of growth of population during the last five years

% Annually	Country
2.5	USA
1.05	Germany
1.04	England
6	USSR (the 5-year plan projects a 30% overall growth of urban population)

Tuberculosis and green space in cities

City	Green Areas (%)	Annual Death Rates (%)
London	14	1.9
Berlin	10	2.2
Paris	4.5	5.1

The smaller the green areas in a city, the more tuberculosis.

ployed at the expense of rural populations; the growth and development of industrial centers drains the countryside of its population. Of necessity, this has had a profound effect on the overall structure of the village. For generations, the rural agricultural family has cultivated its plot of land: the new generation leaves for the city, where work in industry promises a better living standard and access to cultural activities (consider too that the farmworker is paid the most miserable wage and that the backwardness and the dispersed nature of rural settlements makes it difficult for the rural poor to organize; in contrast, by the very nature of its concentration, the city facilitates the organized struggle of the working class). Small farmers are dying out or are being ruined, and small land ownership is effectively disappearing. Migration to cities, driven by the engine of the production system, occurs in an entirely haphazard manner. The deciding factor is not ability, education, or one's free choice of a vocation but the imperatives and requirements of industrial and corporate labor. Proof of this contention is provided by C. C. Zimmermann and Lynn Schmidt in their article "Migration to Town and Cities," published in the *American Journal of Sociology*.

Cities experienced rapid growth from the middle of the nineteenth century onward. Their importance in the national economy increased. The metropolis becomes the focus of economic and cultural life; seeking work in industry, people leave the country, where agriculture is incapable of providing employment for all inhabitants, and flock into the cities. The mass influx into cities is further exacerbated by the fact that birthrates in the country are considerably higher than in the city (because of the absence of cultural constraints, as well as the lack of knowledge concerning contraceptive practices). The whole process is completed by the industrialization of agriculture, which induces ever larger numbers of the rural population to migrate into cities and enter the urban labor market. Thus the overcrowding of cities increases even more.[3] The surplus of work applicants, made worse by the continuing mechanization of production and the mass exodus of rural populations, produces a state of continuous overpopulation in the cities, besides causing a decline in wages and salaries and an accelerated rise in unemployment: in short, it lowers the living standard of an ever increasing number of the population, concentrated in the cities.

The end result is the wholesale proletarianization and pauperization of ever wider segments of the population: the urban housing shortage and its ensuing health defects must, therefore, be considered an inevitable consequence of the debasement of the material standard of broad segments of the population. The modern metropolis, a center of culture, civilization, and wealth, is also a place where "everything turns even more ominously into its opposite, and the same forces that produce wealth turn into sources of misery" (Marx)—that is, a place that harbors the most unbelievable conditions of social, hygienic, and general human deprivation, including the twin scourges of poverty and housing distress. "In contrast to the village or the small town, the cultural sophistication of the metropolis is greater only because the number of people who truly benefit from it has become smaller. The increase of the living standard of a small portion of the overall population has effectively resulted in the curtailment of the living standard of the majority" (R. Unwin). The prodigious prosperity of the city center is set against the monstrous decline of social and hygienic conditions in the proletarian districts,

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[3]) See *Capital,* vol. 3, chap. 2: "It is in the nature of the capitalist system of production to continuously reduce the agricultural population with respect to its nonagricultural counterpart, for in industry (in the narrow sense of the word) the growth of constant capital in relation to variable capital is linked to absolute growth, or, if you wish, to the relative reduction of variable capital; while in agriculture, the variable capital required for the exploitation of a certain piece of land decreases, and can increase only with the increase of the agricultural territory, which in turn presupposes an even greater growth of the nonagricultural population."

demonstrated most graphically by the twin phenomenon of the accumulation of wealth on the one hand and of misery on the other. Both result in the all-around exploitation of the working class: it is not only in the factory that the workers' energy is sapped to exhaustion and his health is destroyed (not just in dingy, smoke-filled workshops, but even in seemingly hygienic, well-lit modern factories, which undermine the worker's health by the merciless tempo of speeded-up assembly lines that disregard fatigue and exhaustion, and where machines are not adjusted for appropriate work, conditions necessary for physical well-being and the reduction of stress); but the same is done in the worker's dwelling as well, in the rental barracks to which industry consigns its robots, which destroy the physical strength and the health of its inhabitants even more violently.

The changes that took place in the social structure of cities during the nineteenth century can be readily identified by reading their plans. The nineteenth-century street block violates the medieval uniformity of the facades, as the house is transformed into an independent element that expresses the individual taste of its builders or owners. The stone adornments of the facade are trimmed according to the wishes of each individual owner: the bizarre potpourri of the facades announces to everyone that the tastes of the rich have been indulged to the fullest. Influenced by early capitalist land speculation, site plans were introduced that included superfluous streets not because they were necessary for traffic, but simply because such a sacrifice of land proved to be good for profit: both the parcels and the streets increased in value. Nineteenth-century site plans—especially those of the era of the *Gründerjahre* [founding and pioneering years]—paid no attention to the effects of such layouts on the quality of the apartments, the overall plan of the city, the higher cost of water and sewage lines, and so on.

Ownership rights clearly took precedence over the requirements of health and hygiene. Current building codes are an embarrassing compromise between the interests of the so-called public (i.e., the interests of property owners as a class) and the interests of private ownership, trying to exploit for profit different categories of land rent, such as location and width of avenues, height of buildings, floor area coverage, and access to light and air and to green areas and parks in the city—as well as exploiting the locational advantages of sites located near the greenbelts surrounding the city. The greatest decline in the art of city building set in at the end of the nineteenth and the beginning of the twentieth century: it was during those decades that we witness the building of the most inhuman and brutal type of rental barracks, with their dreary rear alleys, and developments that are placed on the building site without the slightest concern for proper orientation toward the sun and open space.

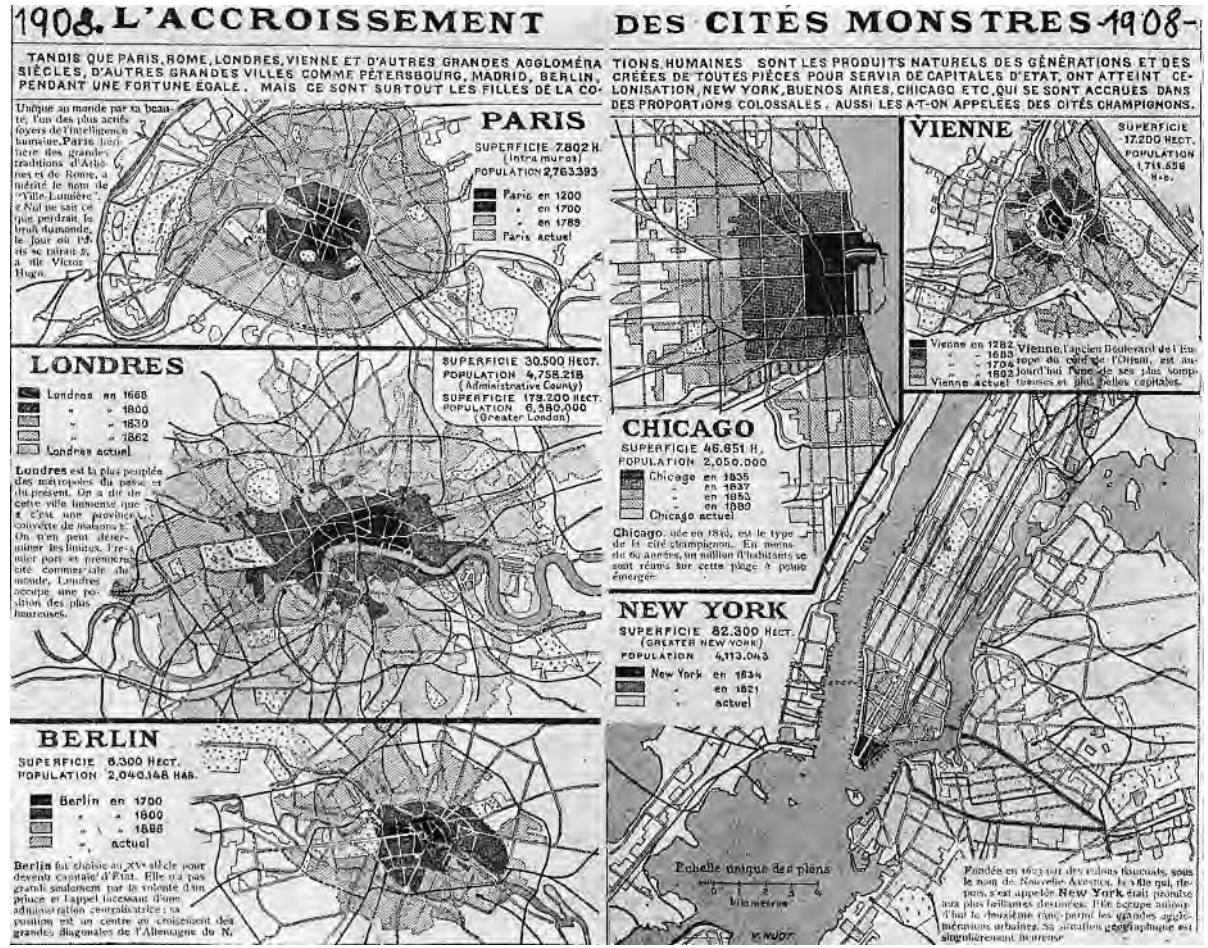
The contemporary city is concentric and centripetal. It is a concentration camp. The center of historical cities were fixed since medieval and frequently even Roman times; access roads to markets became their main traffic thoroughfares. All attempts to solve the problems of congested centers external to the old center, attempts at decentralizing as well as transplanting the heart of the city to other, more open locations, have proven futile. In reality, the center is determined by the singular circumstance of its location, and the transformation of the medieval square into a business center of modern capitalism can be accomplished only by demolishing and rebuilding old city centers. For these reasons, the transformation of the medieval city into the metropolis of modern capitalism had to start at the old center of the city: it is from the center that the shifts of social patterns have radiated outward during this century (see Leo, *Grosshaus und Citybuilding* [*Mega-house and City Building,* ca. 1928]).

The center of the city did not adapt. The old city was too old. Useless. It was a city built for pedestrians, horse-drawn transport, and pushcarts. It found itself at odds with the era of railroads, subways, streetcars, automobiles, and aviation. From the Middle Ages until the dawn of the machine age, the world did not move with great speed. During the last one hundred

Growth of world cities during the 19th and 20th centuries

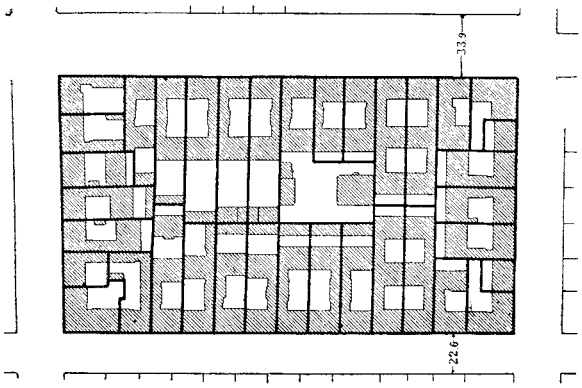
The plans reproduced here show the conditions of the year 1908. During the last quarter century, the growth of large cities has continued unabated: cities attracted a flood of immigrants and started to annex surrounding municipalities, often increasing their population up to 100 percent.

Good examples of rapid and turbulent growth are New York, Buenos Aires, and, most of all, Chicago, which was founded as late as 1830 and in less than 60 years has grown to a population of one million. Because the central part of Chicago occupies a relatively confined area, the first skyscrapers also made their appearance there.
In contrast to the concentric character of American cities or Paris, other large cities, such as London and especially Berlin, have a less compact form and seem to grow by annexing adjacent rural areas, swallowing up open land and forests without limit. The plans reproduced here show the peak period of capitalist city growth, the era of their maximum power and importance. After the war and after temporary consolidation and stabilization, they have experienced a new period of rapid growth, only to be followed by the current economic crisis.



1. Paris 2. London 3. Berlin 4. Chicago 5. Vienna 6. New York

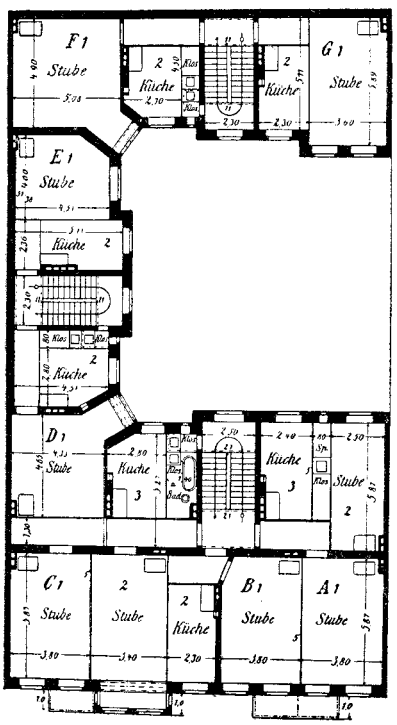
Berlin



Urban city patterns

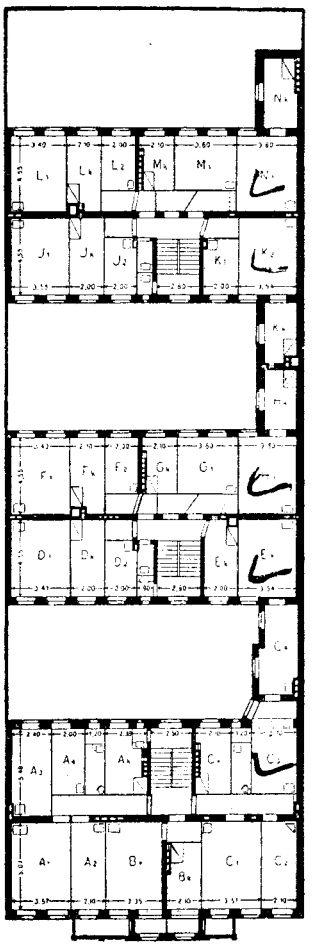
A typical closed block with courtyard-type apartment houses of the early period of the 20th century (the Founding Years). Maximum exploitation of site.

Deep parcels with narrow frontage. The attempt to fully fill in the whole interior of a block with buildings has resulted in the provision of extremely poor floor plans for the apartments.



Corner apartment has totally inadequate access to daylight. See F_1 and D_1.

Deep lot with 3 courtyards. No air movement possible. Rooms entered through other rooms. Totally inadequate access to daylight.



Floor plans of typical houses of the years 1870–1910. Rental barracks with courtyards. Apartments have inadequate access to daylight and no cross ventilation.

Courtyard houses—Berlin

years, the machine and mechanized transport have pushed out both pedestrians and horses from the center of the city. The first horse-drawn hackney appeared in Paris in 1650; the last horse-drawn coach has disappeared from all cities in our day. Our feet have been replaced by the wheel. The rhythmical cadences of foot and hoof have given way to the continuous whirring motion of the wheel propelled by a motor, and the strength of a live horse has been transformed into multiples of mechanical horsepower. Motorized transport makes possible high speeds. But given the conditions in the old centers of our cities, speed has been transformed into immobility: during rush hours, supposedly high-speed traffic moves at walking speed; everything and everybody slows down or becomes completely immobilized. Attempts to accommodate increased traffic in the city center by widening the streets are being resisted, because they run counter to the interests of property and those motivated by profit, who gain most from the exploitation of its building density. And even though streets have become wider than their medieval dimensions, they have effectively become narrower, when their increased traffic loads and the higher density of city populations are taken into account.

With each regulation and each adaptation, the clashes between the requirements of traffic and needs of a dense population have become more acute; for all practical purposes, even the widest avenues in our cities are too narrow (excepting peripheral ring roads, which merely divert traffic); and those in the center suffer most from traffic foul-ups, because of the congestion caused by the movement of too many vehicles and people. In spite of all corrective measures such as street widening or cutting new traffic corridors through built-up areas, the streets of the center remain relatively narrow corridors because the traffic volume is ever increasing. In part the increases are caused by higher buildings adjoining these thoroughfares; they can be compared to the banks of a narrow river unable to accommodate the surge of an oncoming flood: the river periodically overflows its banks. What we have here is a veritable traffic deluge. This breakdown of traffic, with its concomitant losses of time, occurs exactly at a place where speed is an essential requirement from an operational and economic point of view: during a mixed vehicle race across Paris, the fastest transport device par excellence—the automobile—ended up in fourth place. The loss of time incurred by waiting at intersections, if we remember the American rule that "time is money," adds up to losses of millions of dollars in American cities. Compared to the well-organized rationalization in industry and business, traffic regulation in cities that are administratively controlled by financial capital has completely failed on the overall scale of the metropolis: unlike a continuously moving assembly line in factories, automobiles and streetcars stop at each intersection, their motion periodically interrupted by traffic lights and gridlock: in a modern factory a conveyor would never be allowed to get stuck so many times. Statistics of traffic accidents show that on the streets of today's cities, injury or death threatens everybody, occurring daily in the traffic hustle-bustle of the modern metropolis.

As mentioned above, the transformation of the medieval market town into a capitalist metropolis took place in its very center. The growth of capitalism set into motion all the conflicting forces in the city: centripetal forces, which pulled the village populations into the city, and centrifugal, which pushed the old settled populations from the center out to the periphery. A closer analysis of these movements reveals the importance of distinguishing between migratory movements **from the country into the city** and migratory movement **within the city itself.** So far, little sociological research has been conducted on urban population shifts *intra muros.* There already exists an extensive literature dealing with migrations from the village to city, and from one country or continent to another; others occupy themselves with the study of the causes of overpopulation in cities and of the flight of rural populations from agrarian production, control over emigration, the influence of overseas emigration on population

densities in villages and cities, the function of cities as centers of a certain region, and so on. However, very little research so far has been done on the movement of populations within the city itself. Lind, one of the few who has investigated this matter, has ascertained that population shifts within the city are far more frequent in areas adjoining the central business district than in, for example, the residential districts of the affluent, that is, the districts of the residences of the bourgeoisie.[4]

Most changes in regulatory zoning and social patterns of urban settlement emanate from the center. "The creation of wealth is accompanied by attempts to improve the cities. Poorly constructed buildings and old quarters are being demolished and banks, sumptuous office buildings, department stores, and so on, are erected in their place; streets are being widened for commercial as well as private traffic improvement. Public transportation is introduced, and so on—all of which forces the poor to move away to ever more miserable and overcrowded hovels. The greater the cumulative centralization of the means of production, the greater the corresponding concentration of working people in one place, the more feverish the pace of capital accumulation, the more destitute the condition of workers' dwellings" (*Capital,* vol. 1). As stated by Engels, slum clearance of decrepit city quarters, and above all slum clearance and urban renewal of the city center, always means that these quarters are being **cleared of the proletariat.** The result of any slum clearance scheme and urban upgrading is effectively a rearrangement of the class structure of the city: the city becomes divided into highly differentiated districts for business, industry, and the residences of the wealthy, the middle class, and the working class. The class structure of any city can be easily deduced from its zoning layout, the external appearance of its architectural edifices, and the patterns of its plan. Just as on a transatlantic steamship, so in a large city people are meticulously sorted out by class. A transatlantic liner is just like a city of 2,000 inhabitants; a third of the passengers command the luxury class, while the rest inhabit their own isolated worlds in the lesser classes, each different from the other and each having its own level of meal service (not to mention that such a ship has its own "production" plant and other efficient mechanical service and traffic systems). The similarities between such a floating city and its earthbound counterpart are striking. In his analysis of H. W. Zorbaugh's monograph on Chicago, "Spatial Nearness and Social Distance," Em. S. Bogardus ("The Gold Coast and the Slum," *Sociology and Social Research,* 1929), shrewdly points to the fact that **the metropolis is a city of spatial proximity but social distance.** As economic and class differences grow, so individual city districts come to differ in their civic and cultural wealth and heritage, and the city as a whole functions as a complex network of social distances. (Zorbaugh documents the existence of five social universes in Chicago, each separated from the other despite being spatial neighbors.) Deep social chasms divide the city into a number of separate domains, which all have one thing in common, namely the perpetual struggle between the two principal social forces: the bourgeoisie and the working class.

The sequestration of the artisan and the pedestrian in self-contained urban quarters is an anachronism dating back to feudal economic times: it is a remnant of the caste system, a leftover from the medieval imperative to maintain warlike defenses against sieges, which has survived to our days in the form of the class division within the city that safeguards the social status of those who now rule society. Bourgeois urbanism and communal politics continue to uphold sharp class distinctions between individual districts, in order to retain control of a se-

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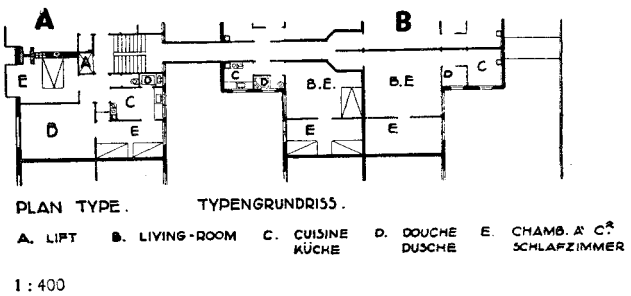
[4]) In the journal *Sociology and Social Research* (14, no. 6 [1930]) John E. Corbally traced intra-city migration ("Measures of Intra-urban Mobility") on the basis of voter registration lists, electricity and gas bills, newspaper deliveries, and students' registration.

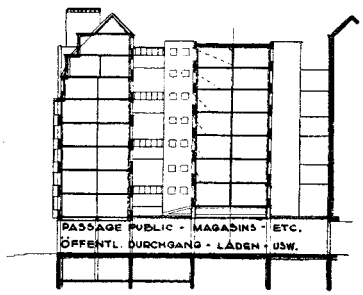
cure base for their ruling position in the class struggle. Good examples are the West End and East End in Berlin and London; the foreign concessions in Beijing, Shanghai, and Marseilles; and the prostitution districts and sailors' bars in Hamburg (which can be readily closed off by barred steel gates), not to mention the medieval ghettos, reincarnated in today's workers' stockades in the suburbs.

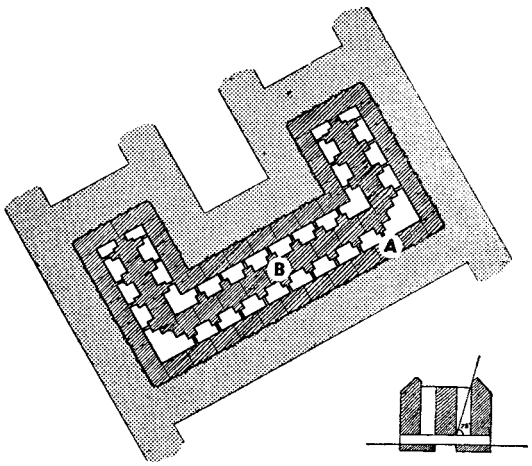
In the end, each of these measures—be it the demolition and reconstruction of old city districts with their narrow streets, deemed incapable of accommodating today's traffic, and their replacement by modern boulevards that subsequently turn out to be equally unable to accommodate the new volume of traffic; or the demolition of old houses to be replaced by commercial buildings, offices, banks, hotels, or new houses with comfortable apartments—ends up with the result that the less affluent are ousted from the old houses to be demolished and are forced to find apartments somewhere else that may be even worse. All the much-heralded measures of technical and civic progress in the city, including improvements in traffic and housing, also create the conditions that make it increasingly more difficult for the great majority of its inhabitants to derive much benefit from them. Many of the houses slated to be demolished in slum clearance districts provided shelter for the urban poor and the lower middle classes. New construction replaces the torn-down houses either with stores and offices, or with houses containing large and expensive apartments: the former, less-affluent inhabitants are thus effectively prevented from returning to their old domiciles. Fewer and fewer cheap, medium-size apartments are being built in the city center to replace their demolished predecessors, and by such means the center is cleared of the proletariat. "Every new square inch in the West End ([Teige's note:] the London district of the rich) produces a new acre in the East End" (G. B. Shaw).

Besides the primitive dwellings in suburban districts and workers' trailer colonies and barrack encampments on the periphery, certain wards in the inner city still remain densely settled by the poor: as a rule these are housing districts outside the actual business center—districts of the oldest houses, with quaint but unhealthy streets. Even though they may smell bad, they seem to enchant tourists and historical protectionists: good examples are the Malá Strana and the Hradčany districts in Prague. They are located in the shadows of the former quarters of the aristocracy on the hills above. Today, their tiled, picturesque roofs cover mostly run-down apartments and miserable boardinghouses. Most of these districts of the poor in the inner city consist of such chopped-up, run-down, outdated, and generally deteriorating structures, even though some of them had previously accommodated quite comfortable burgher, patrician, or aristocratic households. In his study *The Slum Problem* (1928), B. S. Townroe describes these conditions, using the example of London slums. The Marseilles district near the old harbor is a similar place of misery, full of dives and houses of prostitution. It too was at one time a district of mansions; in fact, the Marseilles city hall is still located in the center of this district. New buildings in the center of the city seldom if ever contain small apartments that the less affluent could afford: in all these cases, building activity always augurs the expulsion of the poor from the buildings to be torn down and their migration to other houses that are just about to fall down; and when those houses are eventually torn down as well, or have collapsed, capital puts expensive new projects such as banks, theaters, concert halls, palatial government buildings, and offices in their place. "At the very moment when the workers have moved en masse into the city, cities are being rebuilt, that is, workers' dwellings are being torn down" (Engels).

With slum clearance and the rebuilding of the inner city, the detailed patterns of the new class distribution in the plan of the city become ever more striking and class antagonisms intensify. It is in the cleared areas that, during building booms, capital places luxury versions of its office buildings, banks, and housing. Slum clearance and the reconstruction of old city







Paris 1930

Extreme exploitation of sites, allowed by existing building laws and regulatons. 40 percent of all apartments and 67 percent of all bedrooms as well as all kitchens face the inner courtyard, which is only 7 m wide. Houses are 7 stories, i.e., 23 m high. A rental barrack housing 3,861 tenants adds up to a density of 967 persons per hectare. Floor area of apartments is 32.50m².

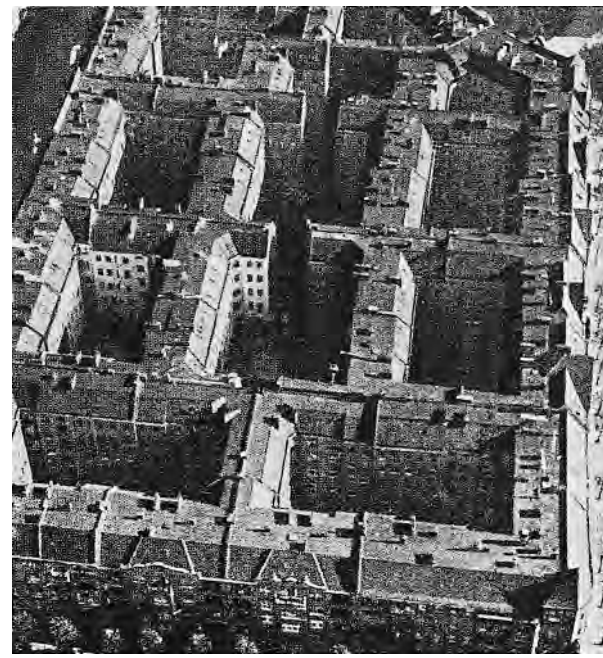
quarters previously occupied by the poor thus have a profound effect on the social relations in a city, best expressed by Ch. Seignobos in his *L'histoire politique de l'Europe contemporaine* (1897):

At the close of the Second Empire, Paris, as rebuilt by Baron Haussmann, bears no resemblance to the Paris of 1830 or 1848. It has been extended beyond the line of its old defensive walls, surrounding the city with new suburbs that have replaced the districts formerly occupied by the workers. The old quarters, suitable for barricades, were torn down and cut through by wide boulevards, at first left unpaved (!!) but still easily accessible to cavalry and artillery. In the past, the eastern suburbs with their network of small streets and alleys formed a fortress that could be easily defended behind its improvised barricades. Now, no insurrection can succeed against the Paris garrison; and, discounting past successes, street fighting becomes very difficult or virtually impossible for any revolutionary action. ([Teige's note:] As is well known, the Paris Communards had to cover their retreat not only by using barricades but mainly by setting fires to them.)

Proletarian quarters were the historical locus of revolts (see *Archiv für die Geschichte des Sozialismus und der Arbeiterbewegung* 15, no. 2, essay by G. Bourgin, "Blanquis Anweisungen für den Strassenkampf" ["Blanquis's Instructions for Street Fighting"]): the urban reconstruction of these quarters was therefore carried out mainly for military purposes. Soldiers

City blocks

at the turn of the 19th and 20th centuries



Examples of intensively built-up closed blocks can be found most frequently in Berlin districts of the so-called Founding Years. Werner Hegemann called them "**Das Steinerne Berlin**" [the Granite Berlin] and considered Berlin the **city with the greatest number of housing barracks in the world.**

Berlin



Example of the effect of existing building regulations on housing construction in residential districts: the result is densely built-up closed blocks with inner courtyards. Rental barracks without air and sun. No green areas.

razed them, set them ablaze, and bombarded them to pieces. Subsequently, when Napoleon III invited Baron Haussmann to clean up these dangerous quarters, the center of the 1830 and 1848 uprisings, the avenues were straightened out for the purpose of providing a clean shot for artillery fire and not to accommodate today's automobile traffic.[5] In his introduction to Marx's *Class Struggles in France,* Engels comments on this: "The straight, wide, and long avenues in the new quarters, built after 1848, are as if purposely modified to adapt to the range of the new rifles and cannon. A revolutionary would have to be insane to choose to build barricades in the new workers' quarters in the north and the east of Berlin. . . . The conditions for street fighting have become progressively less favorable for rebels and certainly more favorable for the army. Any victory in future street fighting would be possible only if these disadvantages were outweighed by other factors."

●

The most mature expression of the capitalist city is the metropolises of the United States, which reflect capitalist urban development in the most exemplary way. They grew faster than the cities of old Europe; but unlike in Europe, they grew in the vast, more or less open terrain of a new continent; and unlike our Gothic or medieval cities, they did not grow *intra muros.* They are relatively young, new cities, without crooked streets, laid out orthogonally on a grid-iron plan. The layout of American cities is based on a single planning scheme, common to all: they are mechanically subdivided into quarters in a highly standardized manner, as is the whole map of the United States. The most frequently used geometry, which is essentially based on a Renaissance principle, resembles a checkerboard: New York, Baltimore, and, the most characteristic of all, Burnham's plan for Chicago, whose system is unfortunately confounded by a certain lack of clarity caused by the difficulty of connecting the diagonals with the orthogonal grid. In contrast, other grid or triangulated systems (San Francisco) avoid these difficulties and offer considerable advantages for traffic circulation; but they also have their disadvantage, creating blocks with acute angles and difficult diagonal connections. The most favorable system has proved to be the combination of an orthogonal grid with diagonal penetrations, as used, for example, in Philadelphia. In spite of their orthogonal layouts, American cities exhibit traffic shortcomings even more catastrophic than those encountered in the cities of old Europe. The main cause of these traffic difficulties is that in the planning of circulation systems in the general scheme of the city, vertical movement systems (elevators in skyscrapers) were not coordinated with the horizontal.

Urban centralization has led to enormous increases in the price of land in the city center. Intensive exploitation of these expensive plots leads to further traffic congestion in the center. Until recently, no restrictions were placed on the height of buildings in American cities, which have become a forest of skyscrapers, dark and congested. The desire to maximize use of the entire surface area of an expensive plot has made it necessary to build vertically, thus leading to the introduction of a new type of building, the house of countless floors, the American **skyscraper.**

The first **skyscrapers** were built in the business district of Chicago, which is spatially a relatively constricted piece of real estate, bordered by Lake Michigan, the Chicago River, and the

[5]) Haussmann's replanning of Paris during the reign of Napoleon III was not only an antirevolutionary act but also a vast land speculation scheme, similar to that proposed by Le Corbusier to finance his Plan Voisin; his method, too, is a typical Bonapartist financial fraud and the source of astonishing private enrichment.

main railroad station. The need to maximize space called for an increase in the number of floors, which, in turn, led to the discovery of a number of significant economic advantages to building upward. The main reasons that the American building industry opted for the skyscraper can be traced to the desire to exploit constricted building sites in the business centers of large cities, coupled with the hope of profiting from the administrative, technical, and economic advantages to be gained from this new construction type. Initially, skyscrapers were still built with conventional construction methods; they were not much better than more advanced versions of outdated load-bearing masonry structures with an increased number of floors, often developed as closed blocks with an interior courtyard. Because of the increased height of these buildings, the courtyards ended up as bottomless pits without sun and air. The famous Chicago Manadnock Building, built in 1891 and designed by the architect Root, is one of the first skyscrapers ever realized in masonry. It is interesting only by virtue of the austere form of its facade (devoid of any decoration); it certainly does not represent a new concept in its construction principles. The principle of load-bearing masonry walls was still retained in the construction of early skyscrapers (as the number of stories increased, these necessarily had to withstand enormous loads), but it had to be abandoned as impractical for even higher structures.

The new steel frame system of construction with light infill walls proved to be the only alternative that made it possible to increase the number of floors beyond the capacity of masonry construction, while at the same time providing clients with more usable space. Later, this system was improved even further when flexible layouts were provided. At first, the full development of the advantages of the new steel frame system was impeded by newly imposed building regulations, which became law in New York and Chicago in 1924 and which divided the city into a number of individual functional use zones with different height restrictions: these zones were designated as business, residential, mixed use, and industrial. The residential zone was divided into two categories: districts of private residences and districts of rental apartments. The code states that up to a certain height, which is determined in turn by street width, a building is not permitted to extend beyond a straight line drawn from the center of the street to the top of the facade wall of predetermined height, rising vertically from the edge of the property line. This results in a terracelike recession of the floors on the street side. In practical terms, the ratio of building height to street width in the center of cities is usually no more than 1 to ¼. For all intents and purposes, with the exception of small plots, this means that there are essentially no real height restrictions.

On the contrary, the new law (see *Stavba* 5, no. 8 [1927]: 119) actually encourages the exploitation of lots by high buildings, since the determination of the allowable height of a building is made contingent on depth of site, and a building is allowed to reach its maximum height when neighboring parcels between two street fronts are joined and built over as a single lot. This leads to the consolidation of smaller parcels previously owned by different individuals. Thus, by encouraging the consolidation of small parcels by big corporate developers, the law in fact guarantees the owners of large parcels the greatest economic advantage. The full economic utilization of American building codes by developers is further predicated on replacing access to natural daylight with electrical illumination and likewise replacing natural ventilation with artificial mechanical means, leaving many spaces without direct access to light and air; as a consequence, the center of the city is turned into a granite canyon. And so, after opening up the structural frame to gain increased access to light and air, builders end up with deep, dark floor plans that are permitted to cover 100 percent of the site. Thus the appearance of North American cities, with their dynamic, spatial development of vertical sites, must be recognized for what it really is: namely, the expression of the maximum exploitation of building

codes originally intended to restrict linear heights of street facades. The newest type of skyscraper is the slim **high-rise tower.**[6]

The American skyscraper has petrified the city. American cities are cliff cities. Their streets are narrow canyons. In the age of speed, the city is choked up. During certain hours, skyscraper offices, banks, and department stores disgorge thousands of their employees, and the pace of the metropolis reaches its maximum. At the end of a day, millions are on the move. The best example is the tip of the Manhattan peninsula, where a veritable mass migration of nations occurs on a daily basis. All of its land area is densely built up; the Eskimo Amarulunguaq described this situation as follows: "it is a stone steppe; hemmed in between the skyscrapers I see crowded streets, choked by traffic." In New York alone, 4 million automobiles move about. During its times of "eternal" prosperity, America produced approximately half a million automobiles per month.

The crisis of the metropolis is basically a crisis of traffic and housing. Both problems result from the turbulent growth of cities during the nineteenth century and reflect the economic and social conditions under which this growth took place. The desire to realize the highest possible rate of return on the development of building lots called for their maximum exploitation in terms of their coverage by buildings, resulting in turn in maximum population densities. By and large, building regulations, which were supposed to reconcile the requirements of health and safety and the needs of private owners, have always favored land and rent speculation and have always been subordinate to the interests of the property owners. As a result, it has become impossible to solve any one of the problems besetting the city by comprehensive planning action.

The evolutionary growth of cities during the nineteenth century had not been anticipated, though it could have been, as the theories of Henri Saint-Simon prove. As early as 1820 and long before mechanized industry had reached its mature stage of development, he had already anticipated the concentration of industrial production centers employing thousands of workers, along with the establishment and growth of large cities. Fourier, Owen, Dézamy, and Considerant as well voiced the **need for aboliting the differences between the city and the country.** It should also be remembered that the transformation of France from an exclusively agricultural country to a major industrial power started only at the end of the thirties. Incidentally, the quotation (see page 107) from *The Communist Manifesto* of 1847 also demonstrates that even then it was possible to anticipate and predict in sociological terms the development of cities and the deepening of the rift between the city and the country, at a time when large industry was still in its infancy and when the farmers, who then made up the majority of the European population, were still waiting to be freed from the bonds of servitude, which effectively prevented them from migrating to the cities in any significant numbers.

The civic shortsightedness and organizational ineptitude of the capitalist age therefore have very deep roots: urbanism, defined as the scientific and rational approach to managing cities, requires the correct evaluation of a city's individual determinants (the topography and geology of its territory, economic assumptions, etc.) and the planning necessary to secure the city's organic development in time and space, that is, the ability to see the world in terms of its universal historical march forward. Urbanism intends to look forward and establish plans

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[6]) The inspiration for the American skyscraper was the Eiffel Tower: in historical terms, the authorship of the first skyscraper is questionable. The first high-rise buildings in Chicago were built by Root, Adler, Sullivan, Jenny, Holabird, and Roche, and in New York (Tower Building) by L. Gilbert. But the fact remains that before the erection of the Paris tower in 1898, buildings seldom exceeded eleven to twelve stories; they depended mostly on bearing wall rather than light steel skeleton construction systems.



New York

Aerial view of skyscrapers: note stepped setback front facades facing street. Sites are fully built up.

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for the future. Instead, especially in the nineteenth century, we observe that the time of planned city building, the time of great city founders, the time of Charles IV, Louis XIV, or Peter the Great, has passed: it seems that the political system of republican democracy is averse to contemplating grand urban schemes and that it is difficult to include the sums necessary for any long-term development in the budgets that parliaments must vote on and approve. For these reasons one can easily understand why Le Corbusier proposes the establishment of a ministry of public works independent of the "whims of parliament," and why other urban planners as well talk more or less openly of the need for a political and economic dictatorship to realize urban planning initiatives.

The inability of contemporary society to organize policies to ensure viable living conditions in the city is mainly the result of a basic lack of planning and the anarchy of today's economic situation. The crisis of the city can be overcome only by comprehensive planned interventions, which are made impossible by the very nature of today's economic system. Today's cities are a chaotic and weak agglomeration of diverse forces, which remain unfocused and which lack the collective and planned will to be channeled in the direction of a higher unity. They are ant heaps, with people living there like ants; like a black disease carrying flies, factories descend on green pastures, poisoning the air, water, and soil. The vault of the sky is far away and obscured—unreachable—as if without hope. Streets are dark pits of more hope without hope: "to walk the streets with hopeless hope"—these words of Vildracov's poem capture the psychological effect of the city's environment with chilling accuracy. Verhaeren, composes somber odes to inhuman, black, and despairing city monsters with antennas reaching into the void, calling them "Villes tentaculaires." Ignoring the voices of these prophets, both European and the American cities have become a social disaster.

Natural growth (+) or decline (–) of population in European capital cities

City	Birthrate per 1,000	Death Rate per 1,000	Population Increase or Decrease (%)
Moscow	21.7	12.9	+8.8
London	15.7	13.8	+1.9
Paris	18.8	15.1	–0.3
Berlin	9.6	12.1	–2.5
Vienna	8.8	13.5	–4.7

Mortality, especially child mortality has increased almost fourfold in the most densely populated quarters of contemporary cities. Negative birthrates are the most significant indicator of the biological catastrophe afflicting our cities: Vienna, –5.0 percent; Berlin, –2.5 percent; Paris, –0.3 percent. In European cities, a natural population increase has been observed only in London, +1.9 percent, and Moscow, +8.8 percent.

European cities had frequently registered higher death rates than birthrates during the Middle Ages; up to the middle of the nineteenth century, such flat population growth was of no great significance. But today, when two-thirds of Germany's population lives in cities, and half of those in large cities, such negative population growth is fatal. However, it would be a mistake to assume that higher mortality is an unavoidable evil of the city, or that population density must inevitably lead to worsening hygienic conditions. Statistics show that in many rural, purely agrarian areas, disease and mortality are even worse than in the cities. In his "Untersuchungen über Wohnungverhältnisse" ["Research on Housing Conditions"], Friedberger disproved the old assumption that life in the metropolis is harmful to the health and that the worst health and housing conditions exist only in large cities. In fact, international statistics show that mortality is often lower in places of the highest densities, and that it decreases in relation to type and manner of concentration.[7] However, the details of the statistics show the opposite: in city districts with disproportionately high population densities, rates of death and disease are higher. When specific districts are compared, the difference between international and local statistics can be easily explained. The highest mortality and worst health conditions occur precisely in those infertile and sparsely populated areas of the poorest rural provinces where the population lives at a starvation level, both materially and culturally, and where there are no medical facilities, doctors, and so on. As far as population density in cities is concerned, health experts consider 350 persons per hectare to be the maximum allowable population density for residential districts; in the center, density is not supposed to exceed 500 persons per hectare.

However, only a few cities conform to these norms. For example, in Prague, population density in the old districts is 600 to 700 per hectare, and in Žižkov it is as high as 1,300. The aver-

[7]) In the time of Pericles, Attica had a density as high as today's large cities.

age for the whole city is 581 persons per hectare. In contrast, the overall population density in London is 150, while in Warsaw, in the center of the old town, it stands at 2,000. Even though densely populated districts exhibit the highest percentage of social diseases (mainly tuberculosis) as well as high mortality rates, high density itself is not the **main** cause of this evil. High densities are in themselves a consequence of the extreme exploitation of land and buildings, populated without regard for hygiene and the biological needs of human life. It is this extreme exploitation that has led to the building of rental barracks with their narrow backyards and disgusting inner courtyards without light and air, covering every last vestige of available open space with buildings and reducing green spaces and trees—the lungs of the city—to an absolute minimum. The construction of densely built-up closed blocks with badly ventilated corner apartments is thus permitted, and badly overcrowded individual houses and apartments are tolerated. Just because the maximum norm of 350 persons per hectare has been exceeded, the density in these districts is not necessarily dangerous to health; the danger is caused primarily by overcrowded apartments without light and air, which do not meet even the most primitive sanitary norms, that is, apartments that provide a mere 20 m^2 of living space per adult person (10 m^2 per child), with a floor area of a meager 6 to 9 m^2. It is in these apartments, with all their unhygienic conditions, that the poorest strata of the population at the edge of permanent undernourishment are forced to live.

The question of housing densities has continued to occasion considerable controversy in discussions on urban health conditions, and the subject has been fraught with many errors and superstitions. Yet it is important, from the standpoint not only of city traffic but also of social health policy. From the viewpoint of traffic, higher density shortens distances. Without doubt, densely packed housing districts enable rapid transit above- and underground to save significant time, besides reducing the overall city area and shortening travel distances. Of course, the proper balance needs to be established between more frequent service going shorter distances and less frequent service with longer routes: for example, it has been established that electrifying railroads is of economic benefit only when service is above a certain level of frequency.

For traffic in streets, the situation is different: their overcrowding by automobiles, buses, streetcars, and so on means loss of time despite the lessened distance, for these vehicles reach full speed only on an open road. Based on his American experience, R. J. Neutra asserts that motorized street traffic, whether in a city of maximum concentration (Chicago, New York) or maximum decentralization (Los Angeles), leads to a conflict between the planning requirements for rational traffic layout on the one hand and rational site development on the other: because automobiles require as much open street space (bridges over streets, tunnels under streets, and so on) as possible, they clash with the need for greater concentration in built-up areas of the city. This tension is also one of the reasons why the skyscraper has become such a disaster for the American city: it has increased concentration and shortened distances—but rather than saving commuting time, it has led to the paralysis of all street traffic. In contrast, in Los Angeles, which is the most spread-out and decentralized city in the world (covering an area of 900 km^2), the vast travel distances create fewer delays than are experienced in New York. Incidentally, wherever uninterrupted driving is possible, drivers use less gasoline, brake less, and feel less stress than does a driver at the clogged intersections in the granite canyons of Manhattan. In his urban studies, Le Corbusier attempts to resolve this conflict mentioned by Neutra, designing the skyscraper city to reconcile the opposing requirements of traffic and building density. The skyscraper is here conceived as an integral part of a traffic artery and is intended to function as a unifying element designed to resolve this conflict by increasing concentration on the one hand and opening the ground area of the site for traffic flow on the other. Today, urban planners recognize the need for building more densely and the concomitant

Streetcar transport

City	Number of Cars	Number of Passengers (millions)
Vienna	3,955	620
Berlin	3,925	721
London	2,750 (with upper deck)	1,076
Moscow	1,671	956

need to increase height in the business center, but they reject increases of population densities in residential districts, ostensibly for reasons of public health. Be that as it may, even in residential areas the problem of traffic must not be overlooked, since it has an important effect on health and social conditions. Shortening the time spent commuting between work and home, which also means shortening commuting distances by increasing residential densities, must be considered of great significance in the life of the working class: much free time can be gained for recreation and cultural activities during any regular working day, and in addition shortening the time of commuting will significantly reduce the costs of transportation. Thus this is not simply a matter of improving traffic by lowering its frequency and intensity. The Berlin health expert Friedberger has calculated that given the present regulatory regime and given the current distances traveled between home and work, over the course of twenty-five years, a four-member family in Berlin spends about 20,000 RM (German marks) on streetcar tickets (that is, double the price of a small family house), not taking account of the time lost commuting. The 2.2 million workers in Berlin spend an average of a half hour per day commuting, which adds up an annual loss of 37,500,000 eight-hour work days, which means that in 30 years a worker is sitting, approximately two full years in traffic. And this calculation leaves out the profits made by the railroads from the workers, who have to commute to the factories by train from as far as 50 kilometers away. These data illustrate most dramatically the defects of decentralization and excessively low population densities in today's cities. It is quite likely also true that a resident of Los Angeles spends more time in his car than a Berlin or Paris worker spends riding subways or commuter trains.

The German health experts Krautwig (in Cologne) and Drygalski (in Berlin) have discovered that the spread of contagious diseases is directly related not necessarily to population density or large houses, but rather to the lack of access to direct sunlight in bad apartments, which are generally occupied by the poorest and most undernourished members of society. It is not population density but the miserable social and economic situation of poor people that presents a danger to health; and it is not high density in a housing district per se but the density of inhabitants per unit (*Wohndichte je Wohnung*)—that is, overcrowded apartments—that increases the danger of infection by making it difficult to isolate individuals from each other to prevent the transmission of diseases. Quite similarly, infections are easily transmitted in overcrowded public conveyances. Thus the improvement of health standards is intimately linked with rationalizing and improving public transportation and shortening travel times.

Excessive population densities may be reasonably considered a health hazard in old cities, in districts containing rental barracks with their dark interior courtyards and their apartments without light and air. Overcrowded apartments are definitely a health hazard in any situation. For that reason, we insist that the root of this evil is not population density per hectare but bad apartments—and above all the low living standard and malnutrition of that part of the population who are forced to live in these wretched apartments. Artificially lowering the density of settlements, stretching out commuting distances, and developing low-density garden cities are hygienic reforms that are more likely to help the reformers than those being reformed. In the end, all these so-called improvements of health conditions in housing happen at the expense of the poor. The insalubrious districts are cleared of none other than—the proletariat! And those who have been uprooted by the demolition of their rental barracks and who cannot afford to move to the new garden suburbs, with all their fine provisions for health and security, are forced to find apartments or lodgings even worse than those they had before, or—worst of all—are thrown out on the street to live on the sidewalk under the open sky (which certainly must be considered an improvement healthwise). The requirements of public health, safety, fire protection, and so on enshrined in prevailing codes and regulations may be quite desirable in a general sense; because their implementation adds to the cost of new apartments, these standards have the effect of helping to make worse the real hygienic conditions in the housing of the poor, and are met only in the housing of the more prosperous. Stringent fire regulations may be effective in preventing a single house from burning down, but by making construction more expensive they at the same time indirectly expose more people to the danger of tuberculosis. Similarly, excessively stringent and strictly enforced hygienic requirements make it impossible today to deliver reasonably well-built, affordable housing—housing that might not exactly conform to these highest standards but that would be more readily accessible to the poorest segments of the population. Thus current building regulations must be considered as essentially antisocial. As in all things, so in matters of public health, urban planning, and housing policy, "as far as the working class is concerned, every step forward is at the same time a step backward."

By the way, it should come as no surprise that reactionary architects reject the slogan "minimum dwelling" as sentimental and misleading, demanding instead that housing be built to the maximum standards described above. To justify their position, they complain that the notion of a minimum dwelling, by allowing standards to drop below officially sanctioned minima, debases the achievements of today's housing culture (achieved by whom?)—despite the reality is that the vast segment of the population who are living on the level of the "subsistence minimum" cannot afford even these so-called substandard minimal dwellings. And so, the same reactionary architects design workers' housing equipped with a level of comfort that only the bourgeoisie can afford; or they propose collective housing, supposedly to satisfy the needs of the poor, but in fact merely replicating on a reduced scale what satisfies the needs of the well-situated. Any attempt to establish a lower limit for the dimensions and comfort level of the minimum dwelling based on excessive conventional rules and regulations shows, objectively speaking, a bias that makes it impossible for the proletariat to achieve any living standard higher than that in which it is currently trapped. If we try to find out who the people are who are advancing these hypocritical and shortsighted objections to the minimum dwelling in the name of contemporary culture—a culture of the privileged and rich—we discover soon enough that they themselves belong to the class of the privileged and rich, which includes architects, whose upper-class status makes them inherently incapable of understanding the needs of classes other than their bourgeois clientele, and who certainly have no affinity with the hundreds of thousands of homeless or with those living in the hovels and cellars of the proletariat, infested by tuberculosis.

Even tuberculosis is by no means an unavoidable scourge of the large city: in fact, not the size of the city but the number of people piled up in inadequate apartments is responsible for the increase in deaths caused by tuberculosis. Ample sunlight is the principal defense against tuberculosis. The reality is that of the densely built-up closed-block apartment complexes in our cities, fully one-quarter of the apartments have windows facing north. At the International Congress to Combat Tuberculosis in Washington (1908), it was Augustin Rey who for the first time formulated the requirement that giving housing a southern orientation should be mandatory in urban planning. Instead, usurious rents and speculation have deprived our cities of the vital reservoirs of air and green spaces by continuing to drive as many inhabitants as possible into poorly oriented and cramped apartments. Moreover, regulatory authorities evidently believe that to provide a whole district with a reservoir of fresh air, an occasional open square suffices. Yet, health research (*Casier sanitaire des maisons de Paris*) has established that such a "reservoir of fresh air" really has no impact whatsoever on mortality in streets away from these squares. Of course, a river passing through a city is clearly a first-rate reservoir of fresh air and positively affects the health conditions in the houses lining its shores. Thus, each house must have access to its own supply of sun and air. This condition can be satisfied only by a linear arrangement of apartment rows, still rare in actual practice. Not only tuberculosis, but ultimately all social diseases are matters of open space: the observations of the English housing commission in Liverpool have confirmed that there is a positive link between lack of fresh air and alcoholism, infections, dirt, demoralization, and general decrepitude.

Not only working-class districts but whole cities currently record disturbing health problems. Evidently, the interests of capital count more than the principles of good health: in these cities, little is done to take the value of human health into account. The residential quarters of the affluent and the villa garden suburbs are usually situated in green areas within the overall plan of the city, and these places most favorable to good health generally display much better site-planning designs. However, in the center, with the exception of some pretentious ornamental parks, health conditions are just as inadequate as in the city's poorer housing districts and industrial sectors. In short, wherever capital is ready to maximally exploit open or partially built-up areas, health concerns receive short shrift: in all these places we find closed blocks and streets lacking daylight and access to moving air, since nobody cares about the direction of prevailing winds.

One of the greatest health hazards in our cities is smoke pollution. Our cities are full of soot and smoke, not only from factories but also from kitchen-fed chimneys. Moreover, city air is polluted by dust and poisonous gasoline fumes. Dust and smoke particles attack human lungs physically and render them less resistant to germs, while gases damage people chemically. Already a quarter of a century ago it was discovered that a cubic centimeter of city air (in Paris) contained 200,000 particles of dust, while only 200 were found at the summit of a 2,000-meter-high mountain. Today, a similar investigation would surely find the city air to be even more contaminated. Air pollution by dust is naturally less constant, but it increases significantly with wind: for example, in the Prague valley, southwestern winds carry the smoke from the Smíchov factories and the Prague railroad stations into districts containing popular housing. Apart from that, especially during the hours of when houses are cleaned and cooking is done, the air becomes polluted even more. Smoke, dust, and soot form a permanent or semipermanent artificial blanket of smog above our cities, a veil of dirty air, especially during humid weather.

Louis Bison found that the city air in Paris is polluted 50 percent more by smoke and dust today than it was a quarter of a century ago. In Paris, heating by stoves is still prevalent because of superstition and custom, contrary to good sense and the interests of health; about 80 per-

cent of all smoke in this city is still produced by residences. As far as airborne germs are concerned, Trillat found that the number of germs increases proportionally with the quantity of dust and soot in the air: moisture settles on the surface of dust particles, on which germs seem to thrive. In his "Memorandum on Organic Corpuscles Found in the Air," Pasteur demonstrated that germs and fungi also subsist in the air; but it was discovered somewhat later that they attach themselves to dust particles and thus are not present in absolutely dust-free air, which is in fact totally free of microbes. In his *Annuaire de Montsouris,* Miquel states that the number of germs in the air is proportional to the quantity of dust it contains. Thus, 1 cubic meter of air (in Paris) contains

City center (Rue de Rivoli)	25,500	germs
In a hospital room	20,000	germs
In a park outside the city center (Parc Montsouris)	7,600	germs
At a height 70 m above street (Top of Pantheon)		
In the room of a spa hotel	600	germs
In Switzerland	28	germs
In the Alps, near a lake	25	germs
Above the water surface at the center of a mountain lake	8	germs
At 100 km from the ocean shore, at 4,000 m above sea level	0	germs

Most of these airborne germs are evidently harmless to humans. Nevertheless, as Miquel points out, the increase in mortality in Paris can be positively associated with the increase of the number of germs in the city's air.

Air pollution from dust increases with the intensity and speed of traffic—especially traffic consisting of automobiles, which poison the city air chemically as well. All this has been confirmed by the director of the toxicological sanatorium of the Paris Police Directorate, who has for twenty years studied what he calls the **toxic index** of automobiles. From the standpoint of health, the production of great quantities of **carbon monoxide** continuously poisons the atmosphere; from the standpoint of the national economy, it represents a substantial loss of energy. Automobiles are toxic in two ways: idling or moving slowly doubles the deleterious effect of automobile exhaust pollution—slowdowns and frequent stops are not only a general calamity afflicting our cities but a health calamity as well. Incidentally, it was discovered that the toxic index also varies with fuel and engine type: some automobiles emit only negligible amounts of toxic fumes, but these are in the minority. The detrimental effect of exhaust gases on human health can be gauged by the fact that trees planted along busy roadways, promenades, and highways are dying from exposure to automobile fumes. In fact, there is a paucity of accurate data on how heavy city traffic influences the psychological well-being of the inhabitants. Engine noise, traffic noise, sirens, horns, and other sounds made by automobiles—not to mention streetcar bells—create the so-called symphony of the city, but at the same time they also manage to thoroughly shatter our nerves. The noises of a metropolitan boulevard overload and overtax all our senses and strain us. The antlike hustle-bustle of our large cities disturbs our mental equilibrium and saps our nerves: according to F. Ogburn, the chances that a fifteen-year-old boy in New York will go mad are one in ten.

With the exception of the residences of the most prosperous segments of the population, the cities are sick in all their parts; and their deep-rooted contradictions have become increasingly evident in the ever-worsening traffic, housing, and health crisis that we are experiencing today and that can be expected to recur in the future. Popular workers' quarters, with their rows of rental barracks, not only exemplify the astonishing pauperization of the working class; at the same time, they represent the dirty underbelly of the dazzling wealth, luxury, and

splendor of cities, where, as Marx described, increasing misery, enslavement, ignorance, and moral decay are a necessary byproduct of expanding capital. But then, the great majority of city housing, consisting of so-called medium-income housing for the middle classes, exhibits essentially the same hygienic shortcomings (albeit less severely) as do the workers' houses on the periphery and in the suburbs.

A medium-size apartment in the inner city by definition has somewhat more space, but it still does not get much more sun, light, and air than its poorer neighbors. There is more comfort and more space for displaying all the idiotic, pretentious, and pompous trinkets of petit bourgeois bad taste, yet the windows of these rather modestly sized apartments open onto streets and courtyards just as narrow, dark, and stuffy as those of their poor counterparts. Even in the newer and better city districts we find five- to six-story houses, often occupied by fifty to sixty families, whose interior courtyards—extremely narrow and 20 meters deep—have been turned into veritable garbage dumps; however, the street facades of these houses are copiously decorated with grand ornaments. Even these better city quarters are largely developed as closed blocks with inside tracts, and here too the relation of the width of street to building height and improper sun orientation prevent any sunshine from entering the apartments' interior. Here too fresh air cannot move, because of the densely built-up plots sanctioned by current building codes, and here too there are too many apartments with windows facing north and corner apartments that are difficult to ventilate. The greater number of the rooms have no cross ventilation; here too we find few parks or green open spaces, and here too the population density is above the acceptable maximum.

At a time when modern architecture has accepted linear row housing as the most suitable system for popular housing, the authorities writing housing codes still persist in putting the interests of land and rent speculation above the interests of the community as a whole, acceding only reluctantly to the demands of progress in insignificant and often questionable ways: the closed block with its interior court is expanded into a closed block without the former chopped-up rows of interior courtyard tracts or is converted into the so-called half-open block. Even after all these limited regulatory changes, the corridor street and the rental block survive as the most prevalent type of residential architecture in our cities. Building sites in the inner city still retain their impossibly tight and sometimes angular or irregular shapes, which hamper the development of a reasonable floor plan with sufficient light and cross ventilation in all rooms. The majority of the population lives in such buildings. In fact, our apartment blocks are nothing but five- to six-story-high coffins. There is more open space and air between the graves in our cemeteries than between our houses, since each grave has at least a small border of grass surrounding it. If each grave is a green island, then the centers as well as the peripheries of our cities are like a walled-in cemetery; stone piled on stone.

The poor state of our health and the results of unsatisfactory building regulations are manifest not only in the housing districts of the poor but perhaps even more obviously in the central business district, where 100 percent of plots are effectively covered with buildings, where department stores and office buildings rise toward the sky, and where most rooms lack sufficient daylight and thus require permanent artificial illumination and ventilation. Here, work is performed in subterranean halls, and not a single ray of the sun is able to penetrate to the stores along interior passages—the most dreadful kind of corridor street. Basement apartments on the periphery often get more sun and air than do offices and stores in the business center of the city. To work there means to put one's health and life in constant peril: essentially, it is like working in the deep shaft of a coal mine. It is in such conditions that we find the modern breeding grounds of tuberculosis, as well as good business for opticians and eye clinics. If Le Corbusier envisions the future form of a house as a hermetically sealed, artificially

lit, ventilated, and heated structure, well then, such houses already exist now—to be sure, as yet the lighting and ventilation is not good, but it is artificial nonetheless. This is not to imply that artificial ventilation and lighting cannot be improved, but only that it will always be more expensive than natural light and air. A more important consideration is to what extent a human obliged to work for eight hours in an artificial environment, cut off from natural influences, in a hermetically sealed environment; will be affected biologically; will he or she be transformed into a cave dweller? But then, living in a hothouse with the likelihood of being transformed into a robot may actually be ideal for surviving in today's metropolis!

If we add to this picture unhealthy schools and hospitals and smoke-filled, dirty factories and workshops, we discover that **the inhabitants of today's city—men, women, and children—are condemned to live their daily twenty-four hours in an environment dangerous to their health, an environment in which those who work in factories, workshops, offices, stores, kitchens, and schools spend their hours of recreation, home life, and sleep as well.**

The basic requirements for a healthy city call for a well-functioning sewage system and an exemplary water supply. But although their need is virtually self-evident, they usually can be found only inside the city proper; at the periphery and in suburban communities, with their assorted emergency shantytowns, such services are either inadequate or nonexistent. A high percentage of dwellings on the periphery of many cities have no toilets. The suburban communities of European cities represent one of the most depressing aspects of urban growth. The *banlieu* is half city and half village. Here are the factories; and next to their belching smokestacks and in the dust of access highways, we find small, dilapidated houses and a few dwarfed trees, as sick and pale as the local inhabitants, soiled with the soot, dust, and smoke of the nearby factories. In their health conditions and housing, suburban communities are not yet cities but also not quite villages any more, though the people there still live much on the level of the most backward village.

A good example of the extent of the health problem is provided by the political manipulation of green areas around the city, as they are forced to retreat acre by acre in the face of the insatiable greed of land speculation. Greenbelts around the city remain a pious dream, as parks and other green areas are being rapidly built over. Existing green areas in cities are inadequate: what we find are more or less showy parks and some private gardens. However, what both the lungs of the city and those of its inhabitants need is not so much ornate parks but trees, nature preserves, meadows, and open green spaces: if we consult the health statistics that compare the content of airborne microorganisms in city and forest, one should certainly consider the air-purifying abilities of trees and their thermal and hygrometric effect on the city atmosphere. We know that the city needs more woods and meadows—not just English parks, only good for a weekend outing, but parks that are part of the daily life of its inhabitants. At present, these requirements are met only by the linear city, such as the Soviet Sotsgorod and other de-urbanized settlements.

The contemporary city has upset the balance between nature and humanity, which is cut off from its direct relationship to the earth, vegetation, and atmosphere. Contemporary large cities are a biological disaster. A century of capitalist development has generated nothing but decay and disintegration. Demographics and health statistics confirm that in large cities that have experienced rapid growth as a result of rural in-migration, as a rule a family will die out in its third generation—proving that the unrestrained growth of the capitalist city is not only a merciless process but a monster causing degeneration and death, a monster destroying people's lives on a gigantic scale and sapping their most vital creative energies. The problems of housing, streets, and traffic, including the problem of hunger, are proof of the deplorable state of our cities.

Until the end of the nineteenth century, the food supply of a city was still to a large degree locally produced (milk, reserve provisions stored in cellars, etc.). Our century has experienced a rapid change in the provision of comestibles, accompanied by a concomitant radical change in the daily menu of city inhabitants. At the end of the nineteenth century, city people still went to the villages to buy their provisions directly from relatives or other country folk, and women from the villages still came to the city to sell butter, eggs, vegetables, milk, and, during holidays, even fresh poultry and fish. Now, the passage of food from the producer to the consumer has become much more complicated; as a result, the price of food has increased. Transportation expenses have added to the cost of delivery, especially for relatively bulky and less profitable products (e.g., vegetables). This increase has led to a change in the kind of produce shipped to the city. Only food that can be kept unspoiled for substantial periods of time are now delivered, as well as food that has a good ratio of nutritional value to weight: meat, flour, baked goods, cheese, sugar, fats, and of course the most common comestible of world trade and the mass production of the machine age, canned food. The result is the wholesale standardization of foodstuffs: Liebig's extracts, Maggi's cubes, Graham's bread, Orion chocolate, Haag coffee, and so on. Large-scale, mechanized agricultural producers of the twentieth century seek new and larger markets; not content to merely satisfy basic daily nutritional needs, they try as well to influence and increase consumption to make the markets larger for certain of its products. The food conglomerates effectively dictate what people will eat; thus cities are now supplied with foodstuffs no longer produced in nearby rural areas but imported from somewhere else (grain from the United States and Russia, beef from Argentina, etc.).
In addition to the factors already mentioned, new production practices, changes in daily work schedules, and modern urban lifestyles have altered food habits as well. Commuting prevents people from eating their meals at home. Workers are provided with quickly consumed items of standard quality: bread and sausages. The inclusion of women in the workforce has led to the curtailment of home cooking: more and more people are fed in cafeterias and restaurants; and if and when a meal is cooked at home, the main concern is to save time by making simple meals. Thus the primary concern in choosing a menu not how nutritious it is but how quickly it can be prepared. The consumption of meat, despite its expense, has quadrupled during a single century. This increase has significantly affected the health and well-being of the population. The balance that existed earlier between various food groups and the natural adjustment of the food supply to seasonal cycles cannot be arbitrarily changed without serious consequences. These alterations in the daily menu have led to serious health problems, aside from curtailing the instinct to choose food that matches innate cycles of human biological needs.

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The large cities of today's world have grown uncontrollably and violently as a consequence of the impact of new economic forces (not unlike an explosion of natural forces), making it difficult for societies to plan and control production and at the same time manage the rapid growth of cities. The modern metropolis is the result of the geographical concentration of factories (not necessarily related by production type) and corporate offices. Equally, the influence of political centralization makes everything converge on the city, even though the activities drawn together may actually be at cross-purposes with each other and their natural surroundings: factories placed far from the source of their raw materials came instead to be closer to the stock exchange, the banks, and the seats of government. Moreover, given the

conditions created by corporate monopolies, cities that originally began as trading centers have increasingly taken on the character of administrative parasites. In his book *Das Wirtschaftsleben im Zeitalter des Hochkapitalismus* [*Economic Life in the Era of High Capitalism,* 1928], Werner Sombart observes that the modern metropolis has become less of an industrial city, meaning that its survival less and less is based on its own productive activities. Even though cities still project an image of pomp and splendor, they are actually turning more and more into bureaucratic, administrative centers of parasitic and unproductive communities, even as the number of workers living in rental barracks within the city limits is declining as a percentage of the overall urban population. With increasing frequency, we observe that it is political power that decides whether a city will grow or decline and that a city will perish, once it has ceased to be the capital city of an empire.[8]

The crisis of the city has reached its peak in our time: overcrowding, congested streets, energy waste, time lost, wasteful transportation (the automobile, which uses many units of horsepower to transport only a single individual or very few persons and requires huge areas for parking), transport paralysis, and tubercular housing: that is the sum total of our cities. It is imperative to face this situation and to return our hopeless cities to good health, to cure their disorders. Contemporary cities do not properly respond to the needs of modern life and its economic realities. They are based on old, outdated concepts that tend to paralyze and strangle their free development. They are unsuited for accommodating today's demands both of work and of traffic. Suddenly, modern architecture is faced with the immense task of having to solve not one but two major problems of the city: the first is traffic and the second is housing. This challenge will require nothing less than the wholesale reconstruction of cities; places originally designed for pedestrians and horse and buggy conveyances must serve modern means of transport, as well as provide comprehensive planning to house the hundreds of thousands of workers lured by industry into the city. To urbanize means—or should mean—to predict scientifically how the city should develop and grow, comprehending the city as a dynamic organism, both technically and biologically, with all its parts coordinated with each other. In addition, city planning means responding to the needs of traffic and health rationally, and not according to the whim of property owners or the romantically colored academic intuitions of architects. It is this kind of urbanism that stands for a new vision, a new idea. To urbanize means not merely to patch up and rearrange but to reconstruct, predict, and organize. It requires the understanding that the city and its houses are a living organism and that the city must satisfy the special conditions of modern urban life which, if ignored by architects and planners who fail to provide access to air, water, and sun, will lead to more sickness and will poison life.

The traffic problem, the misery of housing, and issues of health and other biological concerns are at the root of the various crises of the contemporary city. All are inherent to the anarchy of production, which is in turn intimately linked to the anarchy and lack of planning in the construction sector. Ultimately, all these problems are caused by the prevailing economic order with its fundamental belief in the sanctity of private property rights over the so-called public interest. Ultimately, the intensification of the conflict between city and country may be cited as also contributing to the crisis of the city. It is a conflict best expressed by the dominion of the city over the country and the exploitation of the country by the city. The basic conflict

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[8]) Canberra, the capital city of Australia, is a good example of such an artificially created city. It has been impossible to keep it alive, as it stagnates and seems to be doomed; it provides an interesting cautionary example for the utopian conceptions of Le Corbusier's urbanism. Here was founded in one stroke a large administrative city, based on an artificially composed plan, and on a presumably good site. In spite of all these factors, this product of architectural speculation is now a dying city.

between city and country may be traced back to the introduction of steam energy, which until recently has been the main power source for both industrial production and transportation and which, moreover, has provided the technical foundation for capitalist development.

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The first attempt to rid the metropolis of its horrors and correct its deficiencies was the **English garden city movement.**

At a certain stage in the development of industries and cities, strong decentralizing tendencies became manifest. The number of inhabitants in the city rose so much as a result of the centralization of production and commerce that excessive density became a real problem. Aside from serious health problems, high density created many economic difficulties as well: the cost of living in cities increased disproportionately in relation to the index of prices of daily staples available in the villages. It thus became highly advantageous for industry to seek locations near energy sources—in mining districts outside large cities and in rural areas—where labor could be recruited more cheaply. In general, only smaller and financially weaker enterprises tended to move from the city to the country, but because of their relatively low importance in the overall scheme of things, their departure did not relieve industrial agglomeration in the cities themselves. To the extent that large industry developed out in the country, near coal mines, new cities simply sprang up near these establishments. These eventually became just as unhealthy as the high-priced old central cities. As long as steam remained the main source of energy, industry's dependence on locations near coal deposits made decentralization more difficult.

The English garden city movement recognized the positive reinforcement between decentralization and its economic effects but soon discovered that these benefits were less powerful than the primary centralizing and concentric tendencies of capitalist production, which acted as the main driving force of the era's large finance capital. The ideology of the proponents of the garden city was romantically colored sentimentalism: proponents decried the hell of the metropolis and danced to the sweet tune of Rousseau's return to nature. The metropolis, cut off from its rural environs, was declared "unnatural," despite the fact (which they were unable to grasp) that it was precisely the most "natural" result of historical forces acting on the economic and social situation of that time, and that the contradictions between city and country necessarily reflected the social development of that stage. In essence, the garden city is a Pre-Raphaelite philanthropic utopia; its ideology started out as a sentimental reaction against the misery, ugliness, and filth of smoke-filled cities. And so William Morris preached nothing less than the return to the conditions and habits of times past, yearning for days gone by: in his novel *News from Nowhere* [1891], he describes the world of 2000, into which he projects his petit bourgeois utopian dreams. It is a world that has returned to craft production, where every product has become a work of art and where Ruskin's gospel would be realized. Since machine production failed to satisfy Morris's artistic sensibilities, it was to be replaced by manual craft production. And, with the extinction of factories, large cities would disappear from the face of the earth.

Morris recognized the rift between town and country, but did not understand its causes; he saw only the negative aspects of the city, its health problems and its alienation from nature. Bewitched by the idyll of the village and its bucolic charms (a typical petit bourgeois notion), he tried to cure its ills by eliminating the city, that is, by transforming it into a village.

As mentioned before, the longing to leave the city and look for quiet and stability in the country, an environment without novelty and commotion, is typical of the petite bourgeoisie; but this psychological tendency is also accompanied by certain economic justifications for indus-

trial decentralization. Understanding this line of reasoning, industry decided that it might be possible to make use of the ideology of garden cities (stripped of their Morrisean slant—presumably socialist-utopian, but in reality always petit bourgeois and reactionary) to advance its own interests and increase profits. Industrialists (Cadbury, Lever, and others) proceeded to establish garden cities for their employees near their factories, because they recognized that the garden city not only made it possible for their employees to live more cheaply and in healthier conditions but also helped increase their productivity. The high municipal levies and taxes imposed on industry and their workers in large cities provided industry with another reason to settle in the country, or at least outside the municipal limits. And so (on the initiative of industry), during the 1880s and 1890s the garden city movement started, led by the architects Parker, Ebenezer Howard, Baillie Scott, Raymond Unwin, and others. The ideology of this movement has spawned a voluminous literature, and we cite only the most important works here: Ebenezer Howard, *Garden Cities of Tomorrow* [1902]; Inigo Triggs, *Town Planning, Past, Present, and Possible* [1909]; Patrick Geddes, *Cities in Evolution* (1917); and Raymond Unwin, *Town and Street Planning* [1908] and *Grundlagen des Städtebaues* [*Fundamentals of City Planning,* 1910].

The garden city movement tried to slow down the centralizing and centripetal forces of the city, attempting to divert the flood of immigrants entering the city and distribute them in surrounding settlements. Decentralization was the aim: building residential satellite towns with single-family houses on the outer periphery or in a greenbelt surrounding the city was intended to ease overcrowding. The advocates of garden cities wished to remove housing from the city altogether and place it outside in a garden setting. However, it should be pointed out that satellite garden settlements built around large cities were less an attempt to decentralize cities than to decentralize housing. The most extreme example of this English decentralizing tendency is the small, partially self-sustaining towns with their own center, their own production base, and their own municipal administration (for example, Bournville, the city built around a cocoa factory), not connected to the central city. As instances of the earliest garden cities, we cite Port Sun Light, Earswick, and Bournville; of the newer ones; Hampstead, Woodland, and Welwyn, designed by R. Unwin and Parker. These garden communities, whether they be independent towns or satellites of a larger city, were designed primarily as residential settlements or residential towns: the intention was to make it possible for a person employed in a factory or the city to return in his or her free moments to something resembling nature. The garden city emphasized the need to improve the quality of human habitation, albeit in a philanthropic and a petit bourgeois manner.

However laudable these aims may have been, they did not represent a real solution to the contradictions between town and country, nor did they alleviate the congestion in the old city centers. Without solving the latter problem, it is difficult if not impossible to put an end to the centripetal influence of the city, simply because the rift between city and country is the very reason for that centripetal pull. Nor does the garden city principle address the overcrowded city center, for the center remains the brain and heart of the city. Furthermore, the idea of garden cities surrounding the central city has contributed to the functional differentiation of city districts; separating business, office, banking, and administrative functions in the center of the city from its outer residential and industrial districts. The result does not eliminate the problems of centralization, but on the contrary exacerbates them. By moving housing away from the city center, garden cities merely continue a trend that was already in progress during the clearance stages, when old houses in the city center were torn down to be replaced by commercial and administrative edifices. This early attempt at decentralization by shifting residential buildings from the center to the periphery was accompanied by an even more energetic centralization of other use functions: as a consequence, the central business district

became even denser and larger and became enormously more important as a business and financial center.

In a world in which the regulator of all economic activities is the stock exchange, it is impossible to do away with the violent intensity and concentration of the city center. To make use of every square inch of available space, cities support life in buildings up to 25 meters high, and burrow deep into the earth to accommodate underground uses. Building regulations give way to the pressure of financial interests and often permit an ever greater exploitation of land in the center. In contrast, English garden cities at the periphery are concerned only with residential uses; they favor the single-family house, or at most modest rental houses for no more than two to four families. Currently, the garden city ideology dominates the International Federation for the Building Cities and Garden Settlements, whose first chairman was E. Howard. R. Unwin is its present chairman: its propaganda is devoted to promoting the single-family home, with its garden and petty family household, as the only correct form of dwelling. However, the federation leaves unanswered the fundamental urban problem, that is, the problem of the city center; as a matter of fact, it tries to avoid that problem altogether during its deliberations. Unwin and his followers forget that the life of the city is dominated by the regime of production and the economy, both of which require centralization for their smooth operation.

Another drawback to the development of satellite settlements is that they complicate transportation: the horizontal growth of cities and the distances between the cultural center and individuals' residence and work cause considerable loss of time. In the early phases of the transportation revolution, it was expected that modern rapid transit, especially the automobile, would help reduce the city's congestion and smoothly conquer these distances: in reality the opposite has occurred, simply because the ever-increasing traffic flow remains predominantly convergent—that is, it moves from the periphery to the center, which is already overloaded—while public means of transport are equally hampered by congested traffic in efforts to negotiate these distances without delays. For example, the Ruhr valley has become converted into a single decentralized, urbanized complex; but rather than being a city of gardens, the result is instead a forest of factory chimneys.

In his book *Ein Prolet erzählt* [*The Tales of a Proletarian,* 1930], Ludwig Turek describes the travels of a worker from his apartment to work and back under such conditions: he gets up at 4 A.M. and walks for fifteen minutes to get to the railroad station; he changes trains once, and from the station of his destination he takes the streetcar and still has to walk for a bit to get to his workplace. He arrives at his workplace at 7 A.M.; however, work starts only at 8 A.M.; after eight hours of work, he has to take the same route to return home, arriving late in the evening. This shows that the time lost in commuting to work as well as the time lost in traffic delays because of urban congestion must be taken into account to arrive at an effective time budget for a typical workday. The simplicistic breakdown is usually eight hours of work; eight hours of private life, culture, and recreation; and eight hours of sleep. This is utterly ridiculous, as the actual schedule makes clear: eight hours of work; seven hours of time lost (commuting); three hours of rest, culture, and private life; and six hours of sleep!

"Work in the city and live in the garden suburb," the slogan of architects and urbanists, paints a false dream, a romantic fallacy, and a dangerous utopia. It raises illusory hopes of a way out of today's crisis of the city and housing: on the one hand, it fails to take into account the constraints of the current system; on the other hand, by luring the inhabitants into isolated villagelike garden communities it destroys the former coherence of the disrupted city communities.

One may summarize these attempts to decentralize the city, whether by building satellite cities at some distance from the center of the city or by establishing independent production centers with their associated settlements outside large cities, as follows.

The development of **satellite settlements** at the periphery of large cities exacerbates the crisis of the city mainly because it complicates and overloads the transportation system, which remains essentially centripetal. The centralizing tendencies of the city cannot be overcome by this method: because satellite settlements do not significantly address the existing contradictions between city and country, they cannot significantly slow down ongoing centralization and the migration of populations from the country to the city. And in addition to the centripetal power that attracts new inhabitants to the city, an opposing centrifugal force tends to assert itself, though within a more limited range, driving the poor from the center to the periphery. Their removal makes it possible to develop and strengthen the central business district, with the result that building density and daytime occupancy increases dramatically, while the number of apartments in the center decreases. In turn, this leads to the development of a few decent middle-class and petit bourgeois garden villa colonies around the edge of the city, but above all to the development of miserable and dirty suburban communities for the poor and the workers in barracks and trailer colonies. In these satellite settlements are combined all the negative features of both the city and the village.

The tendency of independent production centers and settlements to develop outside the sphere of influence of the city is weaker than the fundamental tendency of the current production order to centralize. The geographical decentralization of industry occurred only piecemeal and, given the existing production conditions, it was not at all capable of healing the contradictions between city and country. Even if a small industrial firm decided to locate in the country, its presence would not significantly influence village life: the village remained a village; its production base remained agriculture, which continued to employ the majority of rural inhabitants. In contrast, if a large industry decided to settle in the country, a village would change quite rapidly into an industrial town of relatively large size or a city. Engels mentions this in *The Housing Question:* "Many factory settlements have become the core of entire industrial cities."

The decentralization of large cities and the tendency of industry to leave the city had little effect on the antagonism between city and country, simply because the urban problem cannot be separated from the agrarian problem—the influx of rural populations into the city is fed by the depopulation of the country. The exodus of industries from the cities is circumscribed by the necessity (given the reliance on steam for energy and given the prevailing state of transportation) to find a place near sources of energy (to save on the cost of transporting fuel). Besides, wherever industry decides to settle, a city with all its negative attributes will soon develop as well. Modern industry tends to locate its cities along rivers and principal transportation arteries, but above all in areas of profitable energy resources. As a result, the old star-shaped or square form of a city often changes to a linear plan. However, even these new linear industrial cities remain cut off from nature. Under the current production system, the centralizing tendency prevails, as does the concurrent exodus of people migrating from the country to the city: concentration of business, industry, and administration predominates, especially in the era of finance capitalism. The contrast between city and country has been sharpened and reproduced most profoundly by the destruction of the small farming population and the wholesale domination of agricultural production by corporate agribusiness. Concentrated in the cities, capital displays its exploitative character not only locally, with increased exploitation of rural areas and the urban proletariat simultaneously, but also internationally: the world metropolises have managed to bring whole overseas communities under their domination, just as in the past cities subjugated their surrounding rural domains.

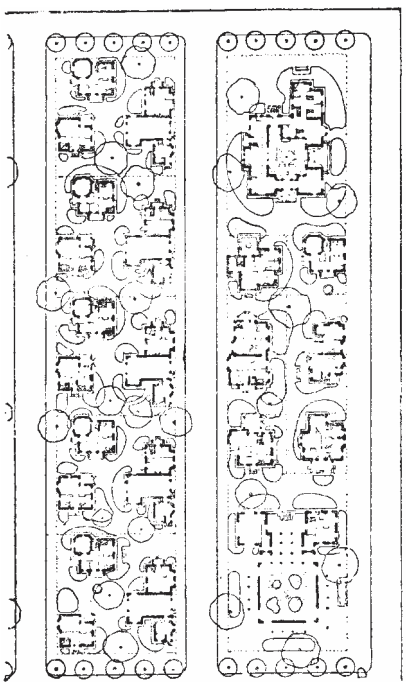
After the failure of the English attempt to decentralize the city (even though their ideas had considerable influence on city planning in Continental Europe before the war, particularly in Germany, where they were championed by Muthesius—as exemplified by such projects as Riemerschmidt, Tessenow's Hellerau, and the Frankfurt Siedlungsbau—and as contained in the expressionistic utopias of Bruno Taut's book *Auflösung der Städte* [*The Dissolution of Cities,* 1920], etc.), centralizing tendencies in urbanism are again gaining favor with contemporary architects and urbanists. Their basic principles have been elaborated most thoroughly and most radically by Le Corbusier in a number of his great and historically important studies, such as the Contemporary City in 1929, the Voisin Plan of 1925, and his latest, the Ville Radieuse of 1930–1931. In all these proposals, Le Corbusier did not start from square one but drew on a number of preceding urban planning proposals by other authors, both practical and theoretical; he took as his point of departure Haussmann's boulevard incisions, Hénard's street solutions, and Wagner's 1910 project for a modern metropolis, Die Großstadt.[9] The prewar period produced two significant urban projects: Sant' Elia's Futurist City and Tony Garnier's Cité Industrielle.

Antonio Sant' Elia, the precursor of the new architecture in Italy who was killed during the war, designed the Futurist City with wide boulevards on a number of levels for different modes of transportation, including moving sidewalks and escalators bordered by terraced high buildings, which were to be served by continuously running escalators. Sant' Elia had a good grasp of the rapid evolution of cities and their civilization, and he recognized that any house built today will not be satisfactory in a hundred years. Thus, he chose not to build memories or monuments, but semipermanent edifices instead: "Our buildings will not survive us. Let every generation build its own cities."[10] The merit of Sant' Elia's projects is that he resolved the problem of the relationship between buildings and the street, meaning city traffic: he also developed designs for gigantic railroad stations and airports in the center of the city, located on top of boulevards three stories high; presented ideas for bridges with three traffic decks; and

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[9]) In 1870 the Paris prefect Haussmann and the architect Alphand cut a number of grand new boulevards through the old fabric of Paris; at that time these roads seemed excessive and overdimensioned, leading to accusations that the two men had created a vacuum in the center of the city. Today, these boulevards cannot keep up with traffic. Haussmann's plans, which represent a thorough bloodletting to relieve the circulation pressures of the center city, are the most radical example of a grand restructuring of an inner city. The radial plan characteristic of Paris, patterned on the layout of baroque parks, creates star-shaped traffic roundabouts, which collect the rays of traffic from different directions; unfortunately these tend to create traffic problems even more serious than those encountered in normal intersections where roads meet at right angles. Even at a time when the automobile was still in its early phases of development, Eugène Hénard recognized this problem. However, his activities were confined mainly to well-articulated theoretical proposals. Still, he was one of the first to see how important the intersection is to city traffic; and based on his studies of this problem, he developed the *carrefour giratoir* (still assuming horse-drawn traffic), which may be considered the precursor of the solutions of Le Corbusier or Marcel Breuer. Hénard also occupied himself with the question of how to deal with the Paris city center and the planning of residential districts. He proposed to build 250- to 300-meter-high skyscrapers in the center of Paris with beacons installed on their tops to warn airplanes, and to create residential streets with stepped housing oriented toward the sun.

[10]) Rejecting the idea of a house built for eternity has serious consequences, relaxing the fabric of the city: the Gothic cathedral may have survived centuries, but today's city buildings must con-





Tony Garnier (Lyons, 1900)
La Cité industrielle

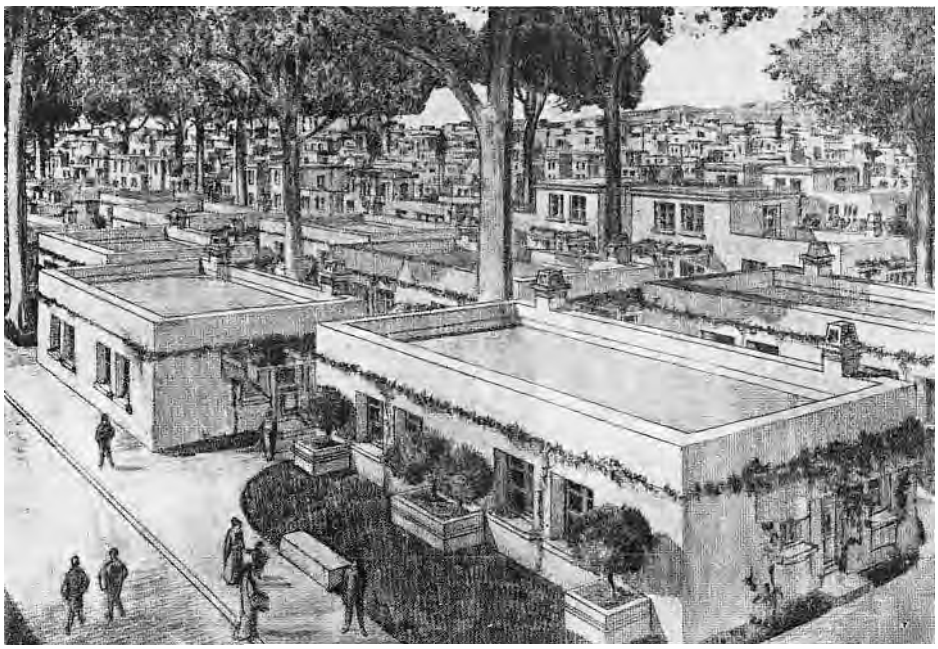
Proposal for an industrial city of 35,000 inhabitants. Housing district with detached family houses.

offered many more concepts. Sant' Elia did not support his projects with any kind of socio-economic analysis, statistics, or cost estimates: for these reasons, he was no more than a futurist utopian.[11]

Tony Garnier created his proposals for the Industrial City of 35,000 inhabitants on the "unrealistic" assumption of the complete socialization of real estate. His project is developed on the premise that society will be able to dispose of land at will and provide the population with nourishment, clean water, clothes, food, medication, telephone service, and so on on an equitable basis, while at the same time looking after the city's transportation needs. His proposal also mandates one house for every family, with half of the lot built on and the second half dedicated to public space, as street or garden; the gardens are without fences, since there is no

stantly submit to change. Houses in the city change into offices, hotels, cafés, ateliers, and so on; the statistics on such adaptations teach us how quickly a city house can change. Where adaptation is impossible or difficult, or where the floor plan of a building does not allow for different and variable layouts, the costs of conversion mount uncontrollably. Our cities today are actually more like stage sets: behind their facades buildings change constantly. Or, put more succinctly, these are modern ruins. Unfortunately, we continue apace to build more such ruins. The rapid rise in the cost of land itself leads to the shortening of the useful life of a building: buildings are demolished relatively early in order to free a valuable site for new development.

[11]) Detailed information on the important urban projects of Sant'Elia can be found in my article published in *Stavba* 2, no. 4 [1923].



Tony Garnier (Lyons, 1900): La Cité industrielle

Proposal for an industrial city. View of housing district with detached family houses in a garden setting.

private ownership of land, and thus half of the city is actually a park. The ratio of the height of the houses to the width of open space is to be not more than 1 to 1. Public buildings are concentrated in the center of the city, and schools are distributed on favorable sites throughout the residential quarters. Sanatoria, convalescent homes, and hospitals are located to the south of the city.

Garnier's Cité Industrielle is a cross between the English garden city and a southern or oriental settlement. With its checkerboard pattern of green spaces and terraces and its cubical white houses, it somewhat resembles a vision of future socialist cities. As a precursor of modern architecture, Tony Garnier created an imaginative opus lacking reality; but at the same time, his projects point the way toward modern *Siedlungsbau* a quarter of a century before its realization. The form of the houses used by Garnier in his scheme is quite interesting: it is a modernized, mixed version of the traditional Mediterranean house, the Greek peristyle and atrium house, and on occasion an adaptation of a Pompeian house (even today, its floor plan appears very modern to us, as it maintains the principle of separating housekeeping functions from dwelling functions, grouping together individual functional elements, such as bedrooms, living rooms, and baths, around a large "reservoir of air"—a kind of open living hall, the atrium or megaron). Though Garnier's houses have a minimum number of windows facing the street, they have an open interior courtyard with much greenery that provides the house with sufficient air, shade, and sun. This courtyard resembles the *carré espagnol* used in Spain. The luminous calm of Garnier's city has something of the feeling of a Greek or Arab city: it is not at all a smoky industrial metropolis but a Zion of work, culture, and rest. How far this is from the reality of today's situation becomes clear when we consider Garnier's project of 1,500 rental units for a large housing district in Lyons for the Quartier des États Unis, which was supposed to have been built—within the limitations of the occasion and the compromises imposed by prevailing conditions—as a concrete realization of his theoretical efforts in urbanism. In the first five years after he submitted the original design, the number of units actually built was—five houses!



Le Corbusier & Pierre Jeanneret: Plan Voisin de Paris 1925

Model of the center of Paris, skyscraper city and adjacent residential districts (open blocks with U-shaped and T-shaped housing blocks), similar to Le Corbusier's Plan Voisin de Paris proposal of 1925. In 1931 Pierre Chenal produced a film with the title **The New Architecture of France.** This scheme for the reconstruction of Paris was supposed to start with the rebuilding of the central business district. All historical buildings and monuments were to be saved during reconstruction (see left-bottom corner of illustration). Height of cruciform skyscapers is 220 m.

The most significant intellectual accomplishment of modern urbanism is found in the theoretical studies of Le Corbusier—above all his idea for a contemporary city for 3 million inhabitants, Une Ville Contemporaire of 1922, and the project for reconstructing the center of Paris, the Plan Voisin of 1925. Le Corbusier published these proposals in a book titled *Urbanisme* in 1925 (since it is not possible to cover Le Corbusier's earlier works in this chapter, refer to my article "Urbanismus" in *Stavba* 4, no. 7, 1926).

The latest urbanistic achievement of Le Corbusier is his Ville Radieuse [Radiant City], which actually complements and improves on the concept of his Contemporary City (Cité Contemporaine) of the year 1922. The Ville Radieuse design was developed by Le Corbusier in 1930 in response to a questionnaire on the urban problems of Moscow: it was displayed in the exhibition of the Third CIAM Congress and the Berlin Bauaustellung of 1931, and also was published in the journal *Plans.* During the discussions held in the Soviet Union between the urbanists and anti-urbanists on the subject of the building of socialist cities, Le Corbusier naturally defended the **principle of urbanization.** As might be expected, he approaches the whole subject from an idealistic point of view and also somehow moralistically. He asks whether the city is good or evil, and then answers his own question by a kind of technocratic-idealistic dialectic: "Modern industry has disrupted old relationships and has brought about despair and a dangerous crisis. But, fortunately, the very same modern industry and our new technology that have caused this disruption at the same time offer the possibility of a solution

and liberation. New construction methods, which have revolutionized architecture, provide the means for a new organization of cities."

In criticizing the Soviet anti-urbanists, Le Corbusier suggests that the very word "anti-urbanist" is flawed, being self-contradictory in that it denies what it designates. Le Corbusier holds that it is not correct to consider today's cities capitalistic: they are, as it were, simply inherited from the premachine era (see the chapter "Moscow Atmosphere" in *Précisions*). But he forgets that the transformation of the medieval fortified market town into a capitalist city has reached its full scope or development functionally and socioeconomically, even though it may not as yet have found its full formal expression in its regulatory plans.

In his previous plans (Voisin and Radieuse), Le Corbusier always started with the problem of the city center. He proceeds on the assumption that the center of the city has a tendency to become denser and more congested. Once the limits of these conditions have been reached there is only one alternative: the city grows horizontally and tries to expand in an ever-increasing radius outward toward the periphery. To counteract this expansion, Le Corbusier recommends both densification and reduction of the diameter of the center as well as the whole city. Business is left in the center, because it **is** the center of the modern city. If the center expands horizontally, it ceases to be the center. Here, we encounter a number of contradictions. The lack of city codes restricting high-rises may allow skyscrapers to be built, but such construction is not the only way to make the city center denser. There are concentrations of offices elsewhere, without the introduction of skyscrapers: for example, in Berlin the density of offices in the city center is as high as in Chicago.

According to Le Corbusier, the same contradictions arise when city regulations permit the city center to spread toward the periphery or to be transplanted elsewhere. He considers such policies dangerous; and their consequences are liable to be considerable financial losses for those who will lose their wealth invested in land in the existing center and who will forgo the high profits to be made there. To counter this regulatory tendency, Le Corbusier proposes to decrease the area of the center and thus raise the value of its real estate even more: instead of allowing the center to expand toward the periphery, he pushes the formerly outlying suburbs in a wedgelike manner toward the center. In his own words, the center of the metropolis thus becomes transformed into a veritable gold mine (a gold mine of land speculation, to be sure!). By such means, Le Corbusier seeks from finance capital, the banks, industrial economists (did he not personally approach Ernest Mercier and Lucien Romière of the Redressement Française, Marshall Lyanteye, Daniel Serruys, and the late minister Loucher on these matters?)—in short, the production elite and the captains of industry—their support for his "disinterested ideas" (!?).

Le Corbusier proposes the following scenario: increase the density in the center and and thereby increase land values; the increased land values will increase the value of his proposed skyscrapers, and the value of properties located on adjacent side streets hitherto difficult to access will increase as well. Everybody will profit. Up until the present, properties in the center of the city were owned by hundreds and thousands of small proprietors (in reality, they were and even today are effectively owned by the banks, who underwrite their mortgages). The final piece necessary to realize his plans is a government decree to buy out the parcels and pay for them later from the expected increase in profits (in the billions): the state will give the present owners a bond (a paper obligation), stating that their plots will be paid for in today's prices, but at a later date. The banks to which the former proprietors will subsequently submit their government bonds will compensate them right away, based on the present value of their plots. Naturally, the price of the lots will have to be fixed before the decree is published to stop premature land speculation and thus even more radical price increases. Le Corbusier is against the nationalization of land, which even some of the more liberal economists

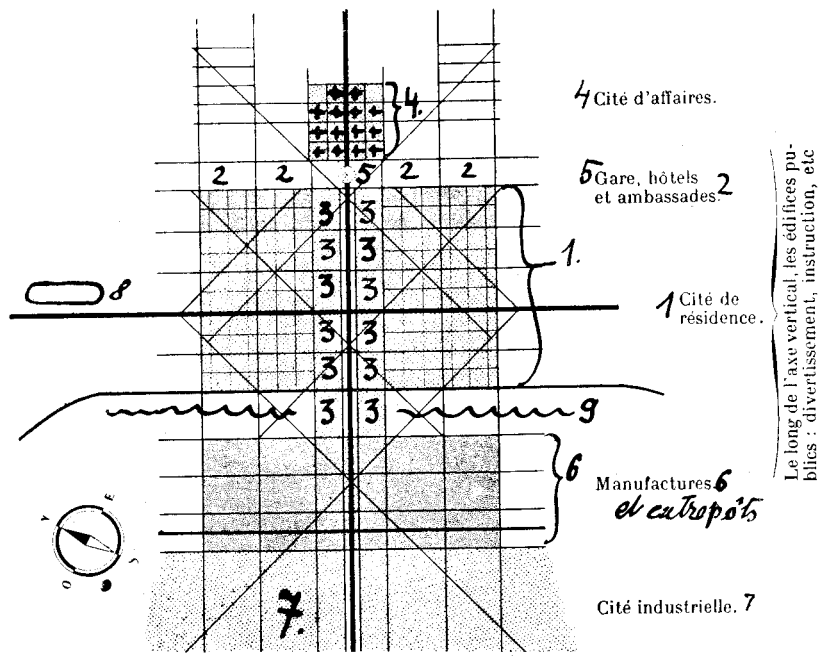
demand, for he considers private property to be sacred. He also opposes any other state intervention, beyond guaranteeing the bonds: actual physical development should be left to capitalist corporations.

The Ville Radieuse is a city without periphery, without a *banlieu.* Le Corbusier's project solves the traffic crisis of today's cities by eliminating its principal cause: the paradoxical connection of the city to its satellite garden districts. Le Corbusier proposes to increase population density by 300 to 600 percent more than the current ideal—the ineffective and uneconomical standards of the romantic garden cities. In fact, the whole project is based on an increase in population densities, both in his skyscraper city and in the residential districts. The Ville Radieuse does not contain any garden districts with family homes, still present on the periphery of his Ville Contemporaine of 1922, although the center of the city of the Ville Radieuse (albeit pushed toward the periphery, outside the geometrical center) is again conceived as a skyscraper city. The function of the skyscraper is posed here somewhat ambiguously: on the one hand it is supposed to increase population densities; but on the other hand, it allows wide traffic avenues to shorten travel distances as well as ample space for parking and similar functions. Le Corbusier's skyscraper center has a superdensity of 3,200 people per hectare, allotting 10 m^2 of office space per person. This design does shorten distances and does result in a gain of time. The skyscrapers are spaced 400 meters from each other, corresponding to the average distance between subway stations, which are located below each skyscraper. The skyscrapers are sixty floors (220 m) high, separated by immense open spaces. Nevertheless, in Le Corbusier's scheme travel time is shortened by a quarter in comparison with travel time in today's overcrowded Paris districts.

Le Corbusier's houses and skyscrapers on piloti free the streets for pedestrian traffic. The whole surface at ground level is converted into a park. Traffic arteries are sized according to speed of traffic in a grid pattern and are separated by speed (400 $\times$ 400 meter squares make up the basic geometric pattern of the Ville Radieuse, both in the skyscraper city and the residential quarters). There are no side streets. Instead, the architect proposes to reintroduce streetcars, though in his earlier projects he had eliminated rail transport by electric streetcars, which were replaced with buses. The bus is a very versatile means of transportation in the chaotic circulation patterns of old cities, where streetcars create confusion and block traffic; however, in a rationalized plan, and if unimpeded by automobile traffic, streetcars gain the advantage, since they are cheaper to run than buses and can reach high speeds on rails.

The residential districts of the Ville Radieuse are developed with houses twelve floors high, offering the amenities of hotels. The site plan contains arbitrary arabesques, probably intended to offer different views but in fact resembling a stage set more than a rational site plan; they must be considered essentially a theatrical, irrational, and uneconomical solution. The house rows pointed in a northeastern direction are designed with a central corridor, with windows facing west and east (three bays deep), whereas the houses with windows facing north and south have a side corridor along the northern facade (two bays deep).

Le Corbusier's Ville Radieuse and his urban theories (as presented in his book *Précisions*) are the clear expression of an architectural ideology closely allied with the interests of financial capital: his radical technical ideas are tamely adapted within the context of today's social and economic conditions. In his book *Vers une architecture* (1922), Le Corbusier has posed for himself a curious question with the famous sentence "Architecture, or revolution?" In the concluding chapter of his book—a book full of errors—he points to the unbearable housing conditions of the proletariat and the less affluent strata in the cities: "if you do not build humanly bearable housing for them (you capitalists!), these people will be forced to make a revolution!" His desire to forestall revolution by solving the housing question, besides betraying a fundamentally antirevolutionary position, clearly is totally naive, for the housing question



Schematic Diagram of Traffic Arteries

1 = residential area: 1,000 inhabitants per hectare; public buildings are located near right-angle axis in center of residential area

2 = hotels and embassies

3 = public buildings

4 = central business district, cruciform skyscraper density: 3,200 inhabitants per hectare

5 = railroad station

6 = workshops, manufacturing, warehouses

7 = large industry

8 = sports

9 = greenbelt with university city and sports stadiums

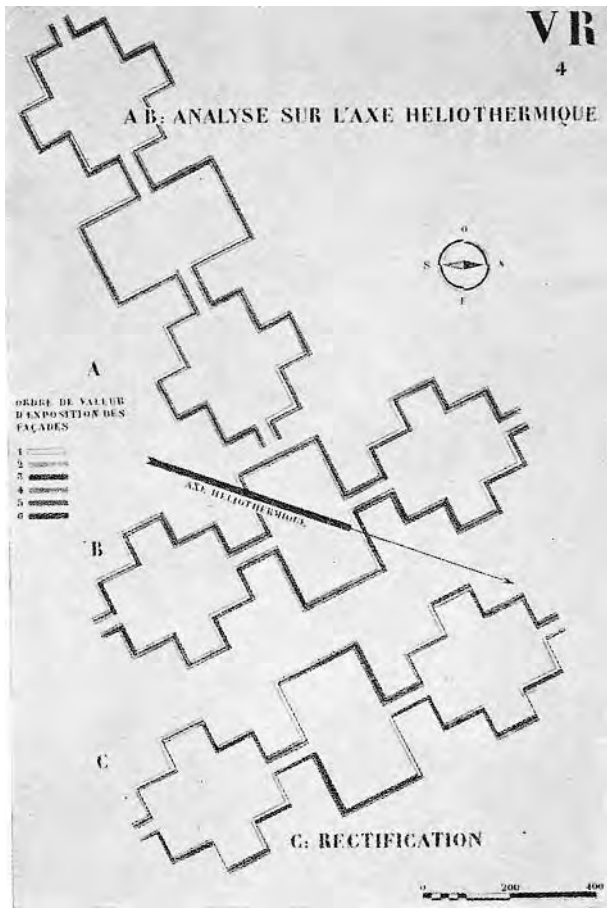
The Radiant City has a population of 1,500,000.

The Ville Radieuse is interesting in comparison with Le Corbusier's Une ville contemporaine of 1922 (a metropolis of 3 million inhabitants) and most of all with the Plan Voisin, because it pushes the commercial skyscraper city beyond the geometrical center. Clearly influenced by the Soviet development of their new socialist cities, though Le Corbusier applies in an overly mechanical manner the principle of the linear city **sotsgorod,** worked out by Miliutin and his collaborators, to a metropolis of finance capitalism. In contrast, Soviet plans of their new cities take as their point of departure the needs of **production,** i.e., the industrial and agricultural zones. In the Ville Radieuse the main element is housing. The Ville Radieuse, like all **metropolises** of capitalism, is severed from the country and not integrated with agriculture. Le Corbusier's principle of the linear city is also in conflict with his much-emphasized academic vertical axis of symmetry and the "arabesque" pattern of the residential district. The free arabesques of the buildings may well offer a number of plastic effects, but compared to continuous linear buildings, they have many practical disadvantages: uneven distances between opposite facades, irregular solar exposure; the right-angle breaks in the housing rows cast bothersome shadows. The traffic arteries and freeways are in many cases much too close to the front facade lines of the housing rows.
Le Corbusier has also developed an application of his Ville Radieuse concept to the reconstruction of Moscow.

Le Corbusier & Pierre Jeanneret: Ville Radieuse

The Radiant City

1929–1931



Analysis of the orientation of the housing arabesques toward the sun in the residential district of the

Radiant City

Apartments are oriented toward the south, southeast, eastwest, east, and west.

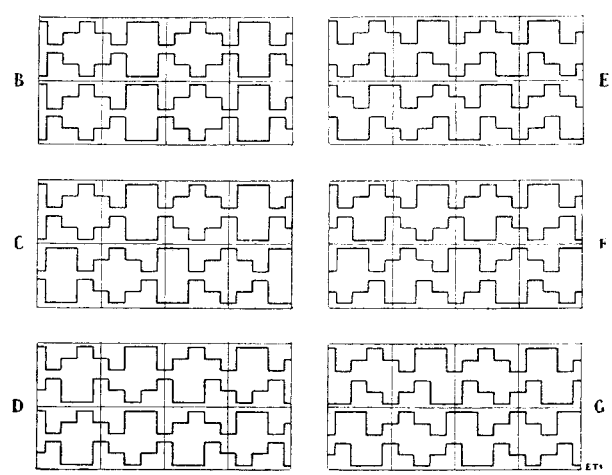
Both front and rear facades of the housing rows are oriented toward the path of the sun on each side of the central corridor. Wherever a facade is not oriented toward the sun, a side corridor is used, with only a single row of adjacent apartments adjoining it.

Le Corbusier & Pierre Jeanneret

1930

The Radiant City
Ville Radieuse

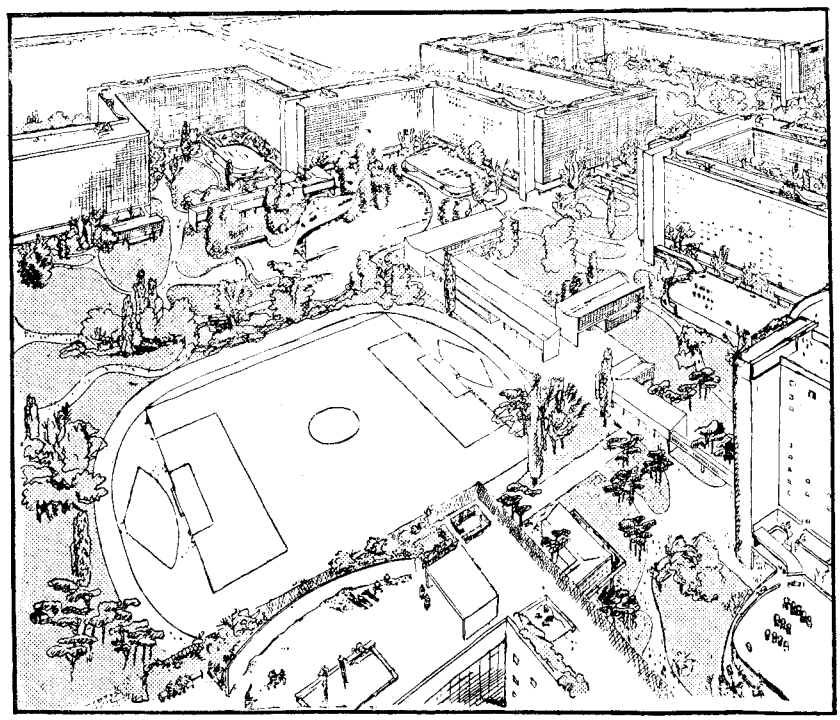
The site plan can accommodate many variants of the housing arabesques.



Ville Radieuse

1930 The Radiant City

Le Corbusier & Pierre Jeanneret

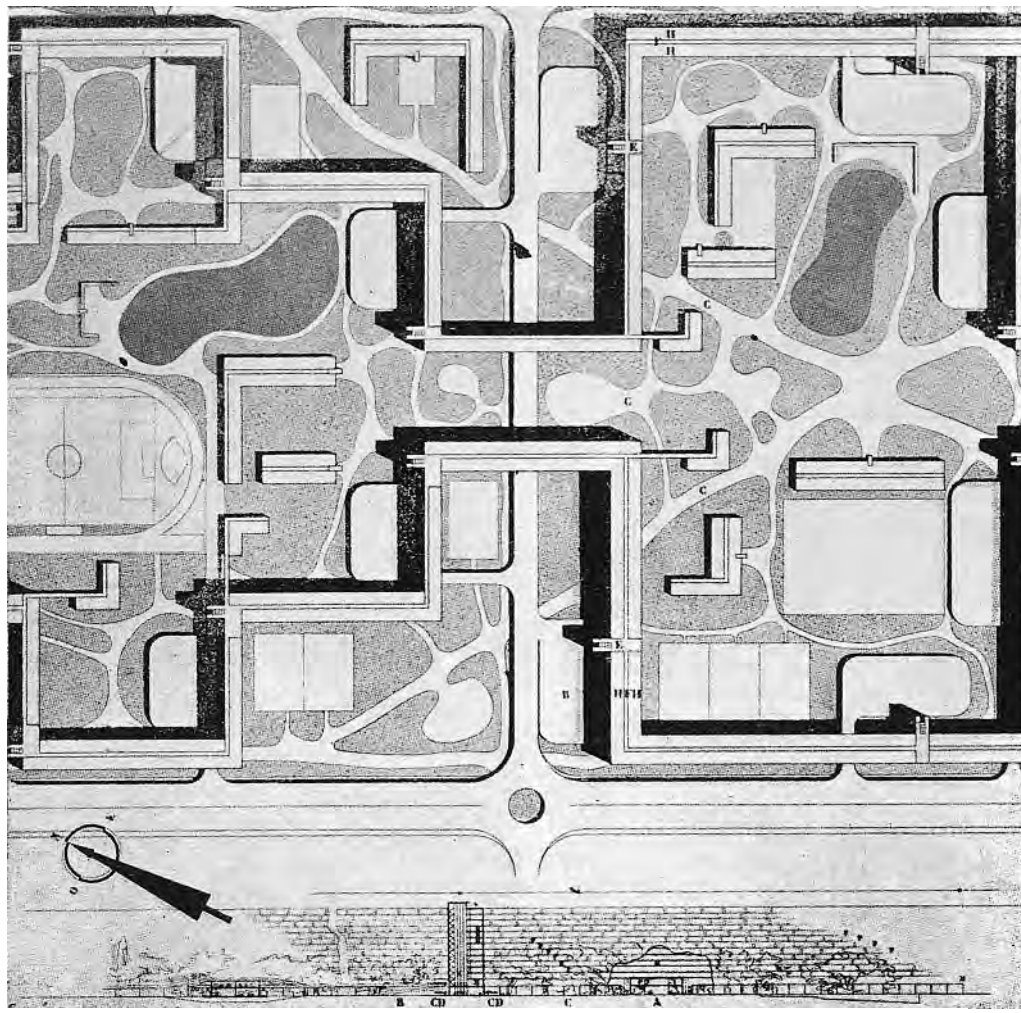


Block in a residential quarter. Park with schools, playground, parking close to entrances with elevators. Roof decks for sunbathing.

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can never be fully solved without revolution. Presumably, Le Corbusier thinks that change can be accomplished without revolution and without the abolition of private property. Instead, he answers his own question ("Architecture, or revolution?") with the slogan "architectural revolution." Social revolution is evidently not necessary and can be forestalled—by urbanism. Further on, Le Corbusier warns us that "Human rights have been proclaimed: we must plan to house all people well. People have waited 150 years; they have become ever more impatient and **may even claim by violent means** those rights that have been so freely bandied about." Elsewhere, he proposes that in the age of the automobile we should erect a memorial of gratitude to Napoleon III and Baron Haussmann, the same people who smashed to pieces the barricaded alleys of the people's quarters (!).

But let us remember: on the path of development under the influence of material and social forces, it is not a single thing that turns into its very opposite. Under the conditions of a class society, "every technical advance seems to be confounded by its opposite; and since in a class society every step forward is also a step backward in the conditions of the great majority of society, it is a boon for some, but a much greater evil for others, and the more civilization advances, the more it is forced to cover up all the evils it invokes by fancy subterfuge and conventional hypocrisy" (Engels, *The Origin of the Family, Private Property, and the State*). And so, we find that the philanthropic ideas of the garden city have turned into the reality of factory colonies, tying down the workers in one place and facilitating their increased exploitation. Beginning with the urban plans of Tony Garnier, we eventually arrive at the projects of

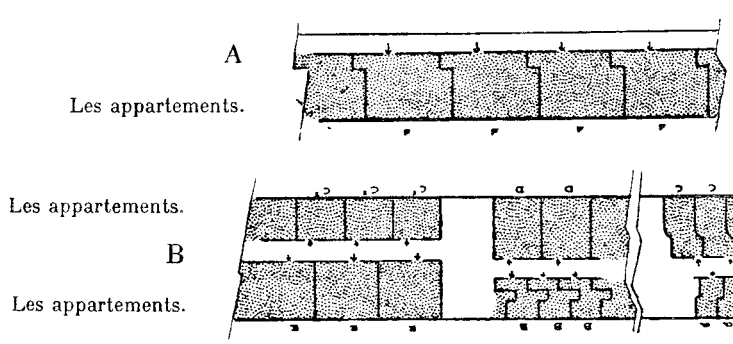


Residential elements: standardized. **Traffic:** meandering foot paths, unobstructed by buildings lifted up on piloti. Elevated vehicular traffic (second-floor height). Access roads to houses inside blocks. **Orientation:** free. Closed corners have limited access to sunlight for some apartments. 9% of overall area reserved for circulation, 91% open area; density 1,000 persons per hectare.

Schematic site plan of a residential district of the Radiant City

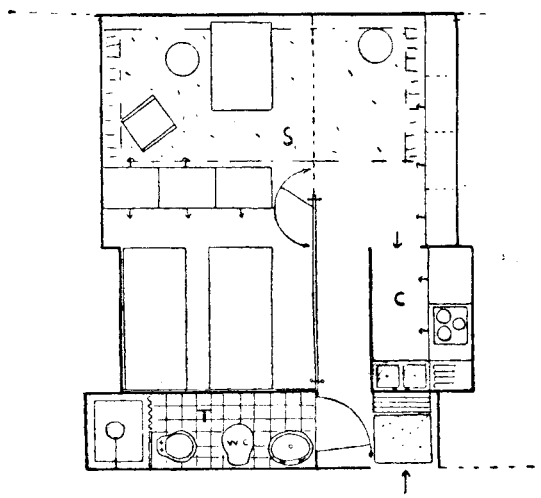
Long rows of 10- to 12-story houses, meandering arabesque-like through the site in many variations. Uneven orientation of facades toward sun leads to change from double-loaded to single-loaded corridor types. Hotel-type houses. All houses are lifted up on piloti, leaving entire ground surface open for pedestrian movement and green areas. Traffic is organized on a checkerboard-like grid pattern, with intersections spaced at 400 × 400 meters. Inside the spaces created by the arabesques are located schools, children's crèches, sports fields, and parking areas, the latter located close to entrances and elevators.

1930 Le Corbusier & Pierre Jeanneret: Ville Radieuse



Corridor facing north, apartments south.

Apartments facing west and east on each side of central corridor.



Floor plans of the 10-story apartment houses. Depending on sun orientation, either with central corridor, or corridor on one side only. Live-in units, 14–10 × 14 m² floor area.

← **Live-in cell with two beds.** (= 2 × 14 m²)

1930 Le Corbusier & Pierre Jeanneret: Ville Radieuse—Radiant City

Le Corbusier, based on gigantic machinations of finance capital and the monopolistic domination of the city center by financial institutions that are intent on ruining the remaining small property owners. If that were not enough, the imperialist urbanism of Le Corbusier has also allied itself with the ideas of modern war science: the city becomes a fortress again. It may not be surrounded by walls at its periphery, but Le Corbusier provides instead heavily reinforced shelters on his roof terraces to protect against aerial bombardment. In his book *Le danger aérien et l'avenir du pays* [*The Danger of Aerial Attacks and the Future of the Country,* 1930], Mr. Vauthier, an officer of the French general staff with responsibility for air defense, praises the Voisin plan and confirms that it satisfies in all respects the requirements of defense against future chemical air warfare.

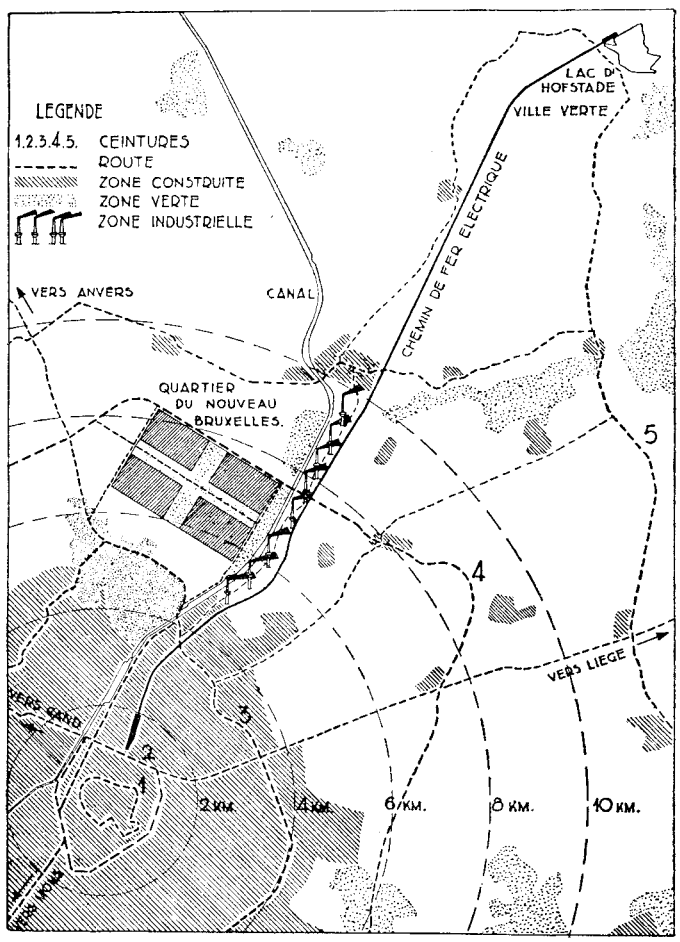
As for the other recent large-scale urban proposals, it is worth mentioning the project for a New Brussels (1930–1931), designed by Victor Bourgeois. It consists of a large residential quarter with ten-story houses. All the urban concepts developed by modern architecture, from Tony Garnier to Le Corbusier, Bourgeois, Hilbersheimer, and others, helplessly avoid the problem of the antagonism between city and country. While Morris wanted to eliminate the city and change it into a village, today's architect utopians eliminate the village. Le Corbusier's books do not contain a single word on the subject of the village. However, unlike Morris, Le

Victor Bourgeois:

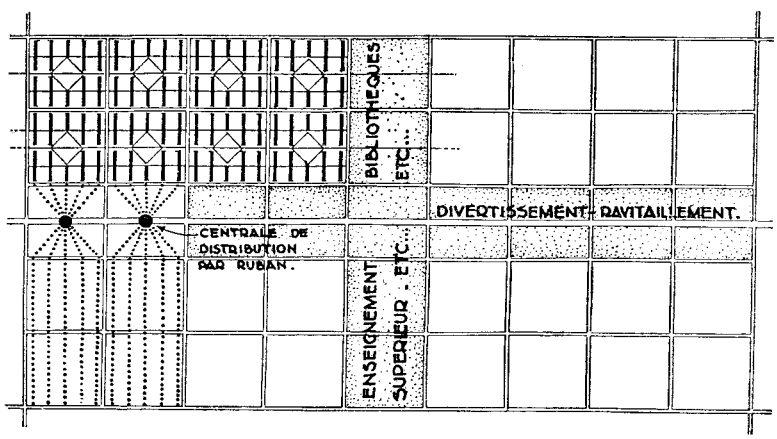
Nouveau Bruxelles

1931

A proposal for a housing district in Brussels, north of the Leaken park. The district is traversed by a crosslike space, which contains in one of its axes shops and amusement facilities, and in the other schools and libraries in parks. Houses are 10 stories high.



Cliché nº 11. — Plan de situation du quartier du Nouveau Bruxelles.



Corbusier understands the prevailing tendencies in modern society toward concentrating the means of production and recognizes the progressive historical mission of the city: he believes that culture will always require large urban centers. To the extent that contemporary urbanists are at all aware of the city-country antagonism, they stop short of engagement: they treat only its superficial symptoms, best represented by the cultural advantages of the city on the one hand, and its hygienic defects on the other, which they wish to cure by the naive device of urbanizing the village and introducing greenery into cities.

The longing to make the city humanity's exclusive form of settlement can be traced back to the ideas of earlier utopians, such as Cabet, Campanella, and Morelly, who urged that parks be introduced into the city as a vital health requirement. This demand eventually came into direct conflict with modern tendencies toward concentration, since parks take up valuable commercial space in the city center that, because of the high cost of land, can be exploited in other uses more profitably. Le Corbusier provides a good example of this tension: as he tends to increase park areas in the city, he then has to compensate for their presence with higher buildings and higher population densities—in other words, by exploiting more fully the residual land to be built on.

In that sense, most urban projects developed by contemporary architecture belong under the heading of technical utopianism. Do not misunderstand: these may not always and in all respects be works of pure utopian fantasy and imagination; for all their mistakes and faulty premises, they may legitimately be considered as scientific hypotheses. They remain "utopian" mainly within the context of the current social and productive order, which lacks both the will and the ability to implement them.[12] Produced in a time when monopoly capitalism has become a retarding force, frustrating the unfolding of all the creative energies and technical discoveries that it had originally **awakened,** all the aforementioned works will be placed in the history of the technical progress of humanity in its chapter on unrealized projects.

Even the most radical urban proposals do not have sufficient courage and foresight to attack the root cause of the problem, failing to recognize its full scope. Modern urbanism cannot limit itself to reconstructing old cities or building new ones: **it must eventually smash the old structures of the city and build settlements that will share with today's cities only their name.** The new city, the socialist city, will therefore represent a "change of quantity into quality," completely reorganizing the city as the material expression of social relations, and thus replacing the concentric city with the uniform resettlement of humanity on a global scale. In the end **the apparatus and economic system of today's city must be overcome and rejected** before new settlement plans are attempted.

Therefore, any goal-oriented modern urban planning must be based on the critique and analysis of the current economic system: **the negation of the current forms of the city and the village must become the negation of today's system, of which our cities are the product and the instrument.**

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As stated in the preceding pages, none of the contemporary cities has succeeded in solving either its housing or its traffic problems. **The ills of the city are being treated sometimes by**

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[12]) Le Corbusier, recognizing that his grandiose plans have at present no chance of practical realization, dreams about becoming some kind of contemporary Colbert. But he forgets that Colbert was able to work effectively only during the very early stages of bourgeois power and that even at the height of Colbert's success, his work encountered the resistance of the court—as the work of our new Colbert would surely encounter the same resistance by the powers that sustain today's ruling class and that likewise refuse to face its contradictions.

palliatives, sometimes by surgical interventions, but never by a real cure. To the extent possible, traffic problems are currently being dealt with merely by ingenious traffic regulations, signaling systems, one-way streets, and so on. In extreme cases, some streets are widened and new avenues are cut through demolished parts of the city. However, none of these measures is capable of curing the real malady of our cities. They are local surgeries, which at best help **slow down the disintegrative cancer afflicting our cities. The deep cause of this cancer is the capitalist system itself, with its regulatory shenanigans, the rights of property owners, and so on, and so on—and taking part in this system are architects, who are blind to all these issues.** And so the **crisis of the city turns out to be one of the most serious crises of the capitalist economy; the metropolis, as the embodiment of the accumulation of finance capital and as the creator of modern technology, itself becomes the stage for the revolt of modern forces of production against prevailing conditions of production.** The chronic crisis of the metropolis undermines the existence of the bourgeois world. It was Marx who has shown that "the modern civilized world resembles a magician, who cannot banish the subterranean forces invoked by himself."

Even if some unknown machinations and some as yet unknown trick made it possible to cut the Gordian knot of the city center, the crisis of the metropolis would be alleviated only temporarily; its shadows would soon again loom large to haunt us repeatedly, just like all the other recurrent crises of the capitalist economy and production, with their huge concentrations of cartels and trusts, which so far have been unable to subject production to a general economic plan on a world scale. For this reason, there is also little hope of implementing some kind of general plan for housing and housing developments, which alone could deal with the problem of overpopulation in cities: it is equally impossible to overcome the contradictions between the city and the country and to limit the centripetal power of the cities with such piecemeal measures.

The problems of the city in housing, traffic, and health cannot be solved without overcoming their causes and without radically revising the makeup of our cities: and ultimately no solution will work without dealing at last with the contradictions between city and country. Equally, it is not possible to regulate and control the chaos of today's cities relying solely on the devices of modern technology (e.g., with the aid of ingenious traffic and street regulations), or to cure the housing problem by architectural reforms alone: in fact, it is impossible to resolve the housing question while retaining the city as the dominant system of settlement. "Civilization has bequeathed us in large cities a legacy that it will take a very long time get rid of. This will be a long process. . . . The housing question will be resolved only when the reconstruction of society reaches a level that will allow the **abolition of the contradictions between city and country,** ushered in and pushed to their limits by capitalist production" (Engels). Abolishing the contradictions between city and country (de-urbanization) and creating a uniform settlement cannot but help dissolve the political boundaries of the city. To accomplish this, it will be necessary to work out a nationwide settlement plan. Furthermore, de-urbanization cannot be fully implemented and become permanent within the framework of existing national borders. The uniform distribution of production and new places of residential concentration will lead to a **new floor plan of Europe**—even a new floor plan of the globe—where functions will be distributed naturally according to economic geography rather than artificially according to the divisions of political borders.

The contemporary city is the dominant cultural form of settlement, expressing today's economic system and today's social conditions with its socially differentiated quarters, apartment barracks, poverty and luxury, and separation from nature by the city monopolizing culture—a culture that is becoming ever more refined as fewer people benefit from it. This is a city that

separates but does not organize its population, a city that must perish after the production system that has made it grow becomes extinct. The crisis of our cities is a symptom of the advancing disintegration of its structures, a disintegration that is complemented by the takeover of small-scale production by large-scale industry (in agriculture as well as manufacturing), and the supplanting of home housekeeping functions by large food chains, restaurants, snack bars, and hotels. "Capitalism has once and for all cut the link between industry and agriculture; but at the same time, at the highest stage of development, it has prepared the new elements for a new rearrangement of this link that integrates industry and agriculture, based on a conscious utilization of science in combination with collective work for a new type of human settlement that will not only overcome the desolation of rural life, its isolation from the world and its brutalization, but will free us from the unnatural piling up of the masses in large cities. . . . At the current time, when it is possible to distribute electrical power for long distances and when transportation technology has reached a high level of efficiency, there are no technical obstacles to prevent the achievements of science and the arts, which are now concentrated in a few centers, from pulsing through all settlements, distributed more or less uniformly throughout the whole country" (Lenin).

The age of imperialism has been an age of great expansion, but it has also brought in its wake the decadence of cities. The world's metropolises are obviously reaching the limits of their growth. The grandeur and splendor of cities are in decline and municipal bankruptcy is rampant. The rate of growth seems to have declined in New York; and for decades London has ceased to register a natural increase in population, attempting to manage temporary surpluses of its population by exporting them overseas. Even though certain cities—especially port cities—are still growing, the economic and social history of the present seems to point to the culmination of the growth of large cities, thus presaging the eventual resolution of the conflicts between city and the village by preparing the way for a higher level of settlement form, that is, the uniform distribution of humanity in new types of settlement patterns. Of course, this will only happen after today's economic system is changed.

Lately, German urban theorists have bandied about the slogan **"the end of the metropolis."** It is a slogan that like a flash of lightning highlights the contours of the current situation and stage of development, a slogan that reflects nothing other than the crisis of our failed cities and the collapse of capitalist production. Just as half a century ago René Bazin's novel *La terre qui meurt* ([*The Dying Earth,* 1899], by the way, a statement of reactionary agrarian ideology) presented its readers with the lament of the complete subjugation of the village by the city, so today the slogan announcing the end of the metropolis and urging a return to land and soil expresses similar confusion and a helpless groping toward a way out of this critical situation. Today in many cities industry is dead. Rationalized large industry and modern large cities are subject to the same laws: they cease to function properly and go into immediate deficit when their huge machinery stops operating at full capacity. The migration of industry out of the city, where production expenses (transportation, property taxes, interest, cost of living) have become too high, at one time promised to offer relief and to ease the problems of the city; but their corporate dependencies prevented factories from leaving cities, even though remaining meant high operating costs. Besides, improved transportation made it possible to concentrate industrial enterprises in large cities with a qualified and educated resident workforce at hand. However, with the development of automated assembly-line production methods, it became possible to make do with unskilled rural workers in small cities, where transportation did not represent a significant item in the municipal budget. A good example is provided by the clothing industry, which still uses domestic work on a large scale and is still located in old cities where its labor lives in poor and cheap apartments, thus operating in locations that other industries would find unacceptable.

The current slogans announcing the end of cities cannot be considered exhortations urging decentralization. Instead, they are merely screams of agony. Besides, in the present economic climate, it would be very difficult, if not impossible, to move existing huge production facilities out of the city, even though they are currently practically idle. If we assume that in 1932 Berlin counted one million unemployed workers (whom the reformers plan to resettle in the country), then moving out the factories would mean that the rest of the working population would have to depart as well, thus leaving the city practically abandoned. In general, the population of many central European cities is rapidly declining in absolute terms, regardless of the presence or absence of industries located there: that deaths exceed births has always been characteristic of cities, but today the trend toward depopulation is further exacerbated as more people move out of the city than move in.

German government economists have proposed as a measure of last resort to return unemployed city labor and office workers back to the country, where they will take up farming or gardening. Thus, *Umsiedlung* [resettlement] has become the fateful slogan of our day. Naturally, such a solution must be considered as highly questionable and basically reactionary. Our cities are at the present in both visible and invisible decline, and the settlements outside the city, the garden developments in the country, are merely symptoms associated with the failure of cities and their economies: it is the formation of urban agglomerations, which had boosted the growth of industries after the war to the maximum from which they are now beginning to decline, that causes the decline of cities as well: and only the elimination of these deep causes can be expected also to eliminate their symptoms.

The more acute the crisis of cities becomes, the more inhumane the housing misery, the more complicated the traffic difficulties, and the more blatant the class politics carried out by municipal authorities in favor of the propertied become. Admittedly, cities try to solve their problems in ways that may offer short-term local relief, but sooner or later the same crisis recurs in a more profound and sharper form. The contradictions within the city itself are becoming continuously more acute as well: the greater the splendor in wealthy districts, the greater the filth and misery in the suburbs and barrack colonies. Problems of zoning regulations and urban renewal are intimately tied to city politics. City economics and politics, controlled by capitalists (even though they sometimes hide by assuming the role of communal socialism), do not permit any comprehensive action and socially oriented construction programs. Even sewers and water are introduced into workers' districts only to prevent typhoid and other epidemics from threatening the residences of the rich. . . .

A phenomenon associated with the crisis of our cities is the financial collapse of municipal economies, which are part and parcel of the general economic state of the country at large. In Berlin, because of the dismal state of municipal finances, the construction of housing financed by public money was halted altogether. Most German cities are in serious debt and are trying to erase their deficits by selling their assets to banks and private corporations. For example, both the Berlin and Vienna municipal governments were forced to sell their electrical power plants to plug holes in their municipal budgets. In 1930 Vienna's deficit amounted to 17 million shillings. And so, while Le Corbusier dreams about his gigantic urban projects, about an "era of great works," which he assumes will be started at the snap of his fingers, cities are actually sinking deeper and deeper into permanent crisis, decay, disorganization, and bankruptcy. Chicago is a good example: in 1930 its deficit was the astronomical total of $657 million. Subsequently, the public services declared bankruptcy and 60,000 municipal employees were terminated—and they had not received their salaries for months before being fired. Schools, fire stations, and hospitals were closed and snow was not removed. The city looked as if a general strike had been declared! During that year, there were 500,000 unemployed in Chicago alone and their number is still increasing.

The crisis of large cities, accompanied by the crisis of their communal economies, thus brings about a further worsening in the living standards and health of the greater part of their populations. **To a certain extent it is possible to measure the magnitude of today's economic crisis by the crisis of the city.** As a result, our cities are in a hopeless situation. At the same time, urban planning as part of the capitalist national economy does not recognize the underlying fundamental causes of the crisis and fails to apply the correct theories for its amelioration. Le Corbusier too operates with superficial and illusory pseudo-theories; along with others, he tends to confuse theory with the analysis of statistics on traffic, housing, taxes, hygiene, and so on—in other words, he substitutes a thermometer for diagnosis. The result is that architects and regulatory authorities conceive mutually contradictory proposals; any attempt by one party to diagnose and cure the crisis is rejected and discredited by the other, for the conflicts of the special interests do not permit any concerted effort to implement even those few practical remedies that are at hand and doable.

Prevailing methods of city development are virtually incapable of action and practically helpless to change anything: they all result in endless descriptions of phenomena and diligent but useless collections of raw statistics, for **these anarchical conditions are the necessary existential state of the capitalist city.** The history of the growth, glory, and decline of large cities is a history of ever-increasing class confrontations, internal contradictions, and crises, reproduced over and over again on an ever broader and deeper base. New regulations and attempts at reconstruction have caused ever deeper disorganization and increasingly serious disruptions in the structure of cities. In the current historical situation, any tendency to organize and regulate cities leads only to further disintegration, and so-called development only contributes to their decline. Fortunately, a process of reconstruction (largely ignored) is already taking place outside the control of official policy initiatives and the purview of regulatory commissions. In that sense cities play a revolutionary role in the history of mankind: these revolutionary tendencies give birth to and help consolidate the power of the modern proletariat, and thus cities are a reservoir of its misery as well as a source of its strength. As cities become more complex to run, they also become easier to disrupt with a general strike. And, as the crisis of our cities and of the economy in general becomes more acute, the forces that will ultimately implement their reconstruction, decide on their ultimate demise, and make possible the conditions for a **new resettlement of humanity** are gradually becoming more organized and more powerful. It is not calm or stagnation that marks the process of the decline of cities; on the contrary, it is the violent struggle of social forces that alerts us to the presence of an approaching catastrophe.

The contemporary large city with its recurrent crises is a poignant reminder of Marx's observation that "capitalist society has gained control of a civilization too large to handle and it is being undermined by the development of large industry, which prepares its own funeral." Large cities represent part of this large organism that leads to the pauperization of a great majority of their population in a most brutal form; but at the same time, it is also the mechanism of the economic life of the large cities that has awakened the mighty forces that are historically destined to realize the transformation and reorganization of society, and it is the very civilization of the large cities that has brought into the open the technical preconditions for the liquidation of cities as currently constituted.

In a world subject to economic planning, the local centralization of factories and enterprises not related in their specific production processes will be gradually abolished. By such means the irrational centralization of settlement patterns will equally be done away with: the city will cease to be a city and will merge with the industrialized village to become a combined system, including both industry and agriculture. The result will be settlements with a new structure

and quality, a holistic totality comprising agriculture, industry, power generation (energetics), transportation, administration, housing, and education, as well as culture and recreation. De-urbanization will recover the lost biological equilibrium between man and nature—the soil, sun, water, and air.

Urbanism? Anti-urbanism? Soviet practice in the building of socialism has critically accepted and reevaluated the research and theoretical principles elaborated by modern urbanism and has applied them in practice to building new and reconstructing old cities. In contrast, such urban planning concepts have remained only on paper in the West. Here, modern urbanism has restricted itself mostly to laboratory experiments and hopes to become a scientific discipline, devoted to establishing general laws for the planning and organization of human settlements and to elaborating general principles on whose basis it would be possible to shape cities and control the tempo of their growth—that is, to convert the anarchy of the city, which is the result of the anarchy of the market, production, and the insecurities of the social situation, to a new planned basis. Without a general plan there can be no urbanism. Only socialism can realize such a plan and develop cities without interference from so-called public and private interests. One may call this socialist urbanism.[13]

At the very moment when the city changes itself qualitatively and structurally and orients itself toward a merger with collectivized and mechanized large-scale agriculture, the contradictions between city and country become reconciled (which does not mean that it will be possible immediately to do away with the city), and the seeds are sown for developing new patterns of settlement in which both cities and villages will be replaced by a third, synthetic form (since antithesis retains precedence over thesis, the form of this new settlement pattern will be closer to the city than the village). With the gradual elimination of the antagonisms characteristic of the housing and settlement patterns of the old society (city-village, mental-physical work, male-female activities), the emphasis will gradually shift from the "urbanism" of isolated city plans to the planning of whole economic regions, and thus to a new system of settlement.

And so, at the very moment that the theories of modern urbanism are actually being implemented on a large scale (in the Soviet Union), it changes into de-urbanization, that is, into the planning of new, socialist, uniform settlement patterns for humanity. De-urbanization thus turns into the theory and planning of what Lenin calls *sotsrazselenie* [socialist resettlement].

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[13]) If "socialist urbanism" is actually a *contradictio in adiecto,* "capitalist urbanism" in the literal sense is actually platitudinous hypocrisy: the possibilities of urban planning in capitalism must be considered with skepticism, since capitalist city development proceeds on the basis of the private interests of capital, while the competing plans of urbanists tend to remain on paper. Cities are a pseudo-organism, without a common will; decisions are made on the basis of the particular interests of industrialists, businessmen, bankers, and the owners of properties and houses. City authorities do not control the situation, but merely play the role of hired watchmen. It is hypocritical to speak about urbanism or any kind of planned city building in capitalist Europe, for **no architect or specialist in urbanism has ever had the opportunity to build any kind of new city,** or even part of a city: they can do no more than propose projects that never get realized. Regulatory authorities propose only piecemeal interventions and then are pressured by capital to abandon them. And yet, **by definition an urbanist is somebody who builds cities:** in western Europe such building is impossible. **Building cities according to plan** is today possible only in the Soviet Union, where it is understood for the first time that an urban plan has no reality if it is not supported by an economic plan, which translates into—socialist, Soviet urbanism?

dwelling and household in the nineteenth century 6.

the family home ● the rental house ● the housekeeping household ● the sublet

In the dust of flaking plaster
surrounded by faded pink wallpaper
a solitary tablecloth and vitrine feign
the maudlin persistence of trivia.
The bourgeois maggot
tries in vain to restore its shredded body.
Here lies in agony a dying class
Here lie in dust their family traditions:
Shake down their houses, let them disgorge
small tea spoons and their cockroaches
with the dust of the Middle Ages.
—Louis Aragon

The dwelling of our time has developed as two concurrent and well-defined models: **villa** and **rental house.**

Both of these dwelling forms have gradually evolved into today's typical bourgeois types during the Empire and after. In both cases the models are the aristocratic residence and the feudal dwelling as castle, manor house, or palace. The villa in particular traces its origin to the summer country mansion, the so-called *maison de plaisance.* The various housing types that were developed during the nineteenth and twentieth centuries represent not only a transformation but also a reduction of the aristocratic dwelling into its bourgeois or petit bourgeois counterpart in terms of both space and interior appointments; and its layout was changed to accommodate different functions to groups of larger or smaller rooms, serving different household, sanitary, living, and representational purposes.

Even though these new housing types were historical trendsetters for their time and their society, they were by no means meant for everybody, for **the dominant dwelling type is naturally the dwelling type of the dominant class.** Apart from larger or smaller family houses and better and worse apartments in rental houses, we find many hovels, temporary shacks, and rental barracks. As discussed earlier, dwelling in the true sense of the word is in effect reserved only for the well-to-do segments of the population; thus, it is possible to speak about proper dwelling only with respect to a certain level of prosperity, a certain position on the ladder of social status and property. Although the right to dwell decently is guaranteed in some countries by law (e.g., Germany) and has been declared a universal human right, this right in reality has been extended only to the better-off classes. The phrase "dwelling for the subsistence minimum" is actually a paradox; by definition, **minimum subsistence excludes dwelling in the conventional sense of the word.** The dwellings of those on the lowest level of social status and property ownership (residence, flat, apartment, etc.) bear no resemblance to the functionally differentiated dwelling types of the ruling class. It is in this sense that the abode of the proletariat and the poor in tenements or workers' barracks is not a dwelling in the true sense of the word, but merely a **shelter. It is not a home, but merely a lodging.**

The first transformation of the two dominant types mentioned above was from the medieval burgher's house to the rental apartment building. The bourgeois family house is of a later type, with its own distinctive architectural form. Its floor plan developed its own distinctive features only at the turn of the century (see Jan Kotěra in Czechoslovakia), primarily under the influence of the English garden city movement. From the beginning of the nineteenth century until our own day, responding to social and lifestyle changes on the one hand and improved architectural solutions on the other, both of these dominant types—the family house and the apartment house—have undergone many changes and many improvements. The evolution from the rental apartment of the Empire style to the contemporary type, as well as the evolution of the contemporary villa from family residence of the Empire style to, say, Le Corbusier's Villa Garches or Poissy, provides ample evidence of this quantitative change. However, even though the floor plans have been improved, what has not changed is the basic housing type in historical-social terms: the functionally differentiated house, with its family-based housekeeping regime.

The prevalent type of the bourgeois dwelling [in Europe] is the multiroom apartment; its evolution originated with a gentleman's residence, whose dimensions are reduced to a greater or lesser degree, depending on the level of affluence of its inhabitants. Basing its layout on this model, the apartment consists of an endless row of salonlike rooms of approximately equal dimensions. Double-leaf doors open along the axis of their lateral walls. The vista along the perspective of all these chambers, which form a kind of connected, continuous corridor, is terminated by the master bedroom, with the obligatory monumental catafalque of its shared marital bed. At first these rooms were treated as salons, without specific functions: green room, blue room, brown room, purple room, and so on. Special functions were assigned to them only later: master's room, lady's boudoir, library, study, reception, children's rooms, guest rooms, smoking room, musical salon, bedrooms, dining room, and so on.

During the first half of the nineteenth century, the so-called **open gallery type** was introduced, representing a remarkable adaptation of the Empire style to urban multistory housing. At first open, these galleries were later glazed in (northern type) to become corridors, similar to the side corridor (*Seitengang*) in a modern railroad car. All the apartments accessible from the open gallery—regardless of the number of rooms—were at first without service facilities: the only service space provided within the apartment was the kitchen. Service spaces outside the apartment included a cellar and a loft, and sometimes wood and other storage sheds in the courtyard. The entrance from the open gallery led directly into the kitchen, for there was no hall, and from there one gained access to the other rooms (some of which had separate entrances). As a rule, a single toilet was provided at the end of the open gallery and separate from the apartments, to be shared by the tenants on each floor. Individual toilet "lockups" outside the apartments came into existence only during the sixties and seventies. In other words, this meant that the reform included the installation and gradual improvement of the technical infrastructure of an apartment, the addition of special housekeeping and sanitary rooms, and—at the same time—a reduction of the number of rooms used less frequently (in effect, habitable but unused rooms) and the revision of their size.

The first service space to be added was the hall. At the same time the number of toilets was increased: instead of a common toilet, shared by a whole floor, a toilet shared only by two apartments was provided. Actually, even earlier, from the fifties onward, apartments of good quality tended to have their own toilet, frequently accessible only from the kitchen. Other service spaces added were a food storage closet (larder) and later a walk-in closet for storing infrequently used housekeeping items. However, this latter was added only to comply with fire regulations that made it illegal to store combustible items in the lofts. The bathroom as an

integral part of the apartment became a standard feature only at the end of the nineteenth century, but—to be sure—only in large apartments of four rooms and more. Only during the last fifteen to twenty years has it become common in medium-size and small apartments as well. Other housekeeping spaces and equipment, such as food preparation counters and kitchen sinks, clothes closets in bedrooms, and occasionally a separate toilet and a small bedroom for a servant near the hall, appear even later and only in the large apartments of the affluent.

At the same time, the dimensions of the rooms were being adjusted according to the special functional requirements of each, resulting in the gradual emergence of the most mature form of the bourgeois apartment: its center is defined by a large living room and a sitting room. The other rooms are kept small, more like cubicles, each dedicated to its own special function. In smaller apartments the living room doubles as a dining room, salon, and library as well. By means of these various reforms of the apartment layout, rationalization and economization have simplified all housekeeping operations in the apartment. The result is an apartment made up of a living room of adequate size and a number of individual sleeping cubicles, which in turn are combined with technically superior but smaller spaces designed for sanitary functions.

These changes in plan were accompanied by corresponding changes in the typical arrangement of windows and doors. Load-bearing masonry restricted both the placement and size of openings, while vaulting allowed an increase in size vertically but not horizontally. With massive bearing walls, any increase in the size of a window causes considerable technical difficulties, besides increasing construction costs. The masonry pier system, as used in Gothic construction, does allow the extension of the width of windows from one pillar to the next, thus opening the spaces behind to daylight. (Note that Gothic construction attempted to increase general window size not only in cathedrals but in its mature domestic architecture as well. The Flemish houses in Ghent, Louvaine, and the Grande Place in Brussels and Antwerp and many other cities, display facades with very large window openings; these are based on an even earlier Gothic tradition, which also used large windows, inserted within the open spaces of the structural timber frame. The masonry pier system uses a stone structural frame instead. The Renaissance and baroque aspired to large windows as well, but only to the extent that the massive bearing walls made this possible.)

At first, the bourgeois apartment of the nineteenth century used prevailing baroque and Empire window styles: that is, a window elongated along its upright dimension, the vertical window. A typical room of a bourgeois apartment of the seventies has one or two vertical windows, placed on the axis of symmetry of the front facade. The desire to exploit the site (and rents) to the maximum led both to a reduction in room size for middle-income people and an increase in the number of apartments per house: the exploitation of every square meter of floor area as well as facade frontage exposure made it necessary to squeeze the greatest possible number of small rooms along the facade wall. Rental apartments built during Haussmann's time and after typify this development: each room has only one vertical window, extending from floor to ceiling, with windows spaced as tightly as possible next to each other along the facade. The result is a row of vertical windows, each practically touching its neighbor (the bearing wall of the facade becomes transformed into a row of narrow masonry piers). This design already points toward the later emergence of the continuous horizontal window, made possible by the introduction of concrete and steel skeleton construction, which allowed whole facades to be suspended on brackets.

Subsequently, a number of transitional types were developed, ranging from Haussmann's vertical windows to today's oblong or horizontal strip windows in concrete or steel frame buildings. The Secession loosened up the rigid shape of the traditional window by introducing

playful grotesque forms and shapes, such as oval and round windows and windows joined in pairs, threesomes, or even foursomes of roughly square shape. These squarish shapes were later lowered and elongated, to end up as the modern horizontal oblong window.

Initially, doors in bourgeois apartments were almost exclusively double leaf and relatively high (120 × 250 cm); the rooms themselves were relatively high as well, similar to the chambers in baroque palaces. Designed in the manner of grand monumental entrances, these doors actually looked more like portals than like ordinary apartment doors. Lower, single-leaf doors made their appearance at first only in kitchens and service spaces. The change to single-leaf, low, and anthropometrically dimensioned doors occurred concurrently with the change in windows discussed above, and for the same reason, namely to achieve a better utilization of space. The introduction of glazed doors, sliding doors, folding doors, and so on, occurred concurrently with the modernization of the house's floor plan from a collection of closed, self-contained rooms to a more open space. This change, in turn, led to the introduction of the movable partition: in certain cases the functions of doors and windows began to merge into an entire movable, transparent wall.

The changes described above in the layout of the bourgeois apartment during the nineteenth century also led to the abandonment of the simple open-gallery apartment type in rental housing, as apartments increasingly became the object of rental exploitation and speculation. The desire to maximize exploitation of the building site led to extremely complex and forced compartmentalized (box-in-box) apartment layout schemes containing a great number of tight light wells and ventilation shafts; the quality of site plans worsened in inverse proportion to the growing internal comfort of the apartments, progressively decreasing direct access to daylight and natural ventilation and, as a consequence, also bringing about a general deterioration of health conditions in the city as well. For example, stairs were eventually provided with natural light only from the top, kitchens received only indirect daylight from the corridor, and halls were left dark, without any daylight. This change accompanied the transition from the open gallery layout to the interior, **double-loaded corridor type.** The schematic layout of the double-loaded corridor type is essentially similar to that of Renaissance palaces; it is axial and monumental. It is here that the apartment becomes endowed with its patrician form: a row of rooms a la manor house. The need for individual entrances into many of the rooms from the hall lead to extensions into subsidiary corridors inside the apartment, generally inserted between two rows of rooms and poorly lit (despite all the light shafts) and poorly ventilated.

Despite this change in plan from a single-bay, open corridor type to a three-bay type, no radical, substantial improvement can be observed that might have led overall housing quality to improve and that might be seen as compatible with contemporary technical progress. On the contrary, the tendency to build rows of lateral bays extending between street and courtyard, designed to exploit the site to the utmost, caused the rows of rooms in between to become dark and poorly ventilated and represented in fact a step backward from the single-bay gallery-corridor type.

The palaces of the wealthy bourgeoisie, their grand villas and *hôtels particuliers,* use the feudal, aristocratic dwelling as their model. The villa of the nineteenth century is an atavistic throwback to the era of a gentleman's manor house. It is the lord's past castle, transplanted into an urban environment. In his book *Neues Wohnen, neues Bauen* [*New Housing, New Building,* 1927], Adolf Behne discusses at length the power of these reactionary models and the pernicious influence of the Middle Ages with its knights and assorted other phantoms haunting the dark corners of the bourgeois world. Just look at the city halls constructed by the

good burghers of the nineteenth century: nothing but monstrous examples of "knightly" pseudo-Gothic architecture built in an age when knighthood had been dead for more than three hundred years. Built at the close of the last century, these bourgeois villas with their fashionable and now popular Secession-style facades all too often even try to imitate the layout of knightly castles or the plans of Renaissance summer pleasure palaces.

One has to wonder; how is it possible that a business magnate, the director of a bank, and a retired minister choose to build houses on their big lots with tiny rooms that are packed like little boxes one next to the other and wedged into each other, even though the large space of the lot would easily accommodate an open plan? The cramped layout of real castles was dictated by the lack of space on the top of some hill or steep cliff chosen for defensive purposes. Does the owner of such a castle-villa on the outskirts of the city expect to be besieged by enemy armies? And yet, his "small castle, but my own" has a small tower, resembling a medieval turret. The reason for these follies may perhaps be found in the fondness of painters and architects of the Renaissance for sketching plans of fortresses, which evidently inspired them to see a great number of decorative possibilities in their professional work. The architect's love of decoration may thus be traced back to his old love of fortress architecture. Even schools are designed with windows resembling narrow defensive embrasure slots. Even in beach resorts and spas, we discover impregnable villas, endowed with castellated walls and defensive turrets. Instead of offering their clients livable houses and efficient workplaces, decorative architecture has condemned them to spend their whole lives in quasi-fortresses.

The family home of the patriarchal type, executed along monumental lines, was at first conceived as a bourgeois copy of an aristocratic residence, a castle or chateau. It professed a symmetrical disposition, replete with a vestibule and imposing staircase. In principle, the floor plan of many rental buildings is designed along similar lines. The urban family house for permanent residence is the patrician *hôtel particulier,* designed in the classical or neo-Renaissance style (lots of corridors, spacious vestibules, tripartite staircase), as are summer villas outside the city gates or in the country (preferably in romantic Swiss chalet style). The modernization of the villa began with the gradual conjoining of house and garden, the merging of interior and exterior (balcony, terrace, veranda, loggia), the separation of living functions from service functions, and the introduction of a large central hall (English "home and bungalow" type), which serves either as a luxurious entry (villas of 1908 to 1914 have such entry halls, which are veritable caricatures of a living hall) or, in its more rational form, as a living room, the domestic focal point of the house. Put differently: the palatial vestibule and monumental staircase are transformed into a large living space—that is, the largest and highest room in the house (often more than two stories high)—ending up as the contemporary living room, which can also serve as dining area, study, reception room, and music salon. In addition, it may also double as interior stair access, terrace, balcony, or open gallery: it is a space used by the whole family throughout the day. (The most mature solutions of this type were developed by Loos and Le Corbusier.)

The urban rental house evolved primarily under the influence of land and rent speculation, but it retained the principle of a family home of the conventional housekeeping household type. Technical progress had little influence on plan development. The astronomical increase in the price of land in large cities—especially near or at the center—meant that site use had to be maximized. Thus, it was necessary to achieve the highest floor area possible on a given plot, which usually meant covering the entire site with buildings with the greatest number of stories allowed by law. The ideal of a good rental investment was to cover 100 percent of the site with buildings. In fact, the housing of today's city is not too far removed from this reprehen-

sible ideal. Current building codes and regulations regularly defer to these practices, despite their official duty to protect public health and safety. Technical improvements of mechanical service amenities to improve comfort and convenience in housekeeping, as well as improved plan organization, were mostly induced by competitive pressures of the housing market rather than considerations of health and safety. The hygienic conditions of rental apartment houses built during the nineteenth century are so ridiculous as to be a joke. They fail completely to satisfy the minimal modern health and sanitation standards that people expect in a decent dwelling. Instead, tenants are offered apartments that are dark, damp, and full of germs and stagnant air. The discrepancy between the primary purpose of a dwelling (livability) and its economic exploitation (rentability) is manifested here in the crassest form. As a building type, today's rental house is nothing other than the material embodiment of the free-for-all quest of the owners for maximum profit.

The apartment house for the more affluent in the nineteenth century differs from smaller or larger working-class rental housing at the periphery mainly in its greater number of rooms and greater self-containment and differentiation in its layout. To be sure, two- to three-room apartments built even today are more often than not based on mindless and poorly conceived plans with inappropriate room dimensions, ill-suited for proper furniture placement, and less normal living: conventional siting of these rental houses fails to meet even the most elementary conditions for rational living and housekeeping. If we mean by "dwelling" something beyond just spending the night and barely being able to move between one's four walls, these are not, strictly speaking, real dwellings. Still, when compared to overcrowded workers' barracks, the apartments of the petite bourgeoisie do provide more comfort and space, even though they tend to be crammed full of silly and tasteless displays of pompous bric-a-brac. Despite the desperate efforts of their inhabitants to fake the appearance of an aristocratic residence, their windows more often than not open onto narrow and airless streets rather than the formal garden of a count. The difference between the comforts of a large, medium, or small apartment may be compared to the difference between a railroad compartment of the first, second, and third class, with the proletarian apartment resembling a cattle car, designed to accommodate animals. . . .

Incidentally, the aristocratic dwelling that served as a model for the urban house was in fact hardly of better quality than a good contemporary apartment. Just as in rental apartment buildings before the third quarter of the nineteenth century, there were no toilets or bathrooms in the castles and mansions of yore. Their facades usually faced north toward some important *point de vue,* while their stairs and corridors faced south, thus ignoring the proper orientation toward the sun; at the same time, much space was wasted in useless functions. As a rule, the ratio of real, usable living space to space purely for display and circulation was 1 to 3.

Some of the other types of bourgeois housing are variations of the single-family house, such as villa, summer cottage, and the *maison particuliere. The maison particuliere,* a freestanding villa in the middle of its own park, represents a new version of the aristocratic palace or manor house, and it is currently considered the pinnacle and ideal of dwelling culture. It is the supreme **luxury dwelling of the propertied classes,** and as such actually represents the most appropriate form of dwelling for these classes. It has become the ideal primarily because the **ideals and interests of the ruling class have always been assumed to represent the standard governing cultural perfection, and also because the ruling class considers any facet of culture—including dwelling culture—its exclusive domain, to be made accessible to the masses only to a very limited extent, or not at all.** The family villa and the modern summer residence are two dwelling types that match most perfectly

notions of bourgeois individualism (by providing the owner's family with a self-contained house) and its social mores, which promote the family as the primary economic unit.

While rental apartment houses in the center of the city are primarily built for profit rather than for comfort, health, and maximum livability, the opposite is true of the villa, where maximum profit is not an issue, and where it is therefore easier to provide maximum comfort, convenience, hygiene, and above all **representativeness,** which is considered to be perhaps the most important feature of the dwelling of the better-situated strata of society. For an affluent family with children, there can really be no more suitable dwelling than a freestanding villa in its own garden or, at least, a splendid family row house. Zoning plans usually reserve the healthiest sites for these colonies of single-family homes and villa districts in the city (Vořechovka, Barrandov, and Baba in Prague), preferably on sloping ground, which, according to their own specifications, "cannot be densely covered with overly high buildings, because of the need to ensure the inhabitants an unobstructed view. . . ."

The single-family house or villa—whether large or small—is a luxury dwelling by definition: both its construction costs and its operating and maintenance expenses are disproportionally higher than those for rental or multistory houses with multiple dwelling units. As a real estate investment, the villa or single-family house represents a safe, albeit non-interest-bearing, depository of capital. Generally, a contemporary villa equipped with all the most modern technical and mechanical conveniences requires for its operation a number of servants and other maintenance personnel: it is the most glaring example of how today's single-family home wastes vital human labor.

Fundamentally, the dwelling must be regarded first and foremost as an essential utilitarian artifact; but in class society it has been turned into a privilege and eventually into a luxury object, inaccessible to the exploited masses. Meanwhile, the ruling class, which now owns this luxurious artifact, has ceased to regard their dwelling merely as an object necessary for use, instead elevating it to the status of a work of art, an object of representation, adornment, and splendor. Above anything else, their house must stand apart, be conspicuous by its difference, and thus become something that not just anyone can afford. "The house has become a symbol of affluence, according to which one bourgeois measures himself against another, and today expresses wealth in the same way as did a large painting in a gilded frame, or carved and inlaid furniture, in the past. For nine out of ten members of the bourgeoisie, the house is thus first and foremost an object of representation. It expresses the owner's pride and proof that he has enough money to afford it, as well as his spurious desire to show off. It advertises the owner's longing to live even more grandly, expensively, and ostentatiously than his neighbor. This urge to feign affluence frequently exceeds the owner's actual capacity to afford such a luxury and sometimes even leads to fraud and eventual bankruptcy" (Mart Stam).

The bourgeois apartment of the nineteenth century may thus be characterized as follows: as many rooms as possible, sumptuous furniture (carved, inlaid, hand-turned, made of exotic woods), huge chandeliers, heavy curtains, beds resembling monumental crypts, and cabinets like cemetery sepulchers. All this is rendered pell-mell in diverse historical styles, from pseudo-Gothic to pseudo-rococo, filled with bric-a-brac. "Madame cannot bear to look at empty walls. She insists on flowery wallpaper and then hangs a picture over the flowers, perchance a kitschy still life with flowers as well, and even fancies to adorn the picture with something even smaller, something that can be tucked into the frame; after all, the glazed picture will then be able to reflect the room decorated in a similar manner, and madam, looking at the picture, will perceive in it her own countenance, her own portrait" (G. Ribemont-Dessaignes).

In no age did the culture of dwelling and aesthetic sensibility sink to such a low level of mediocrity as during that bourgeois century. A room of the eighties and nineties of the last century

is a stuffy place, full of dust and cobwebs hidden in inaccessible nooks and crannies, full of germs and stale air. Furniture is not there for the purpose of living but only for representation and a show of opulence: here we find vitrines, jardinieres, huge clocks, pedestals, thrones instead of chairs, ceramic turtles and plaster busts (Napoleon, Dante, Tyrš, and Fügner), embroidered coverlets and cushions, real or imitation oriental carpets and tiger hides, paper palms, glass flowers as lamps, appliqués, batiques, and so on, and so on. The textile of choice is velvet: germs and dust thrive in it, since it cannot be laundered or easily cleaned. Lavish ornamentation covers both the walls and furniture of these apartments.

Of all the building types of the capitalist era, the dwelling house has remained longest and most persistently in the thrall of medieval fashions; it is most burdened by the weight of tradition and the pretentious bourgeois notions of beauty as a tool of representation, monumentality, decorativeness, and the stale detritus of antiquarianism and academic historicism. Modern twentieth-century architectural tendencies have gained acceptance in multiunit housing design only recently, and they have been applied in practice here less comprehensively and consistently than in other building categories. During most of the nineteenth century, architecture remained dominated by academicism; and even though it participated in the design of viaducts, railroad stations, factories, banks, and so on, academicism has barred architects from one of their most important cultural tasks—the reform of housing. Academicism epitomizes the inclination of the bourgeoisie to resist technical development insofar as it has revolutionary effects on ideology, trying to feign historical continuity by clinging to the forms of times past. Academicism conserves. It is a defense against innovation in technology and production when prevailing social interests and their stability are threatened. Academicism is a reactionary and retarding force. It artificially props up architecture in its obsolete forms and tries to preserve its outdated technical methods. Academic architecture clings to old craft methods, resisting industrialization and its concurrent need for standardization. The reason for this resistance is that any new development in housing or city planning will inexorably have to confront the current upheavals threatening the family, the social order in general, and the chaotic property relationships in real estate in particular. At a time when technical progress ushers in rapid improvements in all branches of production, the architecture of cities and housing continues to cling as long as possible to antiquated craft methods.

Indeed, academicism may generally be considered the most faithful servant of the ideology and cultural subconscious of the bourgeoisie. Academicism tries to help threatened social conditions freeze by clinging to the forms of the past, which it seeks to keep alive by artificial means. In political life and during times of serious crisis, academicism tries to reestablish feudal or absolutist protocols of organization: authoritarianism, censorship, and so forth. On the intellectual front it resurrects traditional art, religious activities, and assorted other idealisms. . . .

If we compare the dwellings of the affluent classes of the last third of the nineteenth century with the houses of the same social segments of our time, we may observe little change at first. For example, let us compare this or that typical villa in the garden suburb of Bubeneč [a prosperous villa district in Prague] with Le Corbusier's Villa Garches or Gropius's villa for the director of the Bauhaus in Dessau. At first glance their enormous technical and architectural progress seems to impress. Ornaments have disappeared completely, and simple, geometric forms have triumphed. Unchanged, however, are all the fundamental characteristics of a bourgeois dwelling: the house remains a special, isolated object, posing as a work of art. During the last third of the nineteenth century, academic painting provided both the house and its furniture with their pseudo-Renaissance stylistic inspiration, best exemplified by Makart's paintings of flower bouquets. Similarly, the villas of Le Corbusier and Gropius named above are

essentially inhabited sculptures that derive their modernistic style from postcubist, purist, and abstract painting or sculpture. In place of the luxurious ornaments of expensive drapery, vases, and so on, we experience the luxury of superfluous space, with its huge terraces, great halls, and sumptuous boudoirs, where comfort is now treated as a new species of supreme ornament. At the same time, the rooms for the servants are not one iota better than those found in the palaces of the Middle Ages.

From the feudal palace and the manor house to Hoffmann's Maison Stocket in Brussels—a banker's fairy tale in white marble (1905), Le Corbusier's Villa Garches or Villa Poissy, Gropius's villa for the director of the Bauhaus (1926), or the three-story houses of Mallet-Stevens in Paris, nothing fundamental has changed: the same luxury, the same waste of servants' energy, and the same ostentatious display of property, snobbism, and class particularism. Shorn of ornament, the simplified forms of the modernistic villa do not respond to any urgent common need; for even though simplicity is a condition of economy, it is, in this case, not an imperative. On the contrary: Adolf Loos always recommends luxury materials, whose permanence is wasted and whose use is just as much a social and cultural crime as is ornament (according to Loos's own manifesto). Le Corbusier, together with P. Jeanneret and Charlotte Perriand, designed furniture made with modern luxury materials, such as bent chrome, aluminum, marble, and expensive hides, which, in his own words, should well satisfy the refined tastes of his clients and their longing for simplicity and richness. Today, wealthy people pay high prices for such "simple" furniture, and thus we are confronted with the following paradox: though, during the Middle Ages simple, unadorned objects were cheap and popular and a richly ornamented object was considered a luxury, today their positions are reversed. Simple objects become expensive, for their simplicity is not considered essential but is turned into fashion. "Since 1930, all progress so far has been almost exclusively theoretical, for modern quality products can be afforded by only a small number of people in society: the more simple an object, the more exclusive and expensive it has become. Today, a simple modern house can be afforded only by a millionaire, just as a simple suit by Worth (a leading Paris fashion house) can also be enjoyed only by a millionaire. It is here that we discover the Achilles' heel of this reform movement" (Paul Eisner, *Prager Presse,* 26 April 1931).

If we assume that the most representative type of bourgeois housing is the freestanding villa, and that it is in all respects a luxury item, then it is also reasonable to suppose that the modernization and reform of housing and the general improvement of the overall culture of housing, of which contemporary architecture boast, have focused from the beginning primarily on the villa and the single-family house. The luxury aspects of the bourgeois dwelling cannot be explained solely by the ideology and psychology of its inhabitants, even though it is true that the rich and newly rich have their own particular psychology. It is a psychology animated primarily by profit and the insistence on a controlled species of luxury: greater profit promotes greater vanity, snobbery, and vainglorious showmanship and bad taste. The nature of luxury can be explained by examining its relationship to a given economic system in which it thrives. Each age and each class society create their own kind of luxury, based on the nature of accumulated wealth and its attendant psychology.

The aristocratic age and the feudal order were distinguished by the most extravagant display of luxury, since the nobility did not use the revenues extorted from its indentured labor to improve and enhance the available means of production (basic exploitation of manual labor), but concentrated almost exclusively on conspicuous consumption. In contrast, capitalism reinvests a certain percentage of surplus value to improve production (accumulation), channeling less into conspicuous consumption. "In the course of the historical dynamics of the capitalist production process, each capitalist parvenu passes through this phase, since thirst for wealth

and avarice are his dominant passions. However, profligacy is not the sole product in the progress of capitalist production; parallel streams of speculation and the loan system open up thousands of other sources for instant riches. On a certain level of development, a certain level of extravagance wins status, acting at the same time as a conventional indicator of wealth and a convenient instrument for gaining credit. In that sense it is transformed into an unavoidable expense for the hapless capitalist, and thus becomes just another 'expense' in maintaining his ability to obtain credit. Incidentally, capitalist profligacy lacks entirely the extravagant panache so blatantly flaunted by the feudal *bon vivant;* and no matter how much the capitalist tries to conceal his contemptible avarice and sordid schemes, his displays of ostentation multiply in proportion to the accumulation of his wealth, without actually affecting his motivations. In the depth of each capitalist's soul there unfolds a kind of Faustian conflict between the longing to accumulate and the longing to splurge" (*Capital*).

Similarly, to provide tangible proof of their reliability and stability banks waste marble and travertine in their facades and interior banking halls. Indeed, the magnificence of the bourgeois dwelling is held in high esteem even by so-called modern architects: it is luxury once again, but a luxury of another kind and responding to another imperative. The bourgeois lifestyle attaches to luxury the same importance as to advertising, another item of unproductive expense yet indispensable for the conduct of modern business just the same. In this sense and in its own way, luxury has become a major promotional tool of the ruling class, and those modern architects who accept the capitalist system as stable and legitimate, obeying its firmly established conventions and laws, come to act as its faithful servants. They see the city as the center of all culture, and romanticize the incredible misery of its proletarian quarters "as the luminescent glow of poverty, emanating from inside" (Rainer Maria Rilke).

In the work of most modern architects, from F. L. Wright to Loos and up to Le Corbusier, to the extent that any far-reaching improvements have been accomplished at all, housing reform has, by and large, been limited only to bourgeois housing. These architects all work and think in the interest of the ruling class. All they have accomplished is to do away with some of the more untenable aspects of old conventional types of bourgeois dwelling, getting rid of ornament and impractical furniture and redesigning their preposterous floor plans. The only type of housing that these architects consider to be a modern, culturally superior dwelling is a big villa with a flat roof and a roof garden, big windows, a huge living space, garages, small rooms for the servants, a tennis court, a swimming pool, and a garden. Just leaf through any portfolio showing the completed designs of Le Corbusier (Le Corbusier and Pierre Jeanneret, *Collected Works,* 1910–1930; published by O. Stonorov and W. Bösinger, Zurich, Verlag Girsberger, 1930), and you will find a collection of the latest achievements of housing refinement for the enjoyment of the haute bourgeoisie, with only occasionally a simplified "popular" version aimed at the middle class and the better-situated workers' aristocracy.

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In both the rental or private house, the basic social content of the patriarchal bourgeois house is the **family with its associated household.** It is a mistake to assume that technological progress in construction has brought about fundamental changes in that image. Dwelling culture has evolved as a result of the historical situation of the family, class and property inequities within the population, the ruling ideology (legal order, morality, aesthetics), and various psychological factors (such as patriotic feelings, the warmth of the family hearth, longing for representation, etc.). As a social phenomenon, dwelling is not a thing; that is, at

any give given historical moment it does not necessarily have to represent a mature and rational housing type that is technically fully developed. The same is true for the plan of a city. Both dwelling and city must be viewed as the sum total of certain relationships between different people and different classes, to which architectural form is subordinate.

Technical and scientific progress will be able directly and decisively to influence the lifestyle (which includes dwelling) and the worldview of its inhabitants only in a society that is not based on the division of work, class differences, and their contradictions. Otherwise, life and ideological systems inevitably become encumbered by the effects of the class struggle. This is also the reason why, in the case of dwelling, technology often has had to take second place to ideology and psychology (especially regarding the dwelling of the upper, unproductive classes, who are not concerned with being economical but demand pomp and luxury). The possibilities offered by contemporary architecture and technology thus remain entirely or partly unrealized, simply because for economic, political, and ideological reasons the ruling class has shown no interest in their implementation but—on the contrary—insists on preserving the petrified structures of its reactionary ideology. The process of housing reform is further complicated by the intensification of the animus between advanced technology and reactionary social and ideological interests, which are difficult to reduce schematically to irreducible economic-technological determinants on the one hand, and selective determinants of the class struggle on the other. Perhaps the only thing that can be said in this connection is that dwelling is influenced by technical progress to a limited extent and only extraneously, and the influence furthermore depends on whether we are talking about a dwelling in the country or in the city. At any rate, the essential and decisive factors are the economic interest of the owner of the house on the one hand, and the interests of the family and its household on the other.

The essential characteristic of the bourgeois dwelling is that it is a **family-based household.** The bourgeois dwelling, whether two or ten rooms large, whether a rental house or a villa, whether more or less ostentatious, luxurious, or comfortable, **is a material expression of the ruling ideology and its social organization:** the monogamous family, the inferior economic and social status of women, parental rights over children, and so on. Hence, the form of the bourgeois dwelling is derived from the nature of its social functions; the household is the outgrowth of today's family organization and thus the object of the most elemental class antagonism, namely the status of the man vis-à-vis the woman in the patriarchal family. Therefore, any analysis of bourgeois dwelling forms must start with a sociological analysis of marriage and the monogamous family.

Sociology defines conventional marriage as the economic, sexual, emotional, and intellectual union of a human couple. It was Comte who considered not the individual but the family as the basic unit of society. For Bonald, marriage and the family are an expression of God's will and the archetype for the organization of society and the state. Durkheim tries to put his faith in the sanctity of the family and marriage as well; even so, he also admits that the family has lost its function in our time. And even the petit bourgeois anarchist Proudhon believes in the sanctity of the family bond and regards the married couple as the heart and soul of all justice and equity: theocrats, positivists, and even anarchists all agree on this point. The magic power of the wedding ring is acknowledged by one and all: marriage is regarded as the only legitimate form of erotic and sexual life.

In all these cases official idealistic sociology takes its cue from moral and religious postulates, but tends to overlook the aspects of social determinism of marriage; above all, it overlooks the fact that modern marriage is not the direct result of sexual and erotic choice but that material, economic, and social interests play an equally important role. In the history of mankind the family has undergone many changes, and its contemporary form is primarily determined not

George Grosz: Caricature
"The cozy warmth of the family hearth."



by inborn biological and psychological choices, but largely by materialistic and social considerations; as these have changed, family form has changed as well to reach a new and more advanced level of development.

"The modern family incorporates in its structure elements not only of slavery (*servitus*) but of bondage as well. On a small scale it contains all those contradictions that are unraveling in society and the state at large" (Marx). "The first division of labor between man and woman is exemplified by the breeding of children. The first class conflict . . . is caused by the antagonism between man and woman in monogamy and the first class-based oppression is the oppression of the female sex by the male. Compared to previous family forms, monogamy was a significant historical advance; but at the same time, it has launched—along with the introduction of slavery and private property—an era in which every step forward is also a step backward. . . . It is the basic unit of civilized society, allowing us to study the full nature of the contradictions unfolding in this society" (Engels). "With the establishment of the monogamous family the management of the household lost its public character. It became a personal, private service; woman was turned into a servant and was excluded from participation in public production. It is only in our time that large industry has again opened up new opportunities for her in public production, but so far only for the woman proletarian. And so, while fulfilling her duties as a personal servant of the private family, woman is prevented from taking part in public production; if she decides to seek work in production and earn an independent wage, she will not be able to perform her domestic duties. Women who want to enter medicine or law are in the same situation as their counterparts in the factory. The modern family is based on both the overt and hidden slavery of women; and modern society is an agglomeration, made up of small families as its individual molecules. Man, at least in the wealthy classes, generally has to earn enough for the upkeep of the whole family. That alone

assures him a dominant role, without requiring any special laws or official granting of privileges: he is the bourgeois of the family, his wife is the proletarian" (*The Origin of the Family, Private Property, and the State*).[1] "The bourgeois family has its foundation in capital, in private earnings. It has been able to develop in its current form only under bourgeois conditions. It has its complement in life without a family, which is the lot of the proletarian, and the common prostitute" (*The Communist Manifesto*).

The theory holding that the family is the foundation of today's entire social order has been objectively disproved, or at least circumscribed in its validity, by the fact that a large part of society lives compulsorily or voluntarily a family-less life: in today's economic world, the family is not as a rule the basic unit but is the exception (craftsmen, small farmers, small tradesmen, shopkeepers). It has no function in the contemporary organization of production, but it represents the foundation on which the ruling ideology and morality rest; in that sense, the family is regarded as the main bulwark of ideology and morality even within the working class. That is also the reason why philanthropists promulgate it, especially among the poorer segments of the population. Economic dependency, outdated methods of child rearing, sexual banality and the disconsolate position of the individual within the household—all this produces the kind of mentality that not only is inimical to the growth of a fully human, living culture but in fact is its nemesis.

Not unlike the bourgeois family, the layout of the bourgeois dwelling is equally based on the enslavement of women (as an expression of that type of family). Today's woman does not realize how oppressed she has become by this form of dwelling. Today's family homes, whether villas or rental apartments, enslave the woman-housewife in equal measure with their uneconomical housekeeping routines. Private life in today's dwellings is obliged to closely conform to the dictates of bourgeois marriage.

Without servants, it is always the woman, wife, mother, sister, or daughter who spends endless working hours to keep the bourgeois household functioning. The rationalization of today's household by the introduction of mechanized appliances eases the burden somewhat, making the work of the wife-servant and wife-cook a bit less onerous; but women's complete liberation from the burden of housekeeping duties will not be achieved unless this type of household is abolished altogether. Given the constraints of existing social relations and moral conventions, only a partial amelioration of more or less minor details is possible, never any significant reform of the dwelling as a whole. A sweeping reform can be accomplished only in conjunction with a radical transformation of the economic and social order at large. Currently, architects are commissioned by society to design only those housing types that conform to the economic principles and ideology of the bourgeoisie, with the family the basic unit that determines design. This means that in so-called modern housing projects, notwithstanding all technical advances (for instance, a separate kitchen and a shared bedrooms [for married couples]), under current conditions one cannot expect a more appropriate and conceptually different housing standard for the new man—neither in construction nor in economy, financing, or other class-determined practice.

Another characteristic of the capitalist dwelling is that it is a burden for its inhabitants. The rich in their villas or luxury apartments are able to pass this burden on to their servants, who are obliged to work endless hours to keep the household functioning smoothly. For the less affluent the burden is borne by the housekeeper, the wife. However, in the latter case, it is a double burden, since a great portion of a worker's pay goes into the pockets of the apartment

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[1]) See also G. B. Shaw: "Rules for a Revolutionary," in *Man and Superman* [1902]: "The house is a prison for a girl and the forced labor camp for a woman."

house owner and the state, leaving little if any free disposable income to spend on servants. Miniature editions of bourgeois apartments with much poorer equipment are sometimes foisted on the proletariat in the form of conventional minimum dwelling layouts. Whatever their form, they cause great financial hardship for the worker or the less affluent, not only because of their high rents but also because the renter is forced to waste socially and physically useless labor on operating the household. As discussed earlier, the bourgeois family lifestyle is not the best model for the proletarian dwelling of our time, simply because the proletariat does not experience family life as the bourgeoisie does, mainly because it lacks both the material base and the social prospects of the bourgeoisie.

Among workers, both husband and wife spend much of their time working outside the home, in the office, shop, or store, or in school; in effect, they use the home only for sleeping. The commute from home to work makes eating lunch at home impossible. In spite of this, official social services and housing subsidy programs try to salvage as much as possible of what remains of family life, best characterized by the "warm family hearth," the fetish of ruling morality. The fact that the ruling class tries to force family-based housing types on the proletariat as part of its politics of "cheap" apartments and small houses reveals that the effort is essentially a cunning scheme of reactionary economic as well as social oppression, foisted on the proletariat and the corrupted workers' aristocracy, rather than a genuine social welfare benefit: the longer the family dwelling and its household regime persist, the longer will equality between man and woman remain an illusory fairy tale. It is the woman who is the slave of the household and its kitchen: she is cook, gardener, child supervisor, and at the same time factory or office worker, all in one person. It is the woman who sacrifices all her time to family chores, even after having finished working outside the home for pay. It is she who remains a slave of the institution called "family." With the emergence of the modern proletariat, marriage as a component of the historical class struggle is coming to an end at the same time that the preconditions for a new form of family are being created by the most recent developments of the capitalist economy affecting the working classes and the salaried intellectuals. These changes in the position of women and in child rearing should eventually lead to a significant release of new and vital social and cultural energies.

Official social services and housing policies try to artificially resist this collapse of the family and keep women of the lower strata in a subservient position; evidently, the encumbrance of a great portion of the female workforce by the parasite called "the family" is considered acceptable: as long as women remain chained to the kitchen and the children, they will be unable to devote all their energies to outside work in the labor market. For this reason, too, the authorities try by all kinds of ideological coersion, by laws, and, finally, in the name the most sacred ideology of all, religion, Christian morality, and the sacred marriage vows, to save the collapsing family. The church preaches the sanctity of marriage, priests fill the ears of their parishioners with biblical quotations such as "Go forth and multiply," governments reward parents with numerous children with honors and gifts, there are competitions and prizes for giving birth, abortions are outlawed, contraceptive devices are denounced, philanthropists feign exaggerated concern for preserving the families of the poor, and moralizing scribes sing the praises of the home's idyllic sweetness. Add to this the efforts to commit women to slave labor in the house, on the one hand, and to promote forced celibacy for working women, on the other hand (by firing married women or unmarried mothers), top it all with the lower valuation of women's work in the job market in general, and the picture becomes clear. At the same time, the products of women's labor are sold for the same price as those made by men, even though women deliver the same productivity as men at much lower wages. Clearly, the difference between a man's wage and that of a woman is explained not by a less valuable

performance on her part but by the desire for profitability, which is enhanced by keeping women's wages lower than those of men.

Currently, most contemporary architectural efforts seeking housing reform through new designs for small or medium housing accept the family as the basic determinant of their designs and propose even housing for the subsistence minimum as family-based household types, albeit of minimal size. Most modernized or reconditioned medium- or small-size dwellings are also based on family-based layouts, whether they be single-family houses or apartments in rental buildings: each has a separate kitchen, in each unit there is a shared bedroom for a married couple with a common bed, and all conform faithfully to notions of the conventional bourgeois marriage.

Whether "model house," "experimental villa," "minimum house," or a modern apartment house for the poor, all are solutions presented at the scale of a family, even though family and spousal relations of people living at the level of the subsistence minimum require a differently organized plan than that suited for a dwelling of a patrician family. Assuming that members of a couple are active wage earners and that the woman works in production, then surely a kitchen and a traditional family household are, for all practical purposes, a burden: in the case of a childless couple, eating at home makes no sense at all and is virtually impossible, given the above-mentioned conditions. Thus, the newly perfected "Frankfurter kitchen" does not really solve anything.[2]

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[2]) Many brochures and books on modern housing and the modern family household claim that a modernized dwelling with a small kitchen, a gas cooker, a hot plate, mechanized laundry, electric vacuum cleaner, and similar devices make housekeeping easier for the woman, to the point that she should be able to devote more time to family life, the children, herself, culture, and—if need be—even gainful employment. The rationalization and mechanization of the household have been proclaimed a great gift of modern architecture to modern woman. However, given that this same architecture actually aims its projects primarily at the wives of the affluent or better-situated middle class (whose women by and large do not work), and given that such a modern woman is viewed by modern architecture as synonymous with affluence and that the modern dwelling is considered synonymous with a bourgeois dwelling, we may quote a fitting comment on this situation: "Women . . . strive to reduce the complex duties of housekeeping in order to be able to put their abilities to better use, **for the earning capacity of a modern woman is, as a rule, much higher than that of a maid or laundrywoman, and in the best case even that of a cook;** therefore they do not consider it economical to earn their living by running a household" (J. E. Koula, *Obytný dům dneška* [*The Dwelling House of Today,* 1931]). This confirms the typical bias of architects, who evidently think that a laundress, a maid, or a cook—in short, a laborer—is not deserving of being considered "modern" by modern architecture. And, as far as the rationalized family household for the subsistence minimum is concerned—without mechanical comforts, which are too expensive—the notion that women will be liberated by rationalizing the household is just as questionable as the same assumption about the effects of rationalizing production in the factory: presumably "liberating" the woman laborer by means of new domestic labor-saving devices will enable her to work not only in the factory but in the kitchen and the laundry as well—and in the words of the good soldier Švejk, "tear herself into pieces."

Is this supposed to be the true meaning of the slogan **"architecture in the service of people"**? After all the various rationalizations and reforms, the rental house continues to be foisted on its tenants as a burden and continues to enslave women. It is only in passing that we wish to remind the reader that all these reforms by which philanthropists and moralists have attempted to rescue the family have their origin in materialistic speculation, not philanthropic sentiments. Material considerations alone are an inadequate motive for the reform and rationalization of the family household. First, the disintegration of the family life has started precisely in those strata of society that are unable to maintain a household, simply because they do not have a decent place to live; and second, such reforms, questionable in their own right, are bound to fail because today's society is unable to deal with the housing question on an honest, rational basis.

Today's architects and feminists frequently claim that a well-equipped modern household will ease and simplify domestic chores to the point that a working woman will be able to work a full eight-hour day in her profession, manage her household without help, beget and rear her children, and still find enough time to live like a cultured human being: read, educate herself, take up sports (or is her work in the kitchen considered a sport?), and furthermore participate in public life and artistic pursuits. . . . Reality has shown that such a lifestyle promoted for a modern working woman is either an absurd delusion or a self-deception fostered by an impotent reformism—if not a cunning fraud.

The notion that a woman can work in production and take care of her so-called modern household at the same time is a sham. Hidden behind the lofty phrases of such bourgeois feminist propaganda is the desire to exploit female labor to the limit, both in production and in the home. All the newspaper and journal articles that try to lure women to buy into the modern household are nothing but an attempt to cover up the collapse of the bourgeois marriage and family, an institution that actually enslaves women and whose survival provides them with no genuine benefits. If women are to become completely equal with men, they cannot be expected to work simultaneously at two jobs: one in production and the other at home. In order to fully integrate her into the production process as an equal partner with men, she must be completely liberated from the serfdom of domestic work: she must be liberated not only from the chores of housecleaning, kitchen work, sewing and mending clothes, and washing the laundry but also from the job of rearing her children. In addition, especially as far as the strata of the subsistence minimum are concerned, there is a need for more autonomy in personal relationships between men and women, for a psychologically more equitable distance between individuals even in marriage, because the family has effectively ceased to function as an economically viable production and consumption unit. And yet, architects still design minimum dwellings with a shared spousal bedroom.

Any architect, still believing in the myth of bourgeois marriage, who puts a double bed in his house plan surely cannot be considered a modern architect, for he most certainly has failed to understand the real dwelling needs of the needy classes, besides lacking what might be called the "modern spirit." The matrimonial bed is a hatching place of the most wretched forms of bourgeois sexual life, the stage of Strindbergian dramas, a roosting place of shocking erotic banality and decadence. It causes contagions and is the breeding place of quarrels as well as the source of family perturbances and thousands of neuroses. In his pamphlet *The Physiology of Marriage* [1826], Balzac deals brilliantly with the subject of the nuptial bed. Obviously, all this has been wasted on architects who consider themselves modern but who even today are unable to recognize the practical consequences of the sexual-psychological absurdity of the marital bedroom, despite the fact that many prominent psychologists and other progressive spirits believe as Balzac did. Even so, many architects who consider themselves modern seem unable to see that with the continuing pauperization of the broad masses, the disintegration of the bourgeois family and its marriage forms continues apace, and that thus the most appropriate housing type for the needy is a separate room for each adult individual. In spite of all that, both developers and the bureaucracy opt for large and medium-size family-style apartments. That the demand for bachelor apartments continues to exceed supply by a wide margin also contributes to the tendency of owners of large apartments in the city to exploit rental sublets: people of modest means, who find it difficult to pay the rents of their large apartments, sublet individual rooms or parts of their apartment. In the process, they shift part of their financial problem onto their renters. The institution of subletting is a case of extreme rental exploitation and promotes an unsatisfactory and uncivilized standard of dwelling.

Speculators and owners in the rental market also give priority to the construction of medium-size and large apartments, assuming that once the housing crisis has abated, the demand for small apartments will abate as well: in all this, the acute needs of the homeless—who, by the way, cannot afford high rents—are not being considered at all.

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Today, subletting is the most common dwelling style of people who, owing to their financial or social condition, cannot afford their own apartment. Those living in sublets are students, newcomers to the city from the country, and so on—in short, individuals who are unable to secure accommodation in existing student housing, boardinghouses, or dormitories. Sublets also tend to accommodate unmarried women, who have been unable to find a place in unmarried women's homes [*garçonnières or flatlets*], or who cannot afford their own bachelor flat. Other subletters include young bachelors, clerks, and servants who cannot afford to live in regular boardinghouses. In many cities—especially in central Europe—there is still an acute shortage of regular bachelor flats, unmarried women's homes, and boardinghouses. Those available are still relatively expensive and can be afforded only by the better-situated members of the lower middle class. Only in France, and especially in Paris, can even poor students, clerks, editors, and so on still find cheap accommodation in hotels, albeit in tiny rooms with minimal comforts. It seems that today anyone who lives outside the institution of marriage is obliged to live without an apartment: the dominant dwelling type offered is the family household and, as a result, proper dwelling is reserved first and foremost to the bearers of the honorific wedding ring. Even then, poor couples in financial straits, or those obliged to change their residence because of a new job, or those who cannot afford to buy their own furniture have often no other choice than to live in sublets.

Anyone dependent on subletting cannot be considered as dwelling in the proper sense of the word but is essentially an overnight lodger, more often than not saddled with a usurious rent. The number of people who live in sublets, along with the number of apartments with sublet rooms, is increasing significantly, especially with the current increase in the number of working single women. In 1910, 8.5 million women were gainfully employed in Germany; in 1925 that number rose to 11.5 million. (In 1910 for 100 wage earners working outside the home, there were 119 non-wage-earning persons, i.e., housewives, old people, and children. In 1925 their number decreased to 95.) Pauperization of the greater part of the population and the proletarianization of the formerly better-situated middle classes are the main economic reasons that have forced women to seek gainful employment and become financially independent.

The same circumstances have also forced women to sublet, who either have no qualifications or no desire to seek outside work (many of whom had known "better times" and belonged to the "better classes"). Most are older women and widows, who supplement their livelihood by subletting rooms in their apartments. These landladies own large apartments, too big for their own personal needs: they have become accustomed to their multiroom apartments but cannot afford the required rent, and thus they have decided to shift part or all of this burden onto the shoulders of their subletters. They live in large apartments because they have inherited a great deal of furniture that they refuse to give up: as a result, these apartment are either too large or too expensive, and the owners cannot afford to live in them alone. If they are rent-controlled, subletting is even more attractive, as it turns out to be an excellent business for

the owners of these apartments. For many widows of clerks, whose pensions do not allow them to maintain the living standard to which they have become accustomed, subletting is the only source of additional income compatible with their former status. A sublet room is therefore a lucrative source of additional income for the landlord.

Such a room obviously cannot be considered a regular type of dwelling. For one thing many owners use it as a kind of storage area for furniture that they are unable to accommodate in the other rooms and that may be so shabby as to be embarrassing. As a result, the sublet rooms become overcrowded with old mismatched and useless furniture, arranged without regard to proper placement for livability. It is not hard to imagine the sense of cramped living and the loss of personal freedom the subletter must endure (particularly young single women) because of the many rules and restrictions imposed by the landlord—such as no visitors, loud laughing, or gramophone music, even though the gramophone may in fact be the only piece of personal property that the subletter owns and has brought along in a suitcase. The subletter is not allowed to damage or further injure the already shabby furniture, embroidery, coverlets, and carpets: a single washbasin on a stand not only must serve the needs of personal hygiene but also doubles as a place to do laundry and dishwashing—though splashing any water on the carpet is strictly forbidden. When the subletter eats, the velvet table cover must be covered with newspaper to protect it from wear. The distinguishing marks of subletting are therefore the perpetuation of social degradation and the maintenance of a phony gentility of the most sordid kind of petit bourgeois chicanery. Subletting may be a good source of additional income for the owner, but it certainly does not provide a happy home for the subletter. It obliges the renter to accept whatever is offered in terms of space and furniture, besides having to obey the do's and don'ts of the landlord's restrictions. It is with the sublet that we encounter the real "minimum dwelling": or, put differently and more bluntly, the sublet is the most miserable place to live for the proletarianized intelligentsia, students, small employees, and so on, besides being a convenient source of additional income for the impoverished middle classes, who use the sublet to capitalize on the remnant of their former affluence—a large apartment.

Thousands, nay millions of sublet rooms are the proof of the need to solve the problem of the minimum dwelling by means that will eliminate this source of debasement and usury: the answer is a dwelling without a family-centered household.

Der Mensch braucht ein
Plätzchen und wärs noch so klein,
von dem er kann sagen, sieh hier
das ist mein,
hier leb ich, hier lieb ich, hier
ruhe ich aus,
hier ist meine Heimat, hier bin
ich zu Haus!

Translation:
A mensch needs a place
However supine
So he can say, hey look this is mine
Here I live, love, and take my rest
Here is my home, here
I live best!

A poem in the corridor of a small-town German hotel.

CIRPAC !

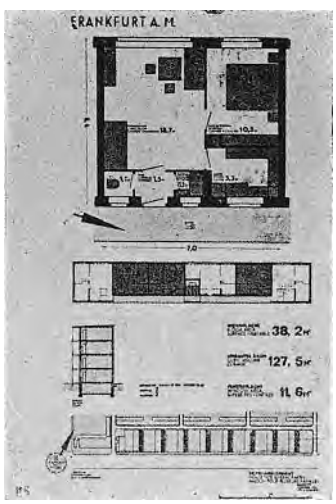
Official publication on modern housing and new architecture, anthology of the International congresses of modern architecture

DIE WOHNUNG FÜR DAS EXISTENZMINIMUM

[THE DWELLING FOR THE SUBSISTENCE MINIMUM]

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price 7.50 R. M.



reduced size sample of illustration

Translator's note: The two advertisements for *Die Wohnung für das Existenzminimum* (The dwelling for the subsistence minimum), and *Rationelle Bauweisen* (Rational Building Methods) are included in the Czech original and are reproduced here and on p. 184, because Teige makes frequent references to them in his text.

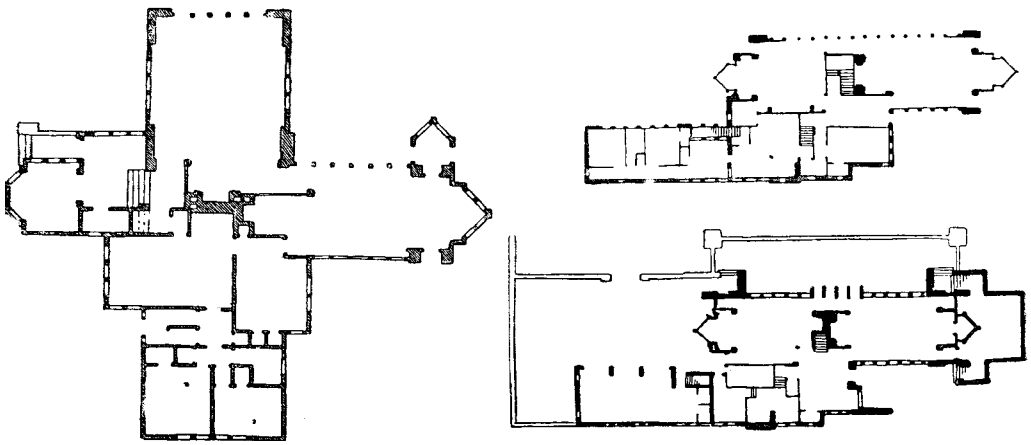
7. the evolution of dwelling types and contemporary housing reform

F. L. Wright and Le Corbusier

At a time when modern architecture created the Gallery of Machines and the Eiffel Tower in Paris, when modern large cities experienced rapid growth and gained populations numbering in the millions, and when subways were introduced, a new concept of **dwelling that would correspond to the high technological achievements of our time—in short, a real modern dwelling—does not exist.**

The dwelling of the nineteenth century is actually closer to the castles of the Middle Ages than to a modern transatlantic steamship. Throughout the nineteenth century, academic architecture, shackled to traditional and historical prejudices and fully committed to the service of industry and commerce, did not embrace the opportunity to reexamine the problem of housing. The **first attempts** at housing reform and the creation of a new housing type that would be compatible with the exigencies of modern culture, modern society, and modern times took place only in situations in which ample financial resources were at hand. And so, it was just as logical that the private single-family villa became not only the preferred dwelling type of the rich, as the heir to the aristocratic mansion (the *hôtel particulier*) or the gentry's summer chateau, but also the prime candidate for modern improvements in architecture. In other words, it was the freestanding luxury villa that was chosen as the subject of a systematic reform effort in modern architecture: it is here that the bourgeoisie revised its views on modern architecture, and it was here that modern architects formulated and tested new materials and methods of housing construction. Starting with the English garden city, and continuing with Wright, Loos, Muthesius, and up to Gropius, the villa became the main focus of architectural research: it was here that new materials and methods of construction and new furnishings found their first practical application.

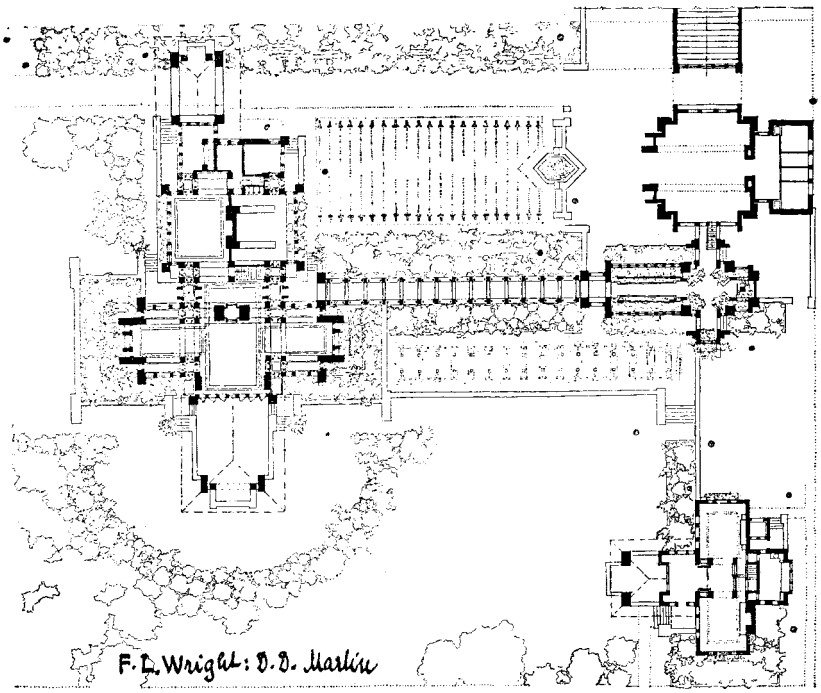
At the dawn of the new century, international revival movements, such as Arts and Crafts in England, the Wiener Werkstätte in Austria, art nouveau in Paris, the Jugendstil in Germany, and the Belgian, Scandinavian, and Czech Secession movements, abandoned historicism in architecture and attempted to replace the plagiarizing tendencies of the past by creating a new architecture of its own time—a new style, with its own new ornament and new forms. "Modern construction must offer us new forms, created by ourselves, forms that express our own



F. L. Wright: Typical floor plans of his villas. Open building volume; asymmetrical massing, **1893–1910.**

art, our own life, our democratic, self-confident standard of creativity" (Otto Wagner). The Secession and the Jugendstil were the first harbingers of modern architecture's stylistic development, albeit with solutions that were chaotic, half-baked, and frequently abstruse. The desire to replace historical ornament with this or that modern species of decoration shows that these precursors of architectural modernism succeeded in overcoming historicism on merely a superficial level: their fashionable floral and other exotic decorations spread like luxurious weeds over the facades of buildings with out-of-date floor plans. In that sense, the Secession transcended and put to an end the historicizing era of stylizing architecture. The historical merits of the Secession are primarily negative: only its attempt to disclaim the historicism of academic architecture is a step forward.

Unfortunately, the Secession's step forward was at the same time a step backward owing to its penchant for decorative abandon, which, even though it had freed itself from academic stylistic stereotypes, tended to distort the functional as well as utilitarian shapes of buildings and furniture even more than academic neo-Renaissance-style architecture did. Secession architecture may have rid the bourgeois dwelling of chairs resembling medieval thrones, or couches designed for ladies wearing crinolines, but unfortunately it merely succeeded in replacing them with its own ornamented, carved, and otherwise decorated objects, equally unfit to recline on. Nevertheless, this rejection of past traditional forms did represent a first step toward the possibility for change and reform of the petrified academicism of the nineteenth century. For example, despite its love of nonstructural fantasies, the Secession managed to change the vertical window into strangely varied round, oval, and otherwise distorted shapes: if nothing else, this proved that it was possible to disavow the traditional form of the window. The rejection of petrified classical decoration was followed by an attendant loosening up of the rigid organization of the traditional floor plan. Models of pseudo-Renaissance floor plans were abandoned, and the layout of villas became more flexible, lively and spatially malleable. Architects began to understand that it was not only the facade but also the floor plan that could be turned into a work of art, and that the layout of a family house, which the then-young



F. L. Wright: Floor plan of D. D. Martin villa. Open plan and articulated space disposition. Organic integration of building space with terrain.

architectural movement considered the "aerie of the dreams of tomorrow," could be transformed into architectural poetry. According to the modernists of that day, that "aerie" was the family home—the villa—with all its "nooks and crannies, where one can dream, talk in twosomes, threesomes, and foursomes, and afterward sit around the fireplace and play the piano . . ." (F. X. Šalda, *Boje o zítřek* [*Struggles for a Tomorrow,* 1905]).

Aside from the English garden city movement, the **traditional Japanese house** also began to exert a strong influence on the development of modern villa designs:[1] in the meantime, modern technical equipment—particularly central heating—made it possible for the villa to abandon the formula of northern, English-type layouts and adopt instead southern Mediterranean and east Asian patterns for the design of the modern single-family home with its loggias, terraces, balconies, verandas and open facades; Mediterranean summer houses and Pompeian and Japanese houses became popular models.

The most brilliant example of these influences is the work of **F. L. Wright:** his accomplishments include the most radical revision and modernization of the domestic floor plan and the abandonment of academic, palatial, and axial formulas. Wright's floor plans were developed consistently in the horizontal direction and conceived as a synthesis of open and closed spaces. His designs, such as the Winslow House in River Forest, [Illinois] (1893), the Heller House in Chicago (1896), and, above all, the brilliant floor plan of the Coonley House in Riverside, [Illinois] (1908), represent important milestones in the evolution of the modern villa. Clearly influenced by the architecture of Japanese houses, Wright developed his floor plans freely and asymmetrically in such a way that they became superbly adapted to the contours of their respective site and integrated with the greenery of their surrounding gardens. Not only that: his villas are designed to pay respect to the wishes and lifestyle of their owners, thus

[1]) At first, Secession architecture used Japanese motifs only in its ornamentation. Only later did the significance of the Japanese house as a highly refined dwelling form become understood.

fulfilling the functional requirements of modern living as well. Wright's houses represent an integrated system of rooms and terraces, protected by deep overhanging roofs, as well as forming an organic system of carefully and informally balanced spaces. In short, each is a symphony of open and closed spatial sequences.

If Adolf Loos tried to recommend modern simplicity in his writings, then F. L. Wright demonstrated in practice that we can learn almost everything that is to be considered modern from the Japanese. The Japanese house has no bearing walls; it is supported by posts and beams with light, movable partitions and sliding shutters inserted in the frame. This applies not only to interior partitions but to exterior walls as well. No distinction is made between the interior and the exterior of the house. There are no windows, since all the sliding walls can be used both as doors and windows. Exterior walls are made of simple transparent or translucent materials. The house can be either subdivided freely into a number of individual spaces or transformed into a single large, open space. The Japanese house is essentially without furniture. Unused furniture is not tolerated in a room; built-in closets between the partitions serve to store such unused items. There are no chairs, tables, or beds. One sits on the floor, one eats on the floor, and one sleeps on the floor, on mats. The result of the limitation and restriction of furniture is a free, uncluttered space, which can be easily opened or closed. Moreover, the house is devoid of useless adornments and the walls are not covered with layers of paint. One cannot imagine a more glaring contrast than that between a Japanese house and a European bourgeois dwelling of the nineteenth century (in the so-called Makart style).

Unfortunately, Wright's villas cannot be assigned the status of models universally valid for all housing: they are typical, very luxurious villas for the upper ten thousand. They are dedicated to the "high life style" [English in the original].

The most radical reform of the villa as a type is the work of **Le Corbusier.** S. Giedion correctly assessed Le Corbusier's place in the history of the development of modern architecture when he wrote that it was "a historical moment, when both housing and the city became architecture's primary areas of interest." Twenty years later, Le Corbusier continues the logic of F. L. Wright's ideas. All other things being equal, Le Corbusier's villas are the epitome of organized space, articulated not only horizontally, as with Wright, but also vertically; the space of Le Corbusier's villas is—as much as possible—free, open, and unadorned. His floor plans concentrate all dwelling functions around a large, central space, both hall and living room, with all the subsidiary rooms opening into it, preferably without using solid walls: both inside and outside, the floor plan is kept as open and free as possible. There is minimal furniture, walls, doors, carpets, drapes, and so on, with all storage closets built in. It is by such means that furniture becomes part of the structure. Instead of being designed as a system of closed rooms, Le Corbusier's villa is conceived as a spatially articulated, unified space.

Le Corbusier has summarized his architectural and housing reforms in his well-known **five points:** (1) piloti, (2) roof garden and the elimination of the cornice, (3) open plan, (4) horizontal window, and (5) open facade. At first glance, it appears that Le Corbusier's concept of the modern dwelling is a complete revolution compared to the way things were done in the past. It may be an architectural revolution, but it leaves the essence of the social character of the dwelling process untouched. His revolution takes place within the confines of a strictly bourgeois definition of dwelling. Even though his villas may be lifted up on piloti, have flat roofs with a garden, and be devoid of ornament, they nevertheless remind us in their overall conception of palaces and manor houses, transformed into residences for today's financial aristocracy.

Le Corbusier's villas are command performances for his wealthy clients. Just as in the past, members of the ruling class expect their architect to endow their residences with luxury, be-

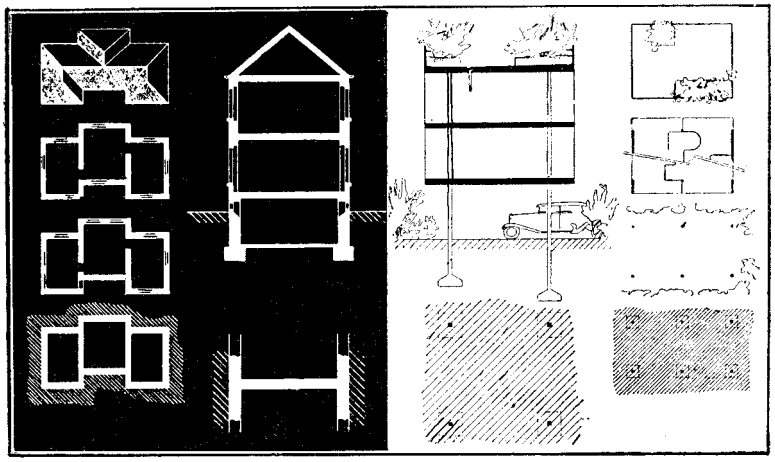


Illustration of the five points of modern architecture:

1. piloti
2. roof garden and elimination of sloped roof
3. open plan
4. horizontal window
5. open facade

Le Corbusier
1927

Old construction technology Modern construction technology

The two schematic drawings above illustrate architectural changes caused by modern technology. Old technology: expensive excavations for deep foundations, large cellars, rigid floor plans, same for all floors. Modern technology: light foundations, house elevated on piloti leaves ground surface open, free floor plan and free facade, roof garden.

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sides insisting on formal aspects of representation and individualized distinctive features. Instead of offering his clients the opulence of past rich ornamentation and precious materials, Le Corbusier provides them with the luxury of sumptuous terraces and imposing spaces, while still managing to pay homage to tradition by treating the house not as a utilitarian object but as a work of art. He may herald the home as "a machine for living," yet he designs grand habitable sculptures and uses the golden section and the proportions of his "*tracés régulateurs* to govern their elevations." He creates villas where "the disposition of spaces offers the eye a dazzling variety of admirable plastic views . . . , intended to serve social life and make an impression," and that "owing to modern technology and comfort can really provide anything." And, further on, he speaks about villas that "respect highly the social standing of the client," where "there is more luxury in their living hall than in five small salons . . ." (We cite these quotations from Le Corbusier's own descriptions of his projects).

The luxury villas designed and built by Le Corbusier have become the favorite model of today's modernist architecture. His five theses have become as important as the latest patterns of ready-made clothes and tailored suits advertised in current fashion magazines. Flat roofs, terraces, horizontal windows, concrete furniture, chrome chairs, plate glass, and so on have become a modernistic fetish and have gained the status of an obligatory stylistic formula. And, of course, fashion and style have always been the exclusive domain of the rich. Bored, the modern bourgeoisie is casting about to find its own "modern" luxury style. Nor should it be forgotten that academic architecture always propped up the show of wealth by using luxury materials, such as marble, granite, bronze, and so on, regardless of their cost; in the same way, the modern rich, living in Le Corbusier's villas, do not mind spending large sums on construction and maintenance, squandering money on the need to heat superfluous glass halls, and paying their servants to polish, clean, and mop the glass and chrome that so fascinate the modern snob architect and his clients. Just as the Secession made a fetish out of ceramic tile decorations not long ago, so today glass has become the modern luxury material of choice—a new fetish, embraced by Gropius, Breuer, Mies van der Rohe, and others too numerous to mention here.

Le Corbusier's Villas Garches (1927) and Poissy (1929) are a veritable orgy of comfort, luxury, and virtuoso aesthetics. They are more sculpture than places to live in. In all of them, barely

a third of the floor area is dedicated to legitimate dwelling functions: the rest is given to grand halls and galleries, terraces, bridges, staircases or ramps, and roofs adorned with eccentric architectural stage sets. It is a virtual symphony of halls and terraces, accompanied by the staccato of machine romanticism: above the entrance of his villas we find suspended something resembling a concrete wing of an airplane; on the roof we discover a command bridge of a transatlantic luxury cruise ship. The huge, uninhabitable hall is decorated with a solitary Thonet chair, exquisitely framed by two pilasters. In the center of another superfluous gallery a sculpture makes its appearance, and on the roof framed by concrete tiling—even though the villa stands in the middle of a large garden—we discover a tiny bed of grass. This is architecture as pure theater. The same can be said about his Ville d'Avray villa (1928–1929) and the Villa Savoy in Poissy, with its garden on the second floor, which happens to be enclosed by a wall, even though the whole villa is standing solitary in the center of a beautiful park.

S. Giedion wrote that "**modern architecture and style are incompatible.** It is the first time in history that architecture will be determined not by the intrusion of maximal but rather by the exigencies of minimal requirements. **Today any building clothed in luxurious splendor and built at unlimited cost has lost its import in the history of architecture.**" The last sentence in this quotation is unquestionably true. However, the rest has unfortunately been invalidated by reality: by serving the ruling classes, modern architecture has compromised its admirable principles and turned its lofty ideals into kitsch. Instead of holding fast to the principles of economy and functionality and to the promise that one day it will be able to solve the housing problem in the spirit of these principles and on a social scale, architecture has chosen to pander to the rich with a new version of luxury, a **luxury of calculated simplicity** for their new palaces, posing as modernistic habitable monumental sculptures. Modern architecture, which held the promise of becoming a new science for the reorganization of social life, continues instead to invoke the use of art for the snobbish pleasure of millionaires. Le Corbusier, who spoke about machines for living and the simplicity of Diogenes' barrel, has placed his architecture instead at the service of the upper ten thousand and wastes his time building villas fit for a Midas.

At the same time, the same Le Corbusier, in whose oeuvre villas play an important part, promulgates the radical negation of the villa and the single-family house in theory, but designs villa-like housing agglomerations in practice. One side of him builds private villas, the other side espouses mass-produced standard houses. The only house types other than villas found in Le Corbusier's oeuvre are relatively luxurious single-family houses. His Immeuble-villas are a good example: a complex of villas, conceived as residential hotel-type dwellings, with apartments of 150 m^2 area, each ten times the size of a luxury cabin of a transatlantic cruise ship, but still based on plans derived from the conventional family household. The same is true of his various projects for apartment houses and his projects for subsistence minimum housing. Still, when all is said and done, the just-mentioned objections to and criticisms of his individual designs, projects, and theories in no way diminish the importance of Le Corbusier's contribution to the history of architectural progress.[2] The point at issue is not to confuse or equate the artistic, sculptural, and graphic quality of Le Corbusier's works with the genuine and real accomplishments of contemporary architecture. So far, it has been customary to judge the artistic quality of a design from a purely individualistic point of view, and to worship quality on the basis of more or less personal idiosyncratic criteria. Today, a house or any other product of design is admired by the educated primarily as a manifestation of the talent of its au-

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[2]) The author attempted a summary evaluation of Le Corbusier's work in an article printed in the journal *Index* 2, nos. 11–12; 83.

thor, rather than for its own sake. The assumption that artistic quality and artistic talent alone should be honored as contributing to human progress is fundamentally wrong and essentially narrow-minded. Quality becomes of true service only when it is situated correctly socially and in the right place. Every cultural value is objectively and historically conditioned and has meaning only if revealed in its proper place, time, and space. It is never exclusively dependent on this or that creative personality. This is also one of the reasons why it is necessary today to evaluate all architectural production by new criteria, which are neither aesthetically nor individually based—that is, certainly not based on atavistic notions of quality determined purely aesthetically or by the status and power of an author's talent or genius—but are based above all on how a certain work competently responds to the needs of modern life and society. Under certain circumstances, it may even be conceivable that a very original and brilliant personality could prove harmful to architectural progress, especially if he or she fails to heed the material exigencies and the social mission of architecture.

It is for these reasons that we must rid modern architecture and architectural criticism of its current deference to artistic exclusivism and its fixation on the genius of this or that creative personality and break the stranglehold of passing taste and fashion. In practical terms, this means that the architectural avant-garde must emancipate itself from the influence of antiquated, idealistic, and metaphysical aesthetics that have held sway ever since the days of the Renaissance, and instead become familiar with the method of dialectical materialism in both theory and practice—and, by using this method, raise architecture to the level of a **science that will change the world.** Once a craft, humbly serving human needs, architecture has turned into art and focused its interests on extravagance and grandeur, decoration and representation, ministering to the interests of property rather than acting in the service of humanity. What is needed today is its transformation into a creative science that will not only accommodate the material needs of society but also show how to change the world and create the conditions for restoring the value of productive work. What is needed are practical and socially beneficial efforts, not superficial appearances and monumentality. The real value of an architectural work should be judged by its socially beneficial results and not by formal appearance and pompous monumentality.

CIRPAC !

Official publication on modern housing, new architecture and urbanism, anthology of the International congresses of modern architecture

Rationelle Bebauungsweisen

[Rational Building Methods]

supplement to the anthology Die Wohnung für das Existenzminimum.

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This book is an indispensable resource for architects, builders, building authorities, schools of architecture and building, regulatory agencies and the like.

Published by JULIUS HOFFMANN, Stuttgart

See translator's note, p. 176.

model settlements and housing exhibitions 8.

stuttgart-weissenhof ● brno–nový dům ● breslau–wu wa ● karlsruhe-dammerstock ● zurich-woba ● stockholm ● dresden ● berlin ● prague-baba ● frankfurt a.m. ● kassel-rotenburg ● vienna

The progress of housing reforms and the evolution of modern dwelling can best be observed by following the experience of the new housing exhibitions, which—aside from stimulating architectural creativity—have also provided an excellent means of propagating modern architectural concepts. With the emergence of the mature floor plan of the modern dwelling, the introduction of industrialization in construction, and the proliferation and testing of new, industrially produced construction materials and modern structural systems, the new architectural and housing exhibitions have come to play an ever more important role, while at the same time stimulating architectural progress. Housing has appeared on the exhibition scene only very recently, providing the opportunity to convince buyers of the advantages offered by innovative housing solutions, while at the same time creating a laboratory setting to experiment with and test new construction methods.

Exhibitions containing entire housing colonies are an innovation of the postwar [i.e., post–World War I] era. They fulfill the same task for contemporary construction as the industrial fairs of nineteenth-century Paris and London did for the new machine age. And just as modern advertising in business and industry came to thrive in the hustle-bustle of past world fairs, a flood of advertising and propaganda on modern dwelling and related subjects has been generated by today's housing fairs. The reason for this belated appearance of exhibitions dedicated exclusively to housing is that of all the major branches of production, only construction—especially housing construction—is still largely tied to old craft methods and has as yet to be industrialized. It is still a craft-based business, still producing houses one at a time, for a specific customer. The decline of housing culture, along with a similar decline of the crafts, reached its lowest point at the end of the nineteenth century. Productivity in construction was unable to keep pace with other branches of industry. Technically, even today no substantial difference exists between the way a primitive man contrives to cobble together his hut with pigskin hides and the way a mason cobbles together a house in stone or brick. In general, construction has remained unchanged from what it had been during the last century.

Industrialization of construction became an urgent necessity only after the war. Because of pent-up demand in the housing sector, it became necessary to build *en gros,* in bulk and rapidly. In turn, this created the need for rationally managed and technically advanced construction entrepreneurship, which at the same time offered the prospect of profits far higher than could be realized by using old craft methods. As a result, industrialization of construction gained acceptance and importance as vigorous efforts were made to advance its progress. Craft-based entrepreneurs, with their **limited management capacity,** were not able to compete with larger firms using rationalized methods of construction. The high demand for new housing during the postwar years was thus the primary factor in transforming the former craft-based construction methods into a modern, large-scale industry. The prospect of quick returns accelerated the flow of investments into the industrialized construction sector. In addition, the postwar construction boom made it possible for investment capital to reallocate its profit-making strategies and provide construction loans not only to developers but to large-scale building enterprises as well.

The transition from medieval methods of construction to those of mature capitalism will be completed only with the industrialization of construction in this sector. The industrialization of construction is capable of producing houses with great speed, just like any other product available on the open market. In a competitive market, industrialization should be able to increase the quality of a house, while at the same time lowering production costs and price. This is not possible with craft construction. Only an authentic building industry will be able to provide a house that has all the attributes of a mature industrial consumer product: standardization will make possible increased markets, universal suitability, and maximum adaptability to accommodate all needs. The skeleton system is a good example. Its open structural system of posts and beams enables changes in the floor plan, standardization of elements (doors, windows, panels, etc.), and speedy erection by means of dry assembly, as well as easy transport: the building industry is gearing up for the production of houses that can be assembled for everyone, anytime and anywhere. The direct relationship between production and the individual becomes obsolete, and in its place the abstract rules of the market come into play. The lowering of construction costs is no longer subject to the vagaries of "social demand" but follows instead the dictates of the market,[1] which will produce the least expensive house that can be afforded by the least affluent—in effect, a minimum dwelling. It reflects, above all, an effort to achieve a higher volume of sales. Cost lowering is thus a matter not of the socialization of housing as public policy but, on the contrary, of recasting the character of the house so that it becomes an industrially produced commodity: the aim is to respond to the massive demand for housing by saturating the housing market with the cheapest possible product. At the same time, the need for greater standardization comes into conflict with the realities of an unstable housing market and the constantly changing demands of fashion, which supposedly must be satisfied to capture the attention of the buyers.

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[1]) Construction and housing production in general (cabinetry) were aimed primarily at serving the needs of affluent clients. However, the gradual pauperization of the middle classes has restricted the luxury market served by these craft-produced houses. The industry was, therefore, forced to recognize that market share could be maintained only by lowering the cost of its product, and targeting instead the impoverished middle-class segments of the population: of course, all the slogans praising the cheap house and cheap popular furniture are nothing other than an attempt to sell to the "small fry." Once the impoverishment of the middle classes has reached a point at which the majority cannot afford even their cheapest products, industries revert back to producing luxury goods. And that is why today's "cabinetry" is switching again back from the manufacture of cheap standard furniture to personalized and select luxury production.

This effort to find new ways to stimulate demand manifests itself on the one hand by the publication of massive amounts of printed material on the subject of the new dwelling and its amenities, and on the other hand by the organization of **housing exhibitions,** which represent a new and important phenomenon of the postwar period and which boost the development of the industrialization of construction.[2]

The successes and results of the industrialization of construction are so far very meager and incomplete. Industrialization in construction was first introduced at a time when the pace of technical progress had begun to slow down in other industrial branches (except for armaments and luxury goods), that is, at a time of general technological retreat. The most characteristic indicator of the state of construction technology today is a trend toward systematic improvement of existing achievements, rather than a search for new, radical discoveries and inventions: this incremental change involves simplification of production, standardization, economization, and, above all, greater exploitation of human resources, which do not require additional capital investments. In fact, rationalization of construction should not be equated and did not begin with the mechanization of construction, but began with Taylorism: it was Frank B. Gilbreth, a former bricklayer and a member of the American Society of Civil Engineers, who was the first to rationalize construction by teaching masons to eliminate redundant body motions, which had previously slowed down productivity and caused work-related fatigue. He also proposed changes in the design of prevailing types of scaffolding and tools along similar principles (F. B. Gilbreth, *Bricklaying System* [1909] and *Motion Study* [1911]).

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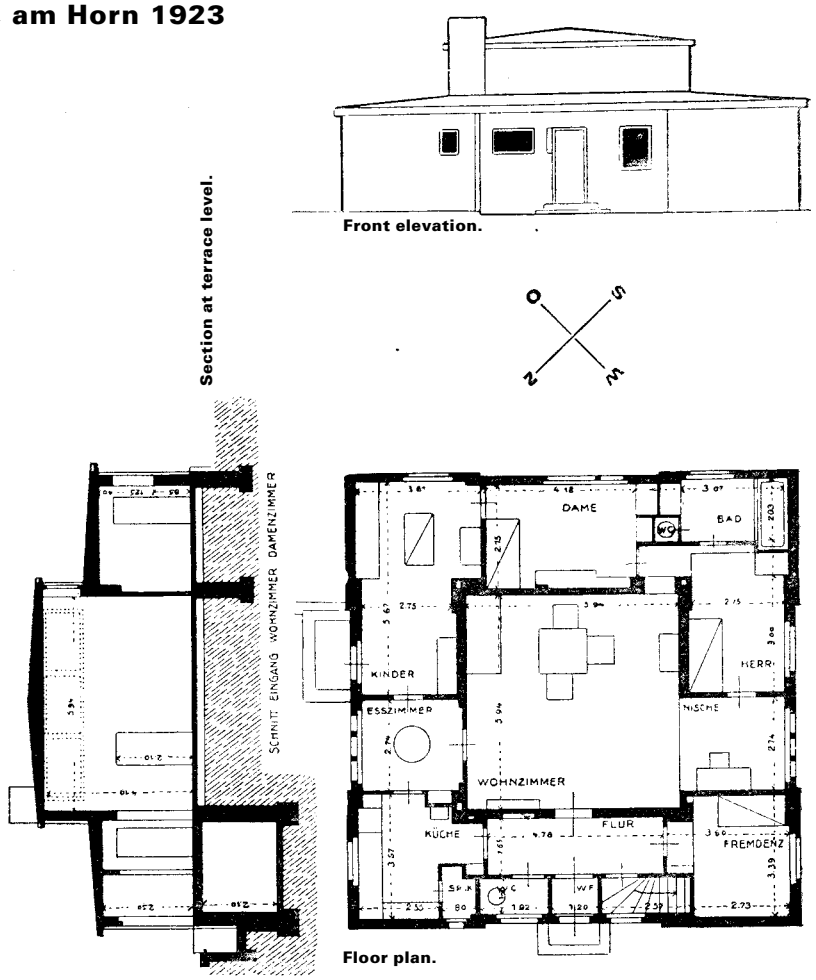
The 1923 International Exhibition of Architecture, organized by the Bauhaus in Weimar under the leadership of Walter Gropius, was the first harbinger of this new type of exhibition dedicated to the subject of housing. Here the objects displayed did not consist entirely of paper projects, plans, photographs, and small models of houses, but they instead were fully equipped real houses, ready to be inhabited (not temporary exhibition pavilions). Along with plans and photographs, the exhibition also included an experimental house designed by Georg Muche and Adolf Meyer, "Ein Versuchshaus des Bauhauses, Weimar, am Horn" (see *Bauhausbücher,* vol. 3 [1925]). This house is interesting from an architectural standpoint. Its design is clearly based on the layout of a Pompeian house, modified to accommodate modern needs.

The 1927 Stuttgart Werkbund Exhibition *Die Wohnung* and its associated experimental housing colony, the Weissenhof Siedlung, was the most important large exposition of modern architecture dedicated to the reform of housing of the last decade, perhaps even of our own century. It was organized on an international basis by its director, **Mies van der Rohe,** and has become an event of international significance for the entire modern world: at a time when

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[2]) Still, even today, despite considerable advances, industrial methods have not had any significant success in construction and have not proved themselves able to reduce the cost of housing in practice. The inability of the mass production of houses to become effective on a truly large scale can be blamed mainly on the proliferation of privately owned scatter sites, which can only be developed by using traditional methods of construction and which thus allow craft-based builders to compete successfully with industrialized building. The best example of this situation is brick construction. In Europe, the industrialization of construction is most advanced in Germany, where large industrial concerns were forced to thoroughly rationalize their production methods in order to compete in world markets.

Weimar, am Horn 1923



Georg Muche & Adolf Meyer. Experimental family house (Bauhaus in Weimar)

Attempt to adapt an antique (Mediterranean) floor plan to modern housing.

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modern architecture much too often depended on theoretical, speculative, and hypothetical efforts, it provided a much-needed opportunity to review some of its individual proposals and provide a forum for a critical comparison. The exhibition accomplished that comparison by including modern architectural designs from all civilized countries and by recognizing the **reform of housing** as a **fundamental problem of the new architecture** and making it the primary focus of its attention. It succeeded in shedding a new light on many facets of this problem most effectively: it combined a large exhibition of construction samples in the



Mart Stam 1927

Stuttgart-Weissenhof

Living room in serial house in Weissenhof housing exhibition in Stuttgart. Metal windows, opening outward, up to ceiling height.

Photo dr. Lossen & Co.

Gewerbehalle (which displayed the most modern achievements in the areas of construction materials, furniture, lighting, technical and hygienic installations, etc.), with the centerpiece of the enterprise, the Weissenhof model housing colony, where seventeen architects were commissioned to build thirty-three houses, all constructed with modern materials and all relying as much as possible on industrialized methods of construction. Thus *Die Wohnung* was the first exhibition to use an actual construction project as its venue: unlike the Paris Exhibition of Decorative Arts, here there were no imposing pavilions that, after its closing, were reduced to a pile of wooden sticks and a rubble of stone. Instead, the exhibition built real houses in a **model garden district in Stuttgart,** surrounded by parks and green spaces, with valleys and hills framing its periphery but without a town center. Aside from improving Weissenhof's overall plan, the model settlement provided the district, located unfavorably in its urban disposition and marred architecturally by pseudo-modern villas, with a number of outstanding examples of modern international architecture.

The results of the Weissenhof experiment were published in two important books (published by the Stuttgart Akademischer Verlag dr. F. Wedekind and Co.): *Bau und Wohnung* [*Architecture and Dwelling,* 1927] and *Innenräume* [*Interiors,* 1928]. The Stuttgart Weissenhof colony was built according to the site plan (essentially not modern) of Mies van der Rohe, and it includes individual house designs by the following international architects: J. J. P. Oud, Mies van der Rohe, Victor Bourgeois, Le Corbusier, Gropius, A. G. Schneck, Hans Scharoun, Peter Behrens, Mart Stam, Josef Frank, Adolf Rading, L. Hilbersheimer, Max Taut, Bruno Taut, Richard Döcker, Hans Poelzig (i.e., twelve Germans and Austrians, one Belgian, two French, and two Dutch; designers from the Austrian and Swiss Werkbund also collaborated in the furniture division of the exhibition). The predominant building type of the Weissenhof is the freestanding single-family villa with large or medium-size apartments: only Bruno Taut designed his villa as a worker's (*sic*!) small house, to be serially produced at the cost of 10 to 12 thousand German marks. Given that the freestanding villa is by definition a rather expensive building type, the designers had to resort to using the row house type in order to demonstrate the possibility of a truly low-cost solution, as evidenced by the projects of J. J. P. Oud and Mart Stam. The ground floor of Oud's houses consists of a living room, kitchen, and laundry. The upper floor has three bedrooms, a bathroom, and a drying room; the floor area is well utilized, as there are no halls or corridors. Mart Stam's houses are based on a similar plan, with the dif-





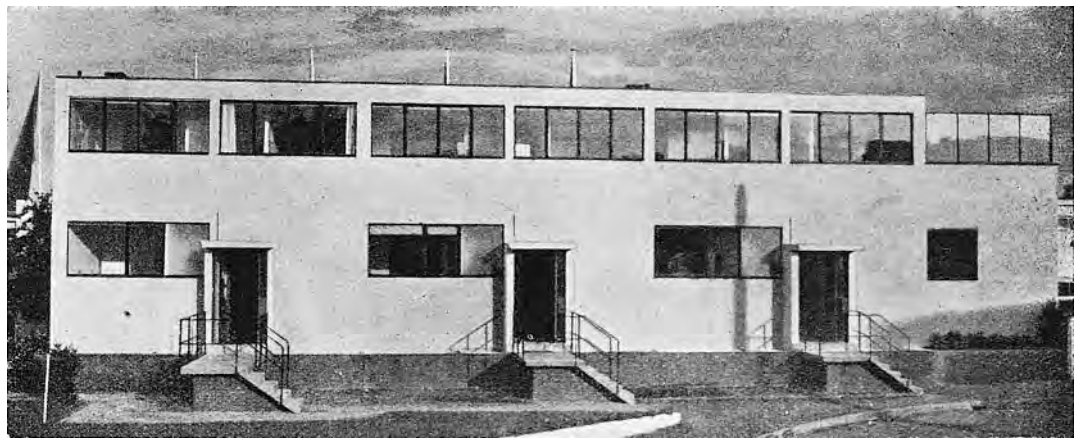
Spain. San Pol de Mar, Barcelona
Standard popular construction type as a result of functional requirements, lifestyle, climate, and terrain.



J. J. P. Oud, 1927. Stuttgart-Weissenhof
Serial small houses.



Ernst May & E. Kaufmann (Frankfurt a. M.) 1926
Row houses in Praunheim in Frankfurt.

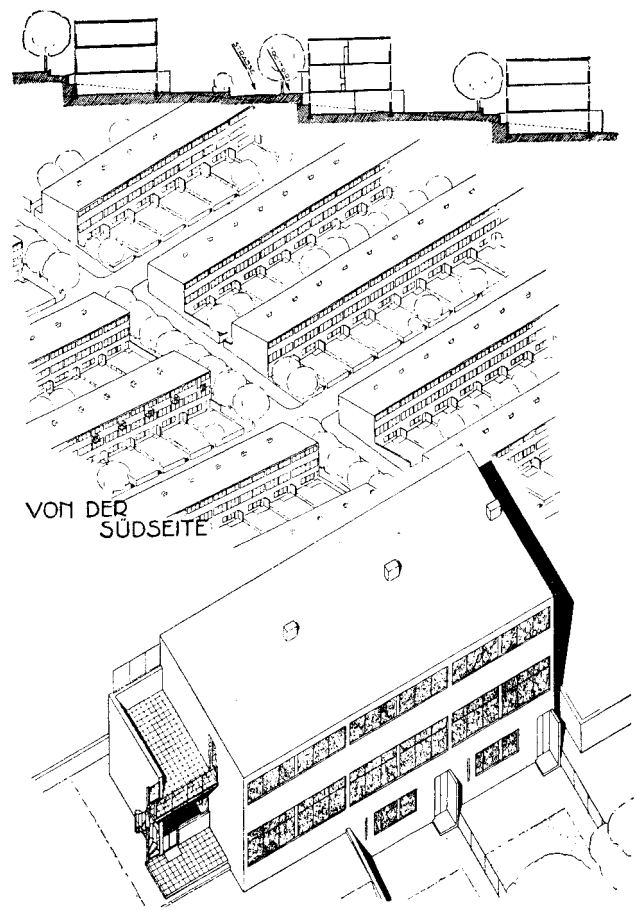


Serial small houses (north facade).

Stuttgart–Weissenhof

Photo dr. Lossen & Co.

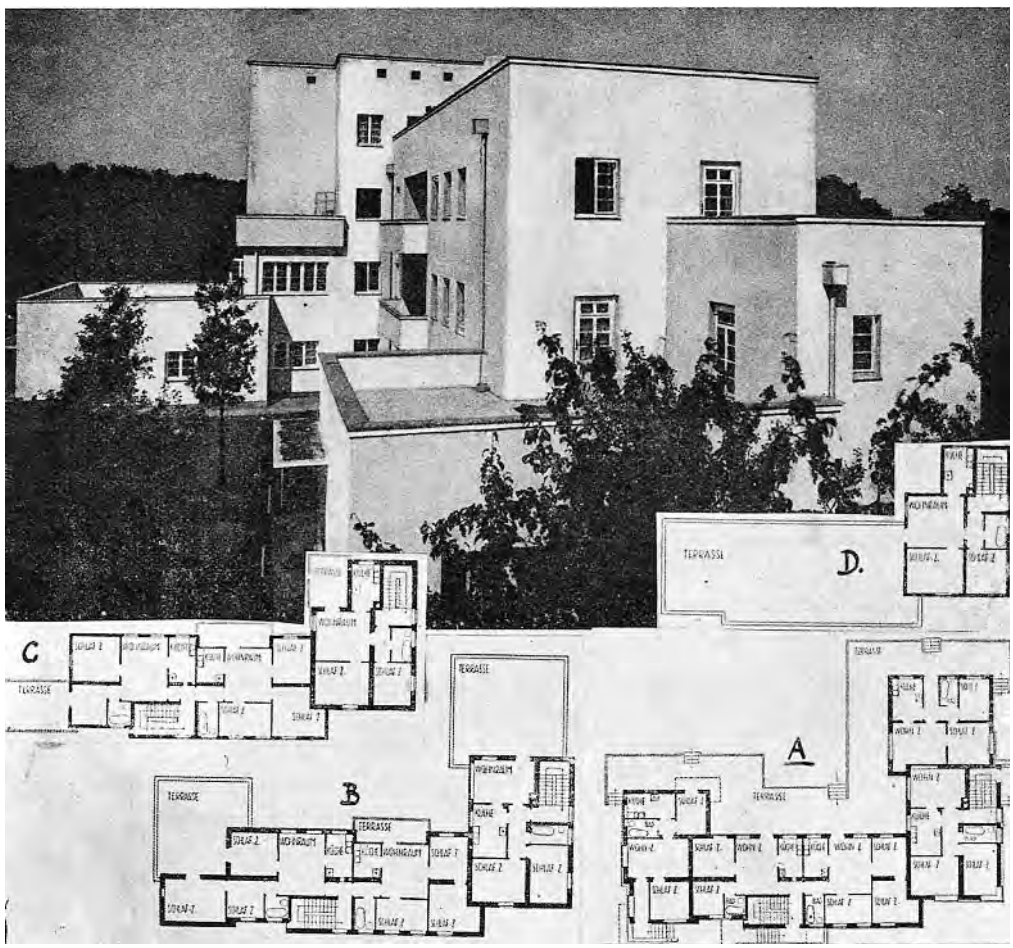
Laundry in basement, hall toilet, kitchen and living room on ground floor; closets and 3 bedrooms on upper floor.



Proposal for a residential district with small row houses of a similar type. A very early example of single-row housing: streets are still parallel to house rows. Rows are sited east-west.

Axonometric of a fourplex in the Weissenhof colony in Stuttgart. South facade.

Mart Stam 1927



Peter Behrens: Terrace rental house. **Stuttgart-Weissenhof 1927**

A — ground floor, B — second floor, C — third floor, D — fourth floor. Apartments with living room and 2–3 bedrooms. Complex of 5 houses. The flat roof of each lower house is used as a terrace for the next house above.

ference that he uses the slope of the site to place the laundry in the basement, thus eliminating the drying room and the storage yard.

Besides the single-family house type that predominates, the Weissenhof Siedlung also includes two rental multistory apartment houses, both of which represent a significant achievement for this type of dwelling, so far largely neglected or addressed only incompletely by modern architecture. Here we find an attempt to go beyond the outdated rental barrack solution, best exemplified by those terrible five-story-high rental blocks, the breeding grounds of sickness and especially tuberculosis, with their densely built-over courtyards with lateral wings crammed tight into the interior of the closed blocks. However much the architects of the Stuttgart exhibition may have tried to present the detached family house with a garden as the

ideal of the bourgeois style of dwelling, the very fact that eight-tenths of the population in the big cities live in largely unsuitable rental houses did in the end force them to pay some attention to the reform of multistory housing as well.

As part of a demonstration of the multistory type of housing, **Peter Behrens** built a terrace rental house with twelve apartments. He based his design on the premise that each apartment should be provided not only with sufficient sunlight but also with an open terrace, as well as good cross ventilation. The terraces are designed to be large enough to accommodate beds for sleeping in the open during the summer. To align his row house with the street, Behrens chose a steplike arrangement of the upper floors, similar to that of the well-known house (*maison à jardins*) by Sauvage on the rue Vavin in Paris; however, he rejected the use of continuous open corridors in his design, since the balcony overhangs would cast a shadow on the windows of the lower floors. Each individual group of one- to four-story building elements is arranged in such a way that the flat roof of the lower unit acts as a terrace for the unit above, while the ground-floor apartments have their own gardens to make up for the missing terrace. The apartments consist of a living room, bathroom, kitchen, and two to three bedrooms (including children's bedrooms).

Mies van der Rohe's three-story rental quadruplex with twenty-four apartments is interesting mainly for its variety of different apartment layouts. Taking advantage of steel skeleton construction, Mies van der Rohe managed to exploit to the fullest the freedom it offers for the spatial manipulation of the plan. Respecting the necessity of plumbing alignment, only the stairwell, kitchens, and bathrooms are in a fixed, permanent position; the rest of the space (the floor plan of the apartment) is subdivided by light and easily moved partitions made of wood, plywood, or translucent or transparent glass and—if need be—by movable storage closets. Typologically, Mies van der Rohe's complex is actually a row of four stairwell houses; each stair serves only two apartments per floor, one smaller and one larger. The upper floor includes storage rooms, a laundry, and roof gardens.

In Czechoslovakia, the example of Stuttgart was first followed in Brno, as part of the *Exhibition of Contemporary Culture* in 1928. Located below the Wilson Woods, it consists of a group of sixteen small houses, called Nový Dům [the New House]. The following architects contributed designs: B. Fuchs, J. Grunt, J. Kroha, H. Foltýn, M. Putna, J. Syřiště, J. Štěpánek, J. Viška, and A. Wiesner. The project was realized at the private initiative of the builders F. Uhera and Č. Ruller, and sponsored by the Svaz Českého Díla. It consists of row houses and family houses, as well as a few freestanding small villas and duplexes. Only the designs of B. Fuchs and J. Grunt belong in the category of minimum dwellings. During the same year, a number of model houses were also built on the Brno exhibition grounds, including a two-story house of the Svaz Českého Díla, designed by Jos. Havlíček; a single-family house by O. Starý; and another single-family house with a store, by P. Janák.

After Stuttgart, the German Werkbund continued its program with the 1929 exhibition *Wu Wa Breslau* (*Wohnung und Werkraum*) in Breslau in Prussian Silesia [now Wroclaw in Poland]. Here, too, the exhibition was divided into three sections: an exhibition of international architecture (plans and photographs), an exhibit of materials and equipment (tracing the historical evolution of urban housing, rural dwelling, workshops, and offices), and the model exhibition colony Grüneiche. This group of thirty-six houses was architecturally less advanced than Stuttgart's Weissenhof Siedlung. It included fewer architectural experiments, and there were fewer famous architects among its designers. Its advantage consisted in a more focused and concise program: there were no more vague slogans like "the new dwelling." Instead, it placed its main emphasis on the problem of the *Kleinstwohnung* [minimal dwelling], by mostly exhibiting small minimum dwellings. The architects of the Breslau colony are

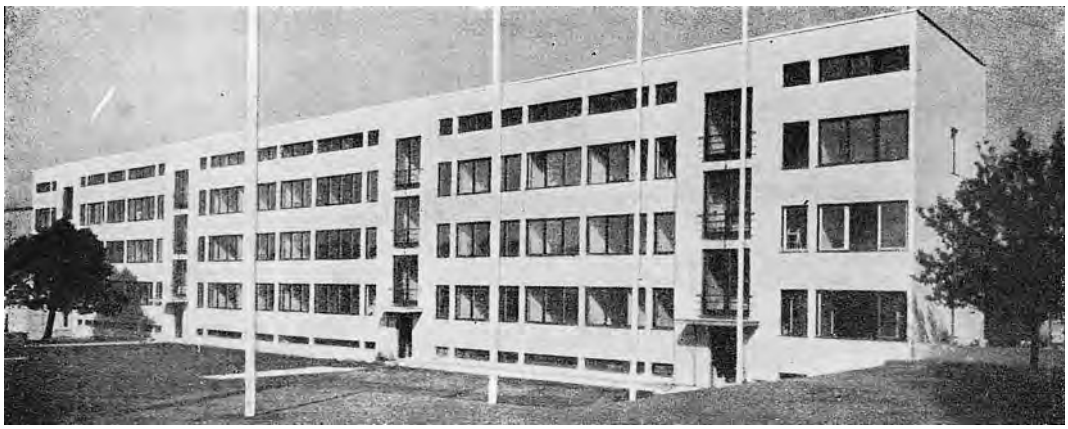


Photo dr. Lossen & Co.



Mies van der Rohe: Residential quadruplex. **Stuttgart-Weissenhof 1927**

Steel skeleton construction allows for variable floor plans. Inside partitions in apartments of glass or plywood. Metal folding windows.

Rading, Scharoun, Effenberg, Häusler, Hadda, Lauterbach, Moshamer, and Lange. The whole Grüneiche group of experimental houses is heated centrally by an independent heating plant at a distance, thus eliminating chimneys, soot, and smoke. Aside from family row houses with small apartments, the most significant designs are the *Laubenganghaus* [open gallery type] by Paul Heim and Albert Kempter, who were the first architects to focus the attention of contemporary architecture on the concept of the **open gallery multistory house.** By bringing up to date the former Empire-style type, they have demonstrated a solution that is now almost universally acknowledged as more practical than past rental houses with small apartments of

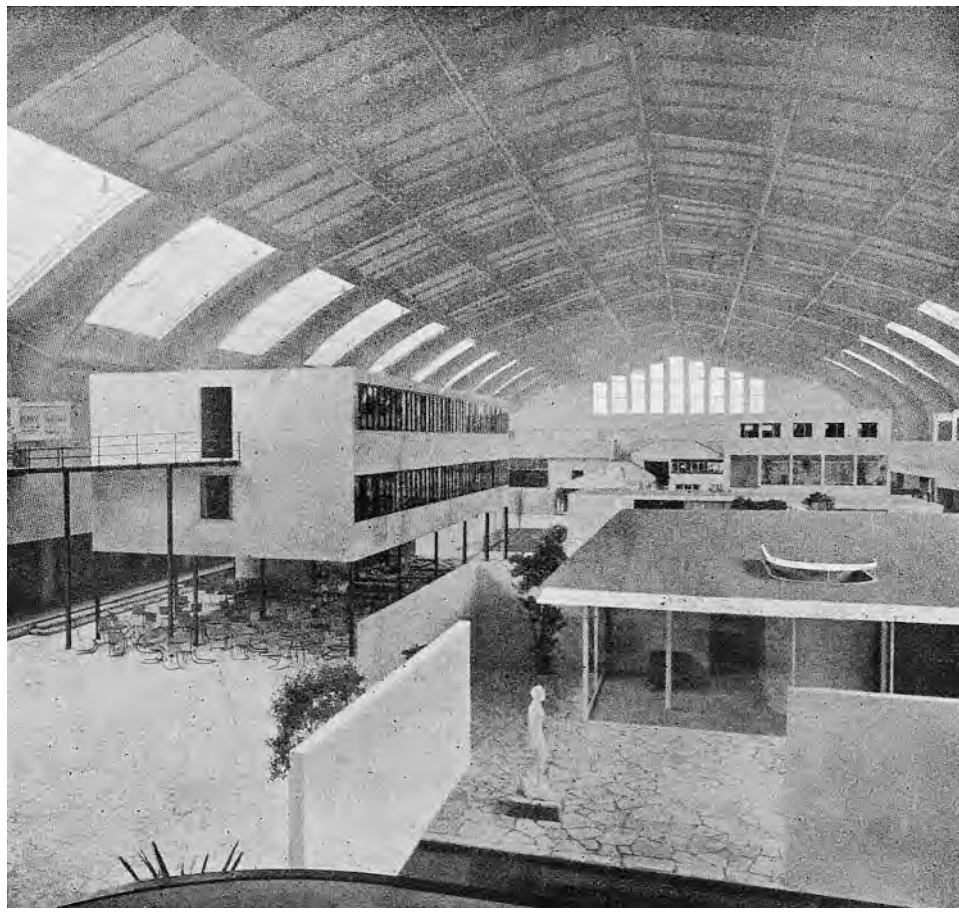
the closed stairwell type. Other good projects are a rental duplex linked by a common staircase, designed by Adolf Rading, and finally Scharoun's Wohnheim, a boardinghouse type (today serving as a hotel), with sixteen apartments for childless couples and thirty-two apartments for singles. It also includes a number of communal facilities: a restaurant, café, and a meeting hall. The apartments have no kitchens, with at most only a nook for cooking.

Another achievement of the Breslau colony is the special **children's home** by Heim and Kempter. It is a logical complement to the boardinghouse concept of housing. It was designed to be used by all the children of the Grüneiche colony, to release them from the prison of the family apartment; it is a children's paradise, equipped with the latest sanitary conveniences, which are indispensable for the health of children and impossible to provide in a regular apartment, especially a small one. The project is based on the principle of separating the dwelling of children from that of the grownups who, in their tiny apartments, are in the way of children, as much as children are in the way of their elders. Scharoun's boardinghouse (despite being encumbered by formalistic architectural features and presupposing fairly affluent inhabitants) and Heim and Kempter's children's home are clearly the most important achievements of the Breslau exhibition: here, we encounter for the first time, in embryonic form, a hint of the ideal of the collective dwelling and the rejection of the family-based house and rental apartment.

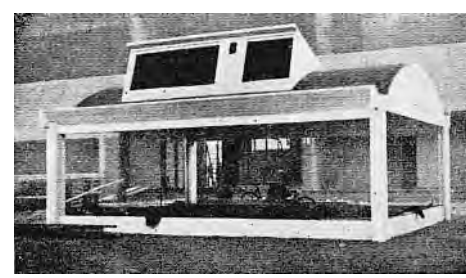
Another exhibition of a similar character is the **Dammerstock settlement in Karlsruhe,** built in 1929; it is distinguished by its progressive site plan, designed by Walter Gropius. It consists of uniformly executed single rows of attached houses (*Einzelreihenbebauung*), with streets set at right angles in an east-west direction to the north-south rows. Windows are oriented east and west. Row housing is the predominant type used in the Dammerstock colony. There are only two rows of four-story houses of the open gallery and balcony type, based on the designs of Otto Haesler and Walter Gropius.

In 1928 the Swiss Werkbund organized the exhibition *Das Neue Heim* in Zurich; in 1930, the exhibition *WoBa* (*Wohnen und Bauen* [*Dwelling and Construction*]). As part of the same program, the colony Eglisée was built in Basel. It consists of 60 family houses and 120 rental houses with small and medium apartments, as mentioned in chapter 3. In 1932 the Vienna Werkbund organized an exhibition, more or less on the model of the Stuttgart Weissenhof Siedlung, that also includes a group of small family houses designed by various Viennese and foreign architects (Adolf Loos, R. J. Neutra, André Lurcat, Rietveld, Jos. Hofmann, Jos. Frank, Brenner, Grete Schütte-Lihotzky, and others).

A number of model houses were also built, but only as models at half-scale, for the Berlin building exhibition of 1931. They were displayed inside exhibition pavilions, and were demolished after the show. This placement may have contributed to the mistaken notion that these models were meant as small exposition booths rather than scale models of real dwellings. Models and sections of a high-rise boardinghouse project (by Walter Gropius and O. Haesler), rental house types (Luckhardt and Anker, Bauhaus-Dessau, Hilbersheimer, M. Breuer), groups of boardinghouse-type family homes by Munich architects, and single-family houses (M. Breuer, Häring, the Luckhardts, Anker) were also displayed inside the exhibition hall. Incidentally, the architecturally most interesting objects in the hall were also the most reactionary in their social content. For example, the house designed by Mies van der Rohe is not even a genuine villa but a more or less irrational adaptation of his German Barcelona Pavilion transformed into a dwelling: all he did in this adaptation of his pavilion (which is nothing but a somewhat Wrightian architectural and sculptural flight of fancy, with its space arbitrarily subdivided by a few partition walls) is to add a toilet and a bathroom—and presto, the villa of the future has arrived. The whole concept is supremely impractical and governed by formal



Berlin, Bauausstellung, 1931. (Contemporary home)
Models of residential houses in the exhibition **Contemporary Home.**



Hugo Häring (1931)
Small single-family row house, east, west, and roof skylight oriented toward sun.

sculptural intentions, which, in turn, are based on purely abstract notions of space composition—*Raumkunst*—executed with luxury materials: the spaces are open-ended and flow into each other as in a maze. The skeleton is completely freestanding, and the steel columns and their connections are chrome plated. This is theater and sculpture, not architecture—snobbish ostentation, but not a dwelling.

Another example of such artistic modernistic snobbery is Marcel Breuer's House for a Sportsman. Evidently, Breuer regards the sportsman as the most representative type of a modern man, for is it not true that sport is, after all, the sign of modern culture and the modern lifestyle? Breuer evidently sees a sportsman as belonging to a classless world, for he does not want to build a house for the new rich, whom he scorns. On the other hand, to build a villa for a real worker as a "work of art" is something that is not quite possible either. It seems that for Marcel Breuer, neither the upstart new rich nor the scorned bourgeois nor the proletarian, whose lifestyle is a mystery to him, are really genuine "modern" human beings: the real modern man is a sportsman. Evidently, in Breuer's program there is no need to consider class and sociological issues. By using sport as an excuse, Breuer does not have to admit that his villa is effectively nothing other than a luxury dwelling for the idle bourgeois. It provides nothing but a modernized version of the boudoirs, salons, and master suites of the idle rich of days past, which are now being published in expensive coffee-table books on the so-called art of dwelling. The main space of Breuer's house is so large that it could easily accommodate a regular sports team. It is really a gymnasium. It certainly is not a house for an average working person who may want to exercise as part of his lifestyle. Not at all. It is a villa of a sports star—but even here M. Breuer apparently has no clue about the psychology of sport stars, since he seems to be assuming that such a champion would be happy in a house with a few puny cubicles for sleeping, cooking, and washing attached to his magnificent gym.

For the sake of completeness, this list of housing exhibitions needs to be complemented by the 1930 Stockholm and Dresden exhibitions. Stockholm managed to organize a grand display of modern Swedish architecture, with E. G. Asplund as its most prominent contributor. Besides the architecturally outstanding exhibition pavilions, models of a few dwelling houses were also included. These were based on the designs of the winners of an earlier competition to create a dwelling for a citizen with an income ranging from 3,000 to 15,000 Swedish crowns and with a three- to seven-member family. The following architects were represented in the exhibition: Arhén, Ahlberg, Almquist, Bergsten, Dahl, Erickson, Friberg, Hüorvik, Jonson, Lewerentz, Markelius, Schmalansé, and Ryberg. The exhibition did not include any collective houses or any open gallery solutions. Only stairwell and double-loaded corridor types were shown. The cubicle-type bedrooms of the models shown frequently included bunk beds, stacked one above the other, like those found in railroad sleeping cars. Most apartments also included small but luxuriously equipped kitchens.

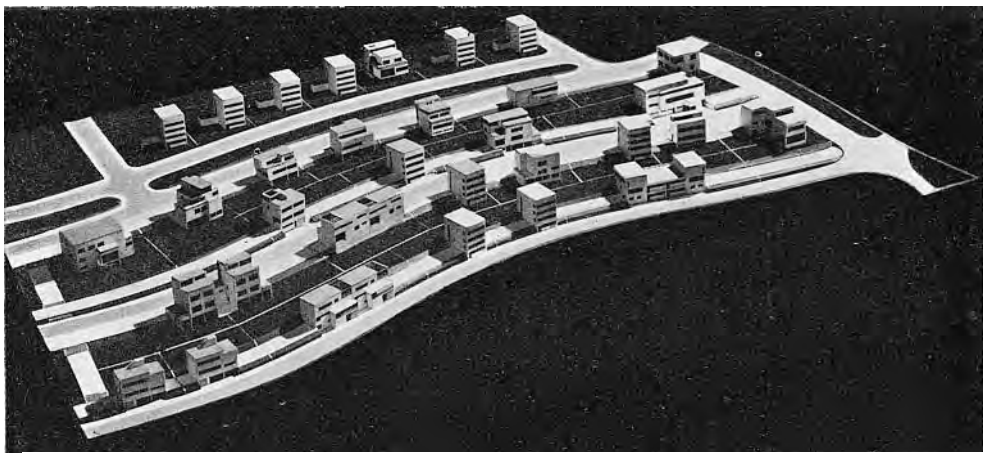
The Dresden exhibition was primarily devoted to the problem of sanitation in rural areas, the city, the garden, the street, and the dwelling. The slogan of the exhibition was "The family is the basic unit of the state, and it is the duty of civilization and the state to strengthen family life." Under the aegis of this humanistic bourgeois slogan, the exhibition came up with some pretty silly nonsense. For example, the architect Wede designed a small house for a family in which one member is an incurable consumptive: he isolates the bedroom, but doing so does not prevent contact between the consumptive and the other members of the family. It is puzzling that an exhibition on the subject of hygiene decides to proselytize for treating the sick in the home, while at the same time ignoring the role of hospitals and sanatoria in such situations. Another bit of nonsense is the South House of the architect Gustav Lüdecke, where all rooms, even the kitchen and the bathroom, face south: he obviously forgot that at noon,

during the time of its most intensive use, work in the kitchen will become unbearable due to a surfeit of sun, while during the early morning and late evening the bathrooms will be without sunshine. Another absurdity is a counterpart of the house for the consumptive, a family home for a handicapped person (without stairs): evidently hospitals or old-age care facilities do not exist, only villas, villas, villas, since the family, even when consumptive, is the foundation of the nation. The sanitary equipment shown in the Dresden housing expo was of the most expensive kind throughout: it was definitely not meant to be used for healthy living by people with a minimum income—the very people who would need such equipment most.

Finally, the Prague exhibition of housing deserves mention as well. It was first proposed by the Svaz Českého Díla in 1930, but construction was postponed until the years 1932–1933. It is a **colony of villas** called **Baba** on the periphery of the city in the Dejvice district of Prague, close to the Šárka valley. The initial plan was to build fifty. But given the difficult economic situation at that time, this number was later reduced to twenty single-family model villas: to a certain extent, the Baba colony thus became a victim of the economy. In contrast to the German Werkbund exhibition, which was able to build its colonies of model houses without taking into account the wishes of individual clients, as the houses were sold and rented only after the close of the exhibition, and which was thus somewhat comparable to an automobile showroom, with its display of new products to be sold on the open market, the Baba settlement in Prague was more of a self-help project. These twenty houses were built at the expense of private clients, who were expected to move into them after the close of the exhibition, and the project consisted of freestanding, particular **villas.** Conceived as relatively luxurious family houses, these villas had to be designed according to the clients' individual wishes and caprices. That alone made it less likely that the results would be consistently noteworthy and rational examples of generic architectural solutions.

The very fact that the Baba exhibition was limited to the single-family villa type of housing by definition excluded from its program any other solution to the problem of the minimum dwelling (which, by the way, cannot be solved by the villa type in the first place). It also meant that compared with Stuttgart, Breslau, or even the Brno colony, the Nový Dům, this was a step backward. All that can be said of Baba is that a few villas were built for wealthy individuals with modern taste. Looking at the names of the architects who designed these villas, one would assume that most would be of good architectural quality. Of course, one should remember that designing unique villas to satisfy individual programs is not the best path toward developing a model type, and that—when all is said and done—the search for the dying building type called the "modern villa" means searching for yesterday, and thus must be considered anachronistic in modern architecture. In 1929 the Svaz Českého Díla had launched a different competition for minimum family housing, which was to include both freestanding and row house types. This resulted in a number of remarkable entries, notably Antonín Urban's design, which was awarded first prize. One would have expected the results of this competition to have been practically implemented, with a few of the best competition entries built in the Baba project. Instead, Prague gained a few more or less luxurious modern private villas—in 1932!

At least the Stuttgart Weissenhof saw fit to include a number of truly outstanding examples of villa design (Le Corbusier) and included row houses as possible solutions in the minimum dwelling category, actually building two examples of attempts to modernize the large multistory rental apartment house as well. Even the modest Nový Dům exhibition in Brno included a few row houses and a couple of minimum-size multifamily housing types. With all these precedents, and five years later, the Prague exhibition was content to confine itself to a program of "a conventional housing type," meaning the villa, "that currently is enjoying in our country unprecedented growth and gaining widespread social acceptance, propagating



Prague 1932. Model housing exhibition **Baba** with detached single-family houses, developed by the Svaz Čs. Díla in the Baba district in Prague.

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the . . . vision of what a family home can and should be—a modern villa, informed in its floor plan by contemporary lifestyles—and offering a display that will assuredly advance the acceptance of this housing type" (P. Janák, *Žijeme,* no. 1, 1931). Today, such a program must be considered as blatantly **reactionary,** even when embroidered by progressive jargon.

That said, it remains true that the overall planning of Baba is very good in comparison with the irrational and confusing plan of Weissenhof (e.g., the horizontal adjustment of the sloping terrain and the siting of the villas is varied in such a way as to retain an unobstructed view and open space for each unit; the author of this excellent site plan is Pavel Janák). Moreover, many of the Prague villas must ultimately be considered in all respects to display a higher level of architectural achievement than has been usual in our circumstances in the past. Still, the exhibition is certainly not a "small miracle," as claimed by Mr. Janák, but merely a modern version of other similar projects (e.g., the Vořechovka), built for affluent clients. Was it not Mr. Koula himself who proclaimed in his book *Obytný dům dneška* [*The Dwelling House of Today,* 1931] that "the proper real creator of modern architecture is not the modern architect, but the modern builder"? As concerns this exhibition, he was absolutely right: here is an architecture that timidly surrenders its mission to the demands of the ruling class, an architecture that serves wealthy builders: is this an architecture that should be called modern?

Aside from the Weissenhof and Dammerstock exhibition colonies, a number of German residential settlements and housing districts should also be mentioned that, even though they were not intended as exhibition venues, do not in any respect lag far behind in terms of their architectural significance.

These are primarily the new residential districts in Berlin, where the large rental house type has gradually squeezed out the villa and the detached single-family house. In 1924, 78 percent of all new housing were rental buildings. In 1929 this figure rose to 91 percent. The site plans of these new housing districts are generally based on the open block concept; more recently, row housing has more frequently been used. The floor area of these new rental houses ranges between 40 and 72 m^2. The Tempelhof Feld colony and the Siedlung Neuköln, however, rely on somewhat outdated site plans. The most significant Berlin residential colonies are the *Siedlung Britz,* with its well-known horseshoe site plan around a lake in the center of the settlement, designed by the architects Bruno Taut and M. Wagner; **Zehlendorf,** near the Wannsee, which is the largest of the new Berlin residential settlements with rental and family houses; and the colony **Karl Legienaj.** Of the most recent projects, the **Siemenstadt** district, located northwest of Berlin near the industrial district Siemens-Schuckert, deserves special mention. Its site plan was designed by Hans Scharoun. It consists of curved rows of houses of three to four stories, 16 meters high. The distance between the rows is 28 meters; the whole colony

Berlin

Siedlung Britz



Bruno Taut: Britz settlement.

The cooperative GEHAG built this project.

Mebes & Emmerich:

A block of rental houses.

Am Friedrichsheim in Berlin.



Berlin

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contains 1,700 apartments with areas from 48 to 72 m^2. The designers of the row houses are Scharoun, W. Gropius, Hugo Häring, Forbat, and Henning and Barting. The whole colony is heated at a distance by district heating. W. Gropius's most important architectural achievement is the **Spandau-Haselhorst** project: it consists entirely of rows of three- to four-story rental houses with small workers' apartments; aside from these, a number of eight-story open gallery types were planned to be built as well.

The planned development of residential projects in Germany did not remain confined to its capital, Berlin: during the years 1924–1929, even smaller cities built a number of settlements

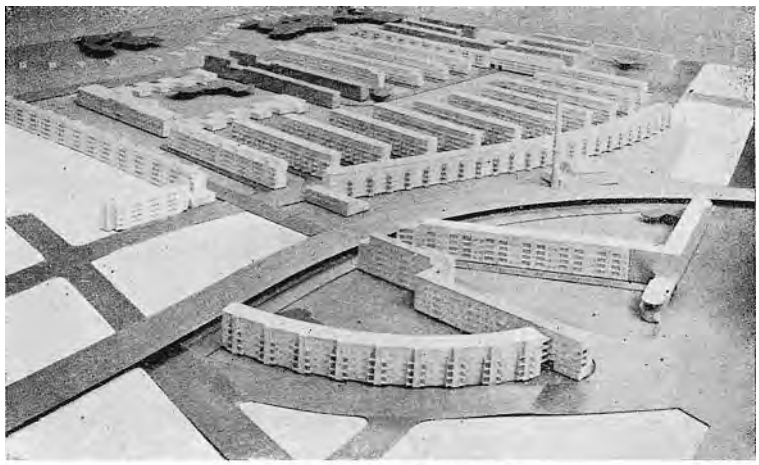
Berlin Siemens-stadt

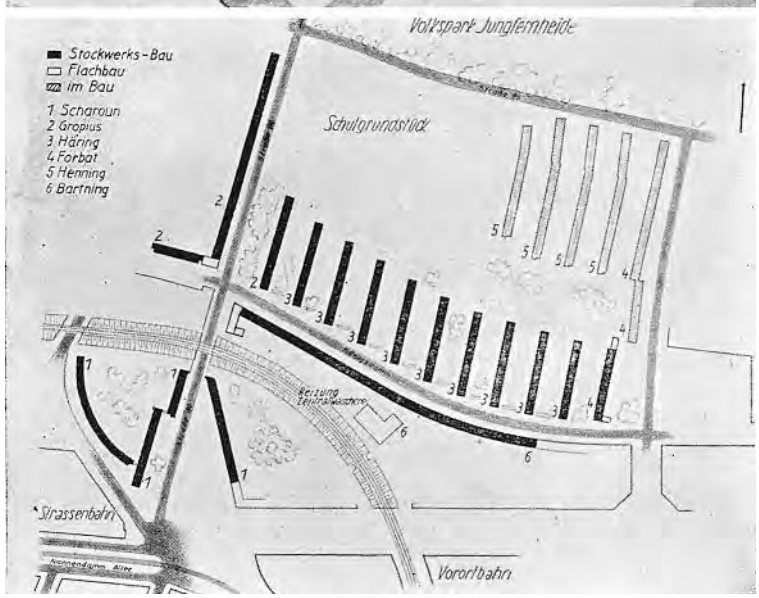
Site plan: Hans Scharoun. 1,700 apartments with floor areas of 48–72 m².

Northeast rows:
Long rows run parallel to railroad embankment, cutting the settlement into two.

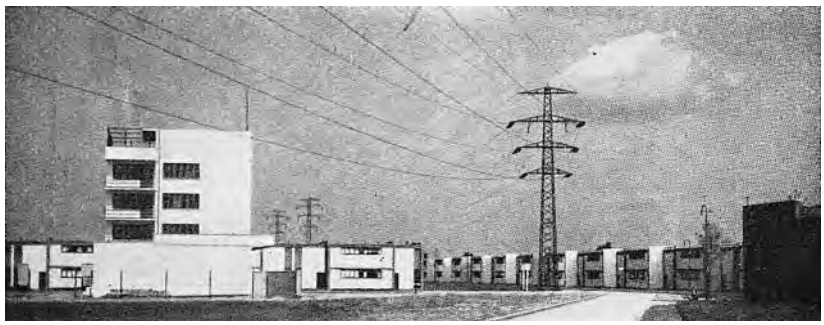
Three-story rental houses, designed by the architects
Scharoun
Gropius
Häring
Forbat
Henning
Bratning

Maximum height of houses is 16 m. Rows are spaced 26 m from each other. Brick construction. The Siemensstadt settlement is located north of Berlin; it houses empoyees of the Siemens-Schucker works, located in the vicinity of the Jungfernheide park.





of lasting value in the development of modern dwelling. Good examples are two important colonies in **Dessau:** the first, **Dessau-Ziebick,** is based on the design of the architect **Fischer,** a former associate of Adolf Loos: it consists of a row of single-family houses with live-in kitchens. The second is the **Siedlung Törten,** built in three phases (i.e., 1926, 1927, and 1928) to the designs of Walter Gropius. Törten is a settlement made up of small row houses (316 units) with a cooperative market at its center. The site plan, designed by Gropius, is as yet not entirely free of a certain influence of the English garden city: even though this settlement is located on a perfectly flat site, Gropius has introduced a system of unwarranted curved streets.



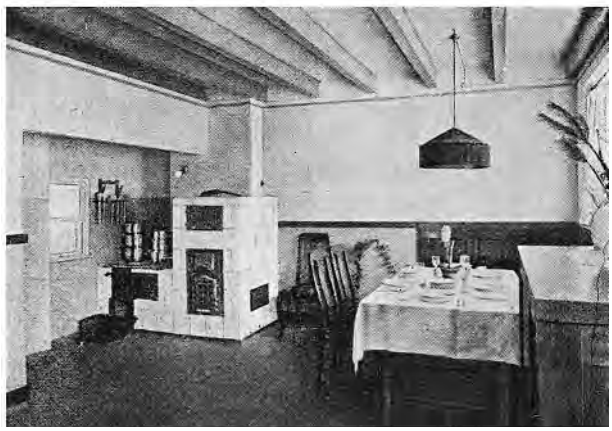
Dessau Törten 1926–1928

Walter Gropius: Colony Törten. Family-type row houses. Cooperative market located in center of settlement.



Dessau-Ziebick 1929

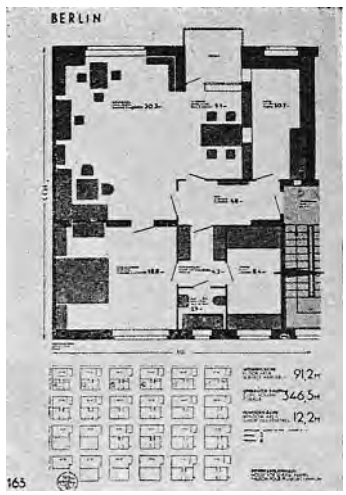
Fischer & L. Migge
A garden settlement. Duplexes with live-in kitchens.



In 1929 the architectural section of the Bauhaus, under the leadership of Hannes Meyer, developed a new site plan for Törten that is more rational. The concept of a colony with mixed house types was, however, retained; rows of detached single-family houses are interspersed with three-story rental houses of the open gallery type. Only part of this plan was realized, and only those open gallery houses were built that met the requirements for the most economical and functionally most thoroughly elaborated minimum dwelling–type solutions.
Another important project is the **Kassel-Rotenberg** residential quarter, designed by Otto Haesler (1929–1930). It consists of three-story row houses, using steel frame skeleton con-

Walter Gropius:

Floor plan of a rental house.
Floor area 91.2 m², 3–4 beds.



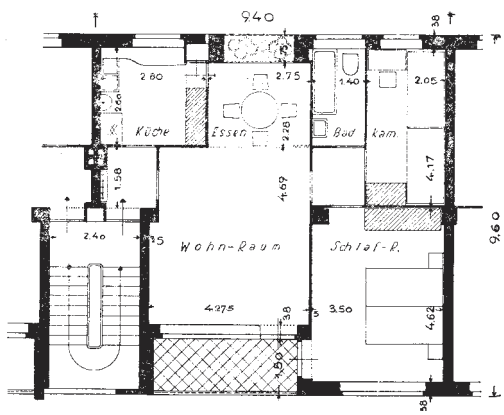
Schematic chart of the most economic sizes for apartments with floor areas ranging from 50 m² to 91.2 m². Investigation of most rational furniture placement (from point of view of ergonomics and cost).

Berlin-Siemensstadt

Hans Scharoun

Floor plan of a small apartment in the Siemensstadt settlement.

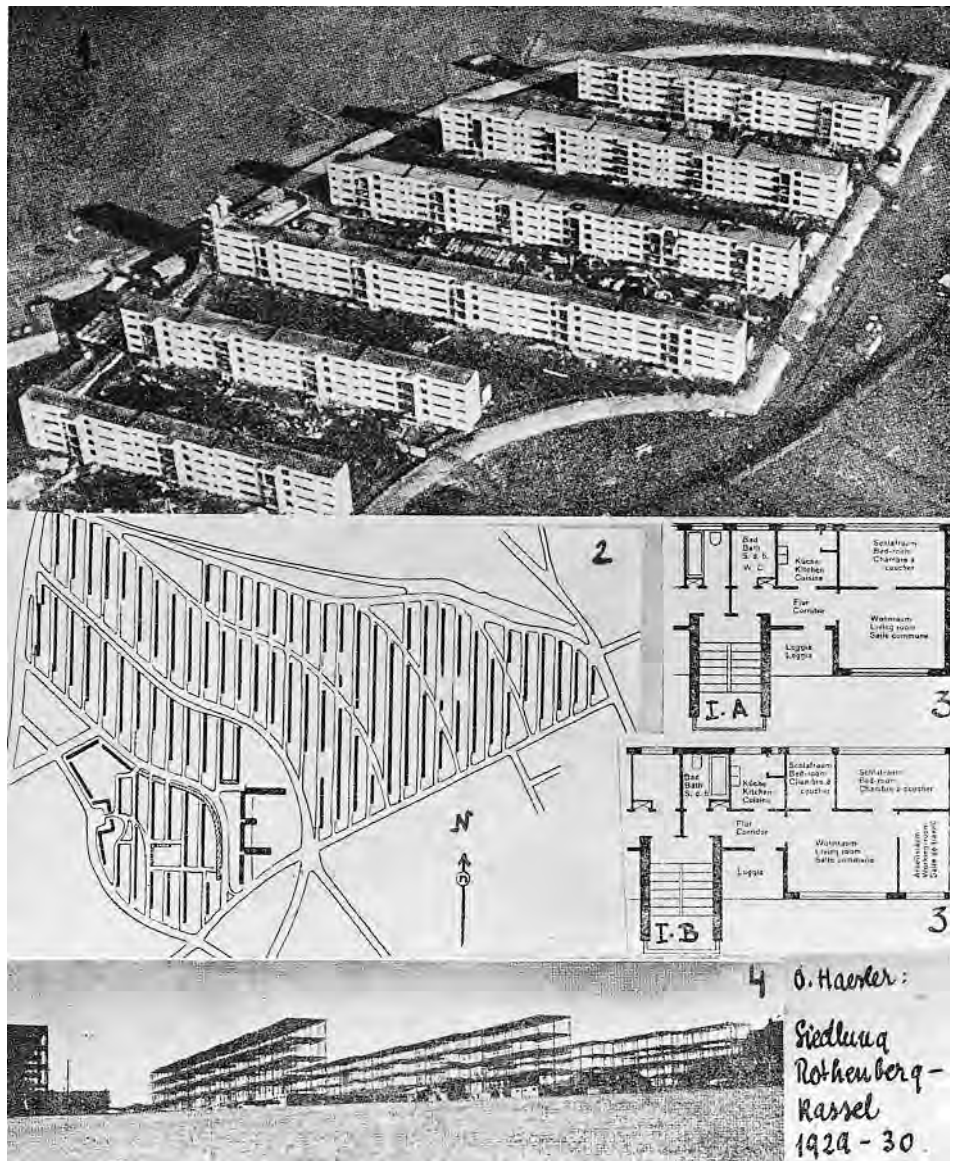
Living room with eating nook, daylight access; front and rear walls of apartment.



struction; floor areas range from 36 to 82 m². The skeleton construction system made it possible to combine uniform standards in the design of all the units with a remarkable degree of variability in the floor plans. Although the houses are of the stairwell type with two apartments per landing, Haesler still managed to lower construction costs considerably, thus making possible lower rents as well. Each apartment has a kitchen; bedrooms and bathrooms have windows facing north, and the living room and loggia face west (see O. Haesler, *Zum Problem des Wohnungsbaues* [*On the Problem of Housing,*] 1930).

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Of all the German (and, on the whole, west European) cities, the largest-scale, most comprehensive, and best planning methods were applied to the expansion of **Frankfurt am Main** and its new residential districts. Ernst May, the director of the building department of the Frankfurt city administration, was appointed city architect in 1925. It was also Ernst May who provided the main impetus for establishing a ten-year plan for the construction of housing.

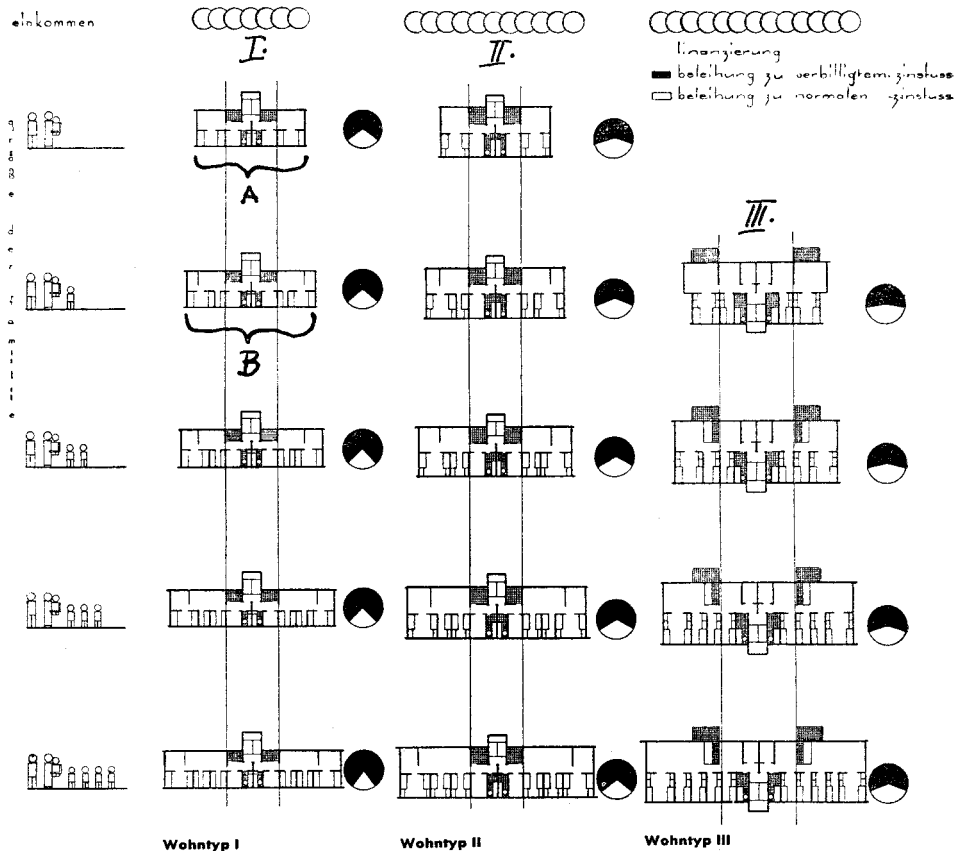


Otto Haesler: Colony Rotenberg-Kassel

1. Bird's-eye view. 2. Site-planning scheme: single row housing; rows run from north to south. 3. Floor plans of apartments (Types A and B). Kitchen, bath, and bedrooms face east, living rooms west. 4. Steel skeleton structural system.

Since vacant lots at the periphery of the city were largely in the hands of private owners and their prices were beyond the reach of public housing budgets, the decision was made to site the new residential districts in more distant locations outside the city and plan them as **satellite towns.** Their layout is largely dictated by the topography of the Frankfurt region. Large industrial areas are located in the east and west of the city, with the wooded salient of the Taurus mountains in the north and the city woods in the south. Based on these geographic factors, the decision was made to locate the residential areas in the north and the south. But even here, land prices were ratcheted up much too high by speculators, forcing the city to take a most radical step—namely, the **expropriation** and forced buyout of needed land. In its scope, this program of expropriating land for public housing had no precedent in Germany, and it certainly

1929–1930



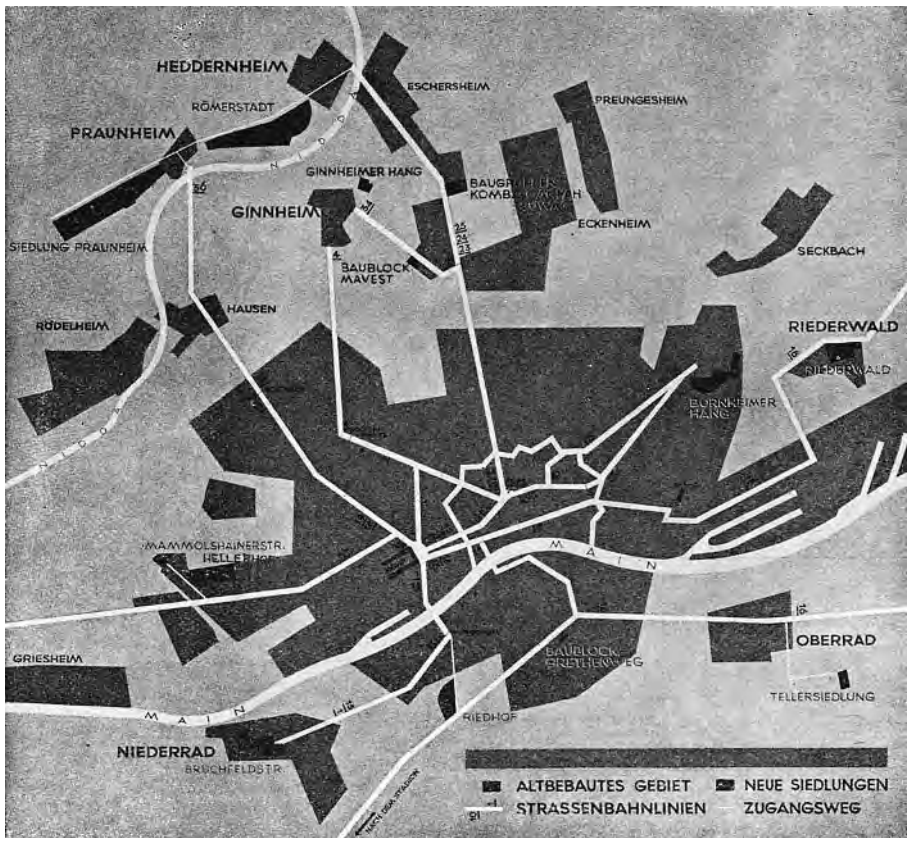
Otto Haesler: Colony of residential houses in Rotenberg-Kassel.

Apartments are differentiated according to number of family members (vertical rows) and income level of tenants (I, II, III, horizontal rows). Financing favors families with a greater number of children.

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had a beneficial effect on curbing speculation. A plot of 32 hectares was designated for the building of the colonies **Praunheim** and **Römerstadt.** These satellite cities had to remain within **45 minutes** from the center of Frankfurt by public transportation. A 45-minute radius represents the equivalent of 10 kilometers travel time on a streetcar and 15 kilometers on a bus. The new satellite cities not only were mutually linked by transport but also were designed to merge with each other physically, thus forming a ring of housing around the city. The areas separating the satellites from the city proper were reserved for a greenbelt, designed to act as a reservoir of fresh air for the city. Thus, a bus traveling from the city to one of its satellites has to pass through a **5-kilometer-wide band of open green space and fresh air.**

These remarkable planning and construction activities, organized by Ernst May, drew the attention of the whole world to the accomplishments of the Frankfurt *Siedlungspolitik* [settlement policies] and significantly influenced the course of modern architecture.

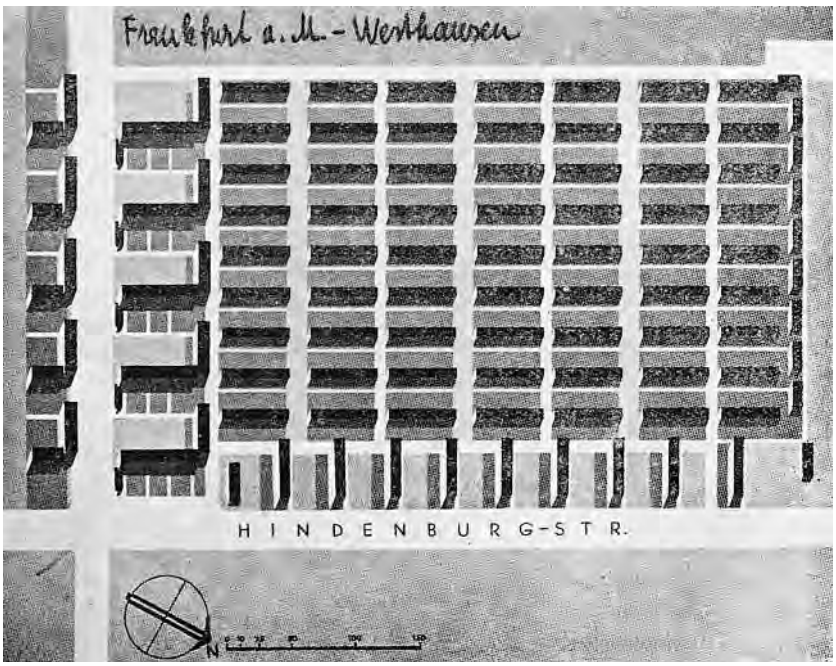


Frankfurt a. M. 1926–1930
Master plan for the City Frankfurt a. M.
Satellite settlements spaced at 45˚ around the circumference of the city.



Frankfurt a. M.–Westhausen, 1930
Site plan: E. May, H. Boehm, Bangert. Residential houses: E. May, E. Kaufmann, F. Kramer, E. Blanck, F. Schuster, O. Fucker.

238 inhabitants per hectare—1,532 apartments. Single-row system of siting.



Frankfurt a. M.–Westhausen, 1930
Site plan: Ernst May, H. Boehm, Bangert. Workers' and middle-income housing.

According to Ernst May's ten-year plan, Frankfurt's housing shortage was to be eliminated completely during the years 1925 to 1935. He also pledged to clear the city of its worst slums, and to strictly enforce health and safety regulations in the older parts of the city. In the beginning, this policy yielded splendid results. Unfortunately, the looming economic crisis cast its long shadow on this great enterprise. Frankfurt was not the only German city to suffer the consequences of this deep crisis. Halfway through its first five-year plan, the prospects of fulfilling its initial goals were hardly rosy. It became clear that the housing shortage could not be eliminated as quickly as was initially expected. During the first years of the program, housing construction actually exceeded the plan. However, in 1929 instead of the 4,000 projected apartments, only 3,650 were actually built; and in 1930 this figure had to be reduced to a mere 2,600 units. As there was little hope that the financial situation in the construction sector would improve in the near future and that more credits would be made available, it became necessary to raise both rental and mortgage payments; the existing financial plan had to be revised and amended as well, mostly to the detriment of the poorer tenants. Hereafter, it became necessary to reduce the number of apartments even further, to about a fifth of what had been planned—that is, 20,000 to at most 30,000 apartments. Because of this radical reduction of the program, slum clearance in the old town had to be postponed until 1935 at the earliest. What was worse, even these "cheap apartments" turned out not cheap enough for the poorest of the poor to afford. The only way to achieve even more stringent reductions in cost was

to reduce the floor areas of any future new housing below the already low standards of the previous phase. Initially, Ernst May established a floor area of 40 m^2 as a minimum for an average family household in a minimum dwelling, but already in 1929 it became necessary to build most of the apartments with an area reduced to 36 m^2 and some even to less than 30 m^2. An example of such a marginal minimum dwelling is the Siedlung Mammolsheiner Strasse, which was built on the cheapest scatter sites cut up by railroad tracks, with houses designed by the architects Ant. Brenner, May, and Derlam.

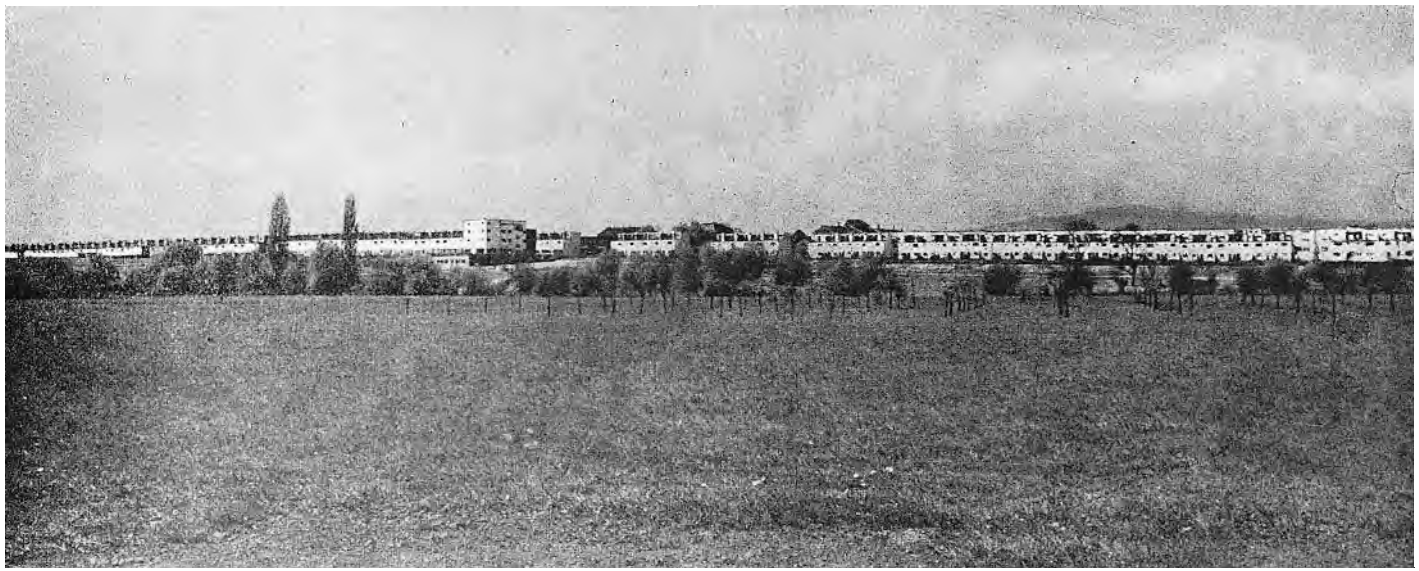
The journal *Das Neue Frankfurt* published a special double volume (4, nos. 2–5, 1930) documenting the achievements of the first five years of the overall ten-year plan and describing the results of the Frankfurt construction activities during the years 1925 to 1930. In it, Ernst May explains in full detail the principles of his program. The Frankfurt building program was based on the idea of building small, low-rise family houses. In general, May was continuing in the vein of the English garden city movement: this tendency naturally led to all-out decentralization and extensive application of the *Flachbau* [low-rise] concept. Ernst May considered the family house to be the most natural and ideal form of dwelling; in pursuing this ideal, he was forced by the demands for greater economy (standardization, etc.) to choose the **single-family row house type** (or a small apartment house) instead.

That is how the single-family row house became the preeminent housing type used in the Frankfurt settlements. Multistory rental apartments were actually the exception, even though they are more economical; still, May tried as much as possible to push his ideal of the single-family house and agreed to include larger multifamily rental houses only under the pressure of economic necessity and the requirements of thrift. He rejected the multistory stairwell type in principle, as he considered the *Aussengangshaus* [open gallery house] fundamentally better, even though it was a more expensive choice (by 8 to 10 percent); he recognized that the additional cost would be offset by the benefit of each apartment having direct access to open space, an airy balcony, rather than the poorly ventilated and poorly lit corridors of the stairwell type. Taken as a whole, May's plan is full of compromises. His floor area norms for a minimum dwelling were originally based on the following sizes: For a childless couple, the norm was supposed to have been an apartment with two rooms, that is, a bedroom and a living room; however, in practice, it was necessary to reduce this to one room. The norm for a family was to have been a three-room apartment (44 m^2), even though the preferred size should have been four rooms; in the end, it was frequently necessary to accommodate poor families, regardless of the number of children, in one- or two-room apartments.

As planners were forced to lower construction costs, thorough rationalization of all construction methods became a necessity in all the projects of the Frankfurt Siedlungsbau. This, in turn, stimulated the wide-ranging and thorough standardization of all floor plans as well as all construction elements. Norms were established for doors, windows (unfortunately, too small), heating elements (radiators), and even for the layout and equipment of entire rooms. Good examples are the Frankfurt kitchen, designed by Grete Schütte-Lihotzky, as well as standardized bathrooms. The predominant method used in constructing the family houses was the so-called *Plattenbauweise:* it is a system of large concrete panels, which made it possible to erect the walls of a house in as little as two to three days. The system was perfected to the point that even the surfaces of these panels were smooth-finished in the factory. Only the joints remained to be covered on site with cement caulking. The panels are 20 cm thick, without steel reinforcing, except for two hooks used for lifting them with cranes. Their insulation coefficient is equal to that of a 45-centimeter-thick brick wall.

So far, the Frankfurt experience with industrialized building methods has not proved conclusively that industrialized building is capable of producing housing at significantly lower costs than traditional, craft-based building practice. The main obstacle to the success of industrial-

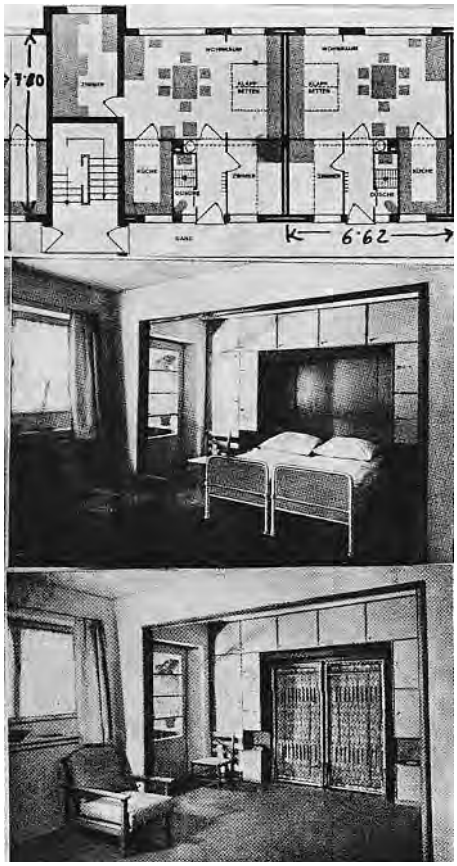
Photo Collischon.



Ernst May & E. Kaufmann: Colony Praunheim in Frankfurt. View from the valley of the Nidda River.
1,400 apartments in single-story family houses.

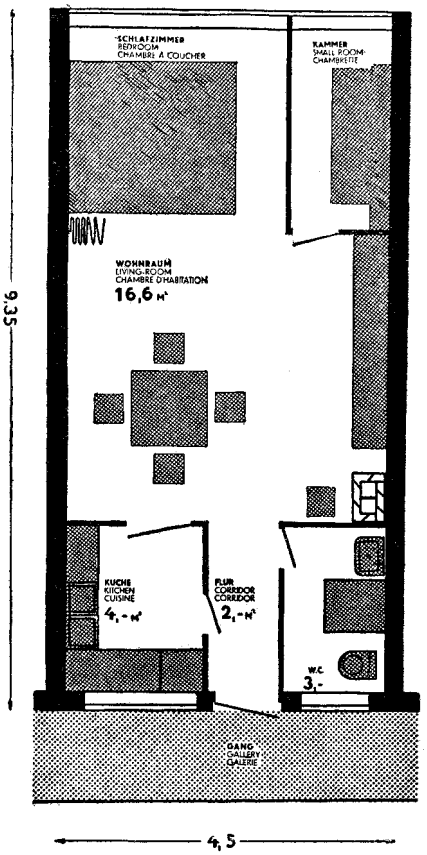


Frankfurt a. M.–Raimundstrasse



E. May & E. Kaufmann
Furnishings of small apartments with folding beds.

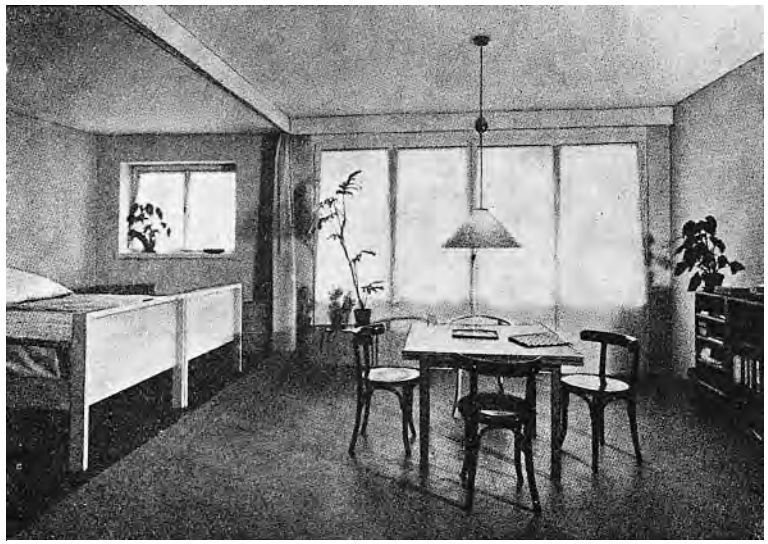
Frankfurt a. M. 1929



Frankfurt a. M.
Small apartment in gallery-type house; narrow frontage and deep section of block.
Floor area 37.5m², 3 beds. A folding partition separates bedroom from living area. Windows face southeast and northwest.

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ized building is that today the conditions for applying serial mass production methods on a large scale simply do not exist—as they do, for example, in the case of mass-produced automobiles. Another factor impeding industrialization in construction is the difficulty of applying mass production methods to scattered and individually owned sites, which make the use of construction machinery, such as cranes, onsite concrete factories, and so on impractical and expensive. Thus, under present circumstances, the use of prefabricated concrete panels has to be deemed more a rationalized craft method than industrialized construction in the proper sense of the term. Instead, the correct approach should be skeleton construction and dry assembly. Even Ernst May had to admit that it will take some time for this method to become genuinely economical, especially in housing. And so, under the current conditions of fragmented land ownership, craft-based methods are actually able to compete successfully with industrialized building methods in Frankfurt. A good example is the sophisticated brick-bearing plate construction method of the Dutch, used by Mart Stam, which has proved to be the most economical in his Hellerhof project.



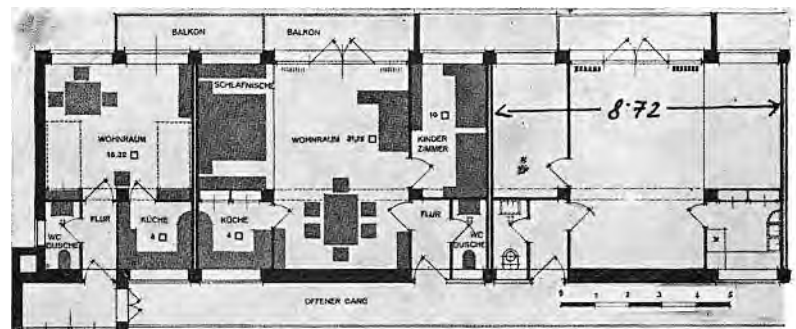
Living room in Brenner House.

Fully glazed door and window opening to balconies. Bedroom can be separated from dining room by a curtain.

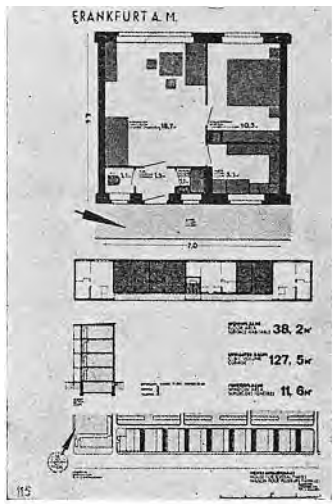
Frankfurt a. M. 1928–1929

A. Brenner: Housing complex.

Gallery type. Balconies on west side are staggered to provide all apartments with equal daylight access. Reinforced concrete frame construction.



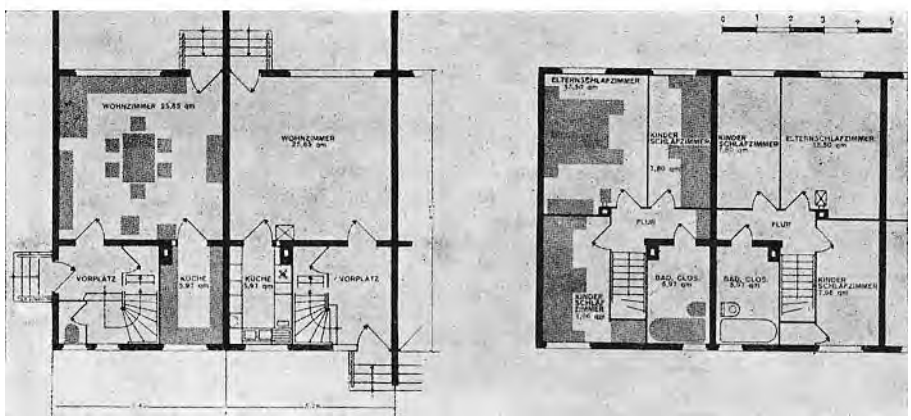




Frankfurt a. M.

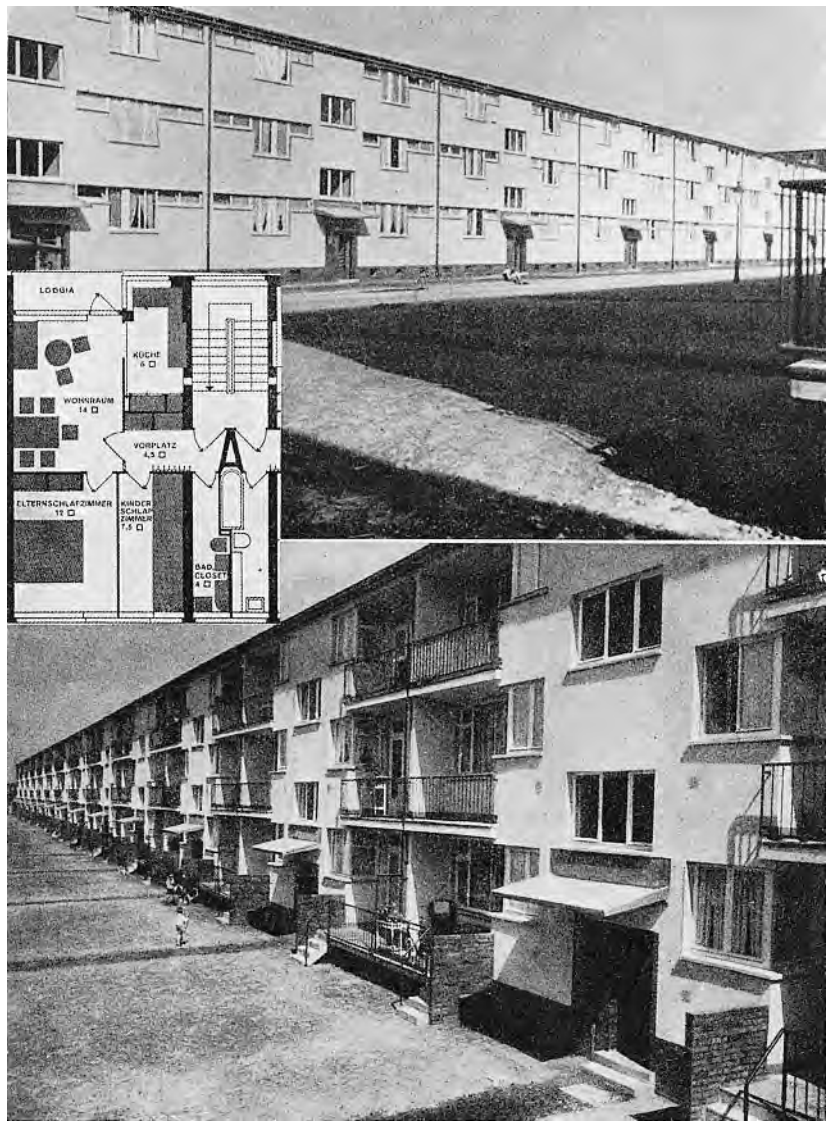
Small apartment in gallery-type house

Windows face southwest. Floor area 38.2 m².



Ernst May & E. Kaufmann (1926) Praunheim–Frankfurt a. M.
Floor plan of a single-family row house.
(see page 190 and 209)

Even though the Frankfurt Siedlungsbau was essentially based on the principle of low-rise construction and row housing, a number of multistory rental houses nonetheless got built, such as the rental house project of Ant. Brenner (Brennerblock, 1929) and Mart Stam's Hellerhof colony, both of which are examples of a more mature solution of the minimum dwelling. The Frankfurt minimum dwelling, be it a rental or single-family house, continued to cling to the traditional, family-based household types; the general layout of these apartments consists of a small kitchen, a living room, and a bedroom. Not to be found in the Frankfurt program are any solutions of the Vienna type live-in kitchen or its perfected variation, a living room with a nook for cooking, nor the application of the principle that each apartment should provide a



Frankfurt a. M.

Hellerhof 1929–1930

Mart Stam
Residential row housing.

800 apartments. Three beds = 48 m². Single row housing. North-east rows consist of 2- to 3-story houses, east-west rows at periphery are single story with shops. Brick bearing wall construction. This is the most economical apartment project of all the new Frankfurt housing projects. Density 400 persons per hectare. Bedrooms face east; other rooms face west.

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separate room for each adult—meaning that an apartment for a four-member family should include separate rooms for the wife and the husband, as well as a separate room for the children, rather than a common living room and a common bedroom. Any apartment with living-sleeping rooms for each individual must be considered a better and more advanced solution than those provided by the majority of the Frankfurt-type solutions. There were exceptions, as a few remarkable starts toward collective dwelling were made in Frankfurt after all: some of the groups are provided with central laundries and drying rooms, and in some cases cultural centers were built as well. A good example is the *Gemeinschaftshaus* [community center] in the Bruchfeldstrasse colony (which also includes a children's home). Besides the foregoing, one may also count as embryonic forms of collective dwelling some of the designs for bachelor housing, as for example the home for independent professional women (*Heim für berufstätige Frauen* [home for working women], on Platenstrasse and the Adickesallee), designed

by Hermkes, and the Frankfurt old age home (*Altersheim*) by Mart Stam and Werner Moser (1928–1930).

The Frankfurt minimum apartments built within the framework of May's plan are the work of a number of May's collaborators, such as Mart Stam, Eugen Kaufmann, H. Boehm, Hans Schmidt, Anton Brenner, C. H. Rudloff, F. Roeckle, Hermkese, W. Schwangenscheidt, Schütte, Derlam, and others.

As mentioned above, the economic crisis forced a substantial curtailment of May's plan after 1929. Thus, as early as 1930 it became evident that it would not be possible to fulfill even the reduced construction program. As a result, only part of the Westhousen colony was completed, including a few rows of three-story rental houses of the open gallery type, designed by the architects Ferdinand Kramer and Eugen Blanck.

The failure of the Frankfurt ten-year plan induced Ernst May in the autumn of 1930 to accept the position of director of the Institute for Urban Development of the Tsekombank in Moscow. About thirty of his Frankfurt collaborators accompanied May to Moscow, among them Mart Stam, Hans Schmidt, Walter Schütte, Eugen Kaufmann, Grete Schütte-Lihotzky, I. W. Leehr, W. Schwangenscheidt, W. Kratz, and A. Winter. The journal *Das Neue Frankfurt* published a special issue (vol. 4, no. 9, 1930), "Deutsche bauen in der UdSSR" ["Germans Build in the USSR"], to commemorate the departure of these Frankfurt architect-emigrants for Moscow. The editor of the journal, Dr. Jos. Gantner, writes: "Nobody loses more than we do in Frankfurt, for our dear respected, gallant, and comradely leader is leaving us. But nothing will serve the cause we all believe in more than May's work in the USSR, which even here is recognized for its urgency, and which unfortunately he was able to implement in Frankfurt only partially. Therefore, we congratulate him on his unusual mission, and wish him and his collaborators much success in their magnificent task. By calling on our comrades, the Soviet government, which has already engaged foreign architects in the past for important domestic tasks, has proven again that it knows where to find the world's most creative talents."

It should be added that May's architectural ideology—these "grand social ideas," as Gantner put it—are in the end really nothing other than a pale reflection of essentially national-economic theories on how to organize or plan an economy in capitalism; they remind one of the ultra-imperialist theories of Kautsky, Hilferding's theories on planning in capitalism, or American theories on the subject of perpetual prosperity. These theories may have seemed credible when capitalism was stabilizing and consolidating, a period that supported the illusion that construction could be sustained by comprehensive long-term planning. The intellectual bankruptcy of May's Frankfurt program reflects the bankruptcy of these theories on which it was founded and which have been disproved by the current economic crisis. Not only that: Ernst May is the most influential propagator of the principle of decentralization and a staunch advocate of the detached single-family house in garden cities, located at a distance from the city center, all features that actually intensified the crisis of the capitalist city, complicated its traffic problems, and increased the commuting distance between home and workplace. His principles are bound to fail, since they are clearly not equal to the task of solving the real crisis of the city.

We should further point out that despite the impressive amount of construction undertaken in Frankfurt (a city of 500,000) during those five years, merely 2,000 mostly small apartments were actually completed, while at the same time the number of homeless and inadequately housed was constantly increasing. In 1930, 30,000 applications for an apartment were filed, of which 20,000 were officially considered urgent. The statistics on homeless or badly housed people—living in emergency barracks and sublets, or sleeping in shelters and lodging houses—not to mention the enormous gap between the number of new marriages each year and the much smaller number of newly built small apartments put on the market annually,

Frankfurt a. M.

Hellerhof 1929–1930

Mart Stam
Two-story houses with shops on ground floor.

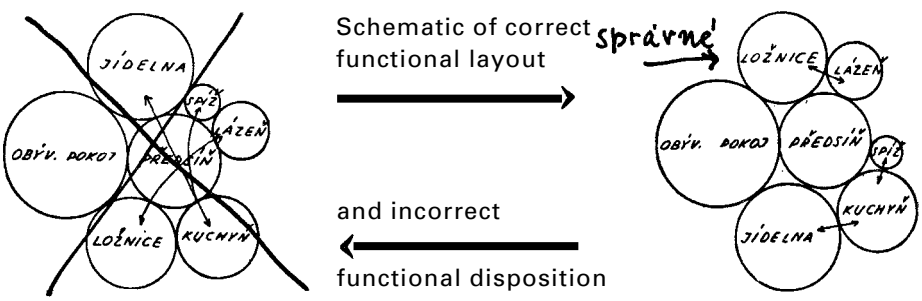
Gallery type. East-west rows. Floor area 36m², 2 beds.

Row of two-story houses separates green areas inside the project from vehicular roads.



have shown that neither the Frankfurt nor the Vienna housing programs have succeeded in overcoming the perennial housing shortage in those cities.
The second phase of May's plan for the years 1931 to 1935 was at first reduced and eventually canceled entirely as unfeasible. The current period of emergency measures is characterized by a different housing policy, proving that Engels was right when he stated that the bourgeoisie first provokes the housing crisis, and then tries to solve it by postponing its resolution through changing the make-up of the city and shifting the problem to the periphery. The most convenient way to avoid a confrontation with the housing crisis is best expressed by the slogan *Umsiedlung,* which advocated moving the unemployed out of the city. Given this situation, the housing problem is entering into an entirely new phase: the influx from the country to the city has stopped, and the unemployed are being driven out of the city and forced to return back to villages and small towns. The combined specter of hunger and collapse haunts the city. In the past, **the proletariat was recruited en masse from the ruined small farmers. Today, the same ruined proletarian is supposed to go back and become a helpless small farmer or gardener, degraded again into a sharecropping laborer. This is nothing but a new version of indentured labor under the guise of voluntarism.** For the time being, these barrack colonies with their small gardens are very much like the old Russian Potemkin villages; there is no money for their comprehensive development, and besides, the conditions in the current labor market do not support such grand colonization. Yet the cottage ideology of architects—an expanding house, sun, air, in short, a home for all!—has nevertheless found a pretext to push its message in the most reactionary and barbaric ways: authors such as L. Migge, M. Wagner, Poelzig, Gropius, Häring, Mendelsohn, Scharoun, and Bebes keep on advancing designs for small wooden cottages (with luxury furniture!) for the unemployed, where a large family is supposed to be able to live in a floor area of 25 m². To add insult to injury, these colonies are to be built by the unemployed themselves. They may call this proletarian self-help, but it is really nothing less than an invitation to suicide.
The exodus from the cities thus produces an even more inhumane housing problem than did the influx from the villages to the cities a hundred years ago.

the modern apartment and the modern house 9.



Source: K. Honzík, **Moderní byt** (**The Modern Apartment**)

During the last three decades modern architecture has realized a number of very important **reforms of the dwelling** as a whole: its details, plan, furnishings, and mechanical installations. As mentioned earlier, this reform affected first and foremost the modernization of the large apartments of the wealthy. The dwellings of the so-called middle classes were improved only much later. The amelioration of housing for people with minimum income, such as workers and the working intelligentsia, has caught the attention of architects only recently—as a matter of fact, only during the **Second International Congress of Modern Architecture** [CIAM] (in Frankfurt, 1929), which **placed the question of the minimum dwelling at the top of its agenda.**

The reform of the freestanding villa and of large apartments, the preferred dwelling forms of the affluent, went hand in hand with the social agenda of the ruling class: its efforts to retain the family and its associated household as the core ingredient of all reforms in housing, even in cases of reforming the minimum dwelling for a largely proletarian population.

As a consequence, it comes as no surprise that the reform of housing took as its point of departure the traditional bourgeois apartment as it prevailed at the close of the nineteenth century, generally characterized by a number of larger or smaller rooms, a kitchen, and rather primitive mechanical appliances. Initial improvements resulted in slight changes in the rooms (in their dimensions, orientation, and furnishings) and considerably better mechanical service accessories, better adjusted to their functions. This was followed by significant changes of the traditional floor plan and a further improvement of mechanical accessories, as well as the modernization of the apartment's windows, doors, and furnishings. The more loosely organized floor plan of the villa made its modernization and reorganization much easier, allowing a more logical grouping of rooms and a better arrangement of circulation elements (i.e., stairs, ramps, and corridors), better matched to the functional requirements of dwelling. Service spaces were grouped close to each other (larder, kitchen, food preparation area, and scullery), to ensure a direct connection between the kitchen and the dining room, either vertically (by dumbwaiter), or horizontally (by a serving window from food preparation to dining area); the

bathroom and clothes closets were placed between the bedrooms; and so on. Modern architecture developed the concept of a mature modern dwelling primarily in the form of the free-standing villa, only later applying the insights and principles derived from this design to the rental multistory city apartment. In principle, the tendency was to assign each dwelling function (i.e., sleeping, cooking, dressing, bathing, visiting, domestic work, rest, laundry, child rearing, and so on) its own space and equipment. This principle was applied to all modern types of housing, and it included the rule that each adult member of a family should be allocated his or her separate room (i.e., for sleeping).
The result is a dwelling that is maximally differentiated in both the number of rooms and their functional individualization: only the living and dining rooms remain designated as common spaces in a modern apartment. The rest is strictly individualized, and the house or apartment may even have one or more bathrooms; above all, it must provide each occupant with his or her own bedroom and, if need be, even his or her own extra sitting room. Owing to the rooms' differentiation, specialization, and individualization, their dimensions had to be changed considerably as well. While all the rooms in an apartment during the nineteenth century were of approximately the same size, the size of a bedroom in a modern apartment is now reduced to that of a mere sleeping cubicle. The kitchen has been reduced considerably in size as well. In contrast, the living room has been made as large as possible. Based on the above analysis, the definition of the modern villa or apartment falls within the parameters of the following program.

1. entrance and circulation spaces

The entrance, usually covered by a canopy (marquee), is situated in such a way that it can be easily watched from the kitchen, the servants' rooms, or the apartment of the janitor. In entering the villa, one first has to pass through a small space, called the "wind catch." Its purpose is to insulate the heated or temperate entry hall inside the villa from outside changes in temperature. In rental apartments the wind catch can be eliminated, since its function has been taken over to some extent by the staircase, the vestibule, and the corridor. From the wind catch of the villa or the vestibule of an apartment, one enters the **front hall.** In medium-size apartments it is usually rather small, or just large enough to be able to give access to those rooms that absolutely must have their own separate entrance. In the latter case, it is of sufficient size that all these doors open without interfering with each other and that there is still some space left to accommodate a clothes hanger, or possibly a clothes cabinet. The front hall is supposed to have access to good or at least indirect daylight and, if possible, cross ventilation. In large apartments or villas, the front hall becomes the entry hall, large enough for the placement of cabinets and armoires. Connected to the front hall is a cloakroom for the storage of overcoats and so on. Sometimes, it may also be equipped with a washbasin and a mirror.
A large front hall may also double as a waiting room and serve as a lounge for receiving short visits (when a small table and a few chairs are added). In special cases the function of the front hall may be combined with that of the living room, and sometimes the staircase as well: this is the so-called **grand hall.** This results in a certain shift in the functional arrangements of the space: here, the wind catch takes on the function of the hall and, on occasion, becomes proportionately larger. When that happens, one enters directly from the wind catch into the living room, that is, the largest and highest space in the dwelling. Sometimes such a living hall may be as high as two stories, with stairs or ramps incorporated in its space that lead to galleries, which in turn provide access to the bedrooms and other spaces.

2. housekeeping rooms

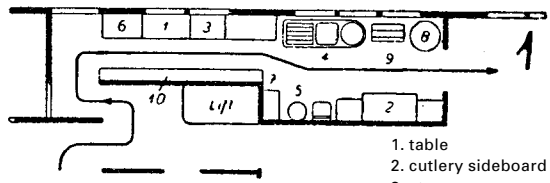
The **kitchen** represents a highly specialized functional space in a modern dwelling. Unlike in older apartments, where the kitchen was often also used for dining and sometimes even as a sleeping space for the maids, it is now designed to serve no other function than that of food preparation. The kitchen should never be oriented south. The best orientation is toward the northeast or the northwest. In a villa it is desirable to situate the kitchen on the ground floor and connect it by means of a dumbwaiter to the dining room or the living room on the second floor [by American reckoning], and possibly also with the gallery or corridor near the bedrooms on the third floor and the roof terrace. The food elevator should be independently ventilated, in order to prevent food odors from penetrating into the rooms. If the kitchen is located on the same floor as the dining room, a food preparation room should be inserted between the kitchen and the dining room, to isolate the latter from cooking odors. In smaller apartments, the food preparation room is naturally left out, especially when there are no servants or other help in the household and carrying food from the kitchen to the dining room would become too cumbersome. It is not enough to rely only on windows in the kitchen to give natural ventilation. Mechanical ventilation and a hood above the stove should be provided as well.

Used as a universal space in the past, where one cooked, ate, lived, and often even slept, the kitchen has been transformed in our own time into a superbly specialized and technically well-equipped laboratory or—if you will—a miniature factory. At the same time, the rationalization of all kitchen equipment has made possible a reduction in its spatial dimensions. It was the reform of the kitchen that first demonstrated that a space organized and furnished to effectively consolidate the operations of the apartment and its household can be also substantially reduced in size: this is a piece of information important for designing the minimum dwelling. The best model for the modern kitchen is the kitchen in a railroad car: although incredibly small, it still can produce something like one hundred meals in half an hour.

The modern European kitchen has developed into two main types: the **Frankfurt kitchen,** developed by Grete Schütte-Lihotzky, and the **Stuttgart kitchen.** A normal American kitchen has the dimensions 2.7 $\times$ 3.3 m = 8.87 m^2; the Stuttgart kitchen, 8.6 m^2; and the Frankfurt kitchen of phase one, 3.44 $\times$ 1.87 = 6.43 m^2. After a few years of use by 6,000 Frankfurt housewives, its dimensions were further reduced to an area of 5.5 m^2.

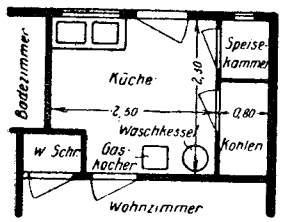
At this point, it may be appropriate to mention as well the standardized Belgian kitchen, designed by L. H. de Koninck in cooperation with V. Bourgeois, J. Eggericx, E. Henvaux, J. F. Hoeben, and R. Verwilghen. It has an area of 8.65 m^2. Its equipment is mass-produced by the firm Van de Ven. So far, the smallest kitchen is the Berlin version of the so-called R^2=Küche, whose floor area adds up to a mere 4.5 m^2 (2 $\times$ 2.23 m).

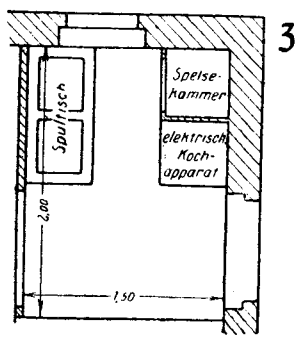
As already mentioned, the modern kitchen has become a model workshop, a chemical laboratory; as a result, it is no longer used as a living space. The elimination of all functions, furniture, and equipment not immediately related to food preparation has helped reduce its dimensions and at the same time has increased its functional utility, hygiene, and cleanliness. Given this small space, the rationalization of kitchen work requires above all the correct positioning of furniture and equipment to save both time and energy, as well as to reduce fatigue. In short, everything has to be within arm's reach. The layout of a modern kitchen should be designed to streamline all processes, from food storage and food preparation, to cooking on the stove and serving the finished meal on the dining room table, to dishwashing and the storage of cutlery and dishes. The design should prevent interference of one operation with another. (N.B.; the serving of food may be facilitated either by a dumbwaiter or by a serving

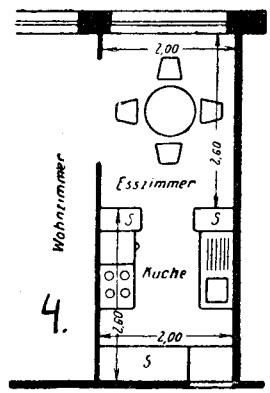


1. table
2. cutlery sideboard
3. stove
4. sink
5. water tank (cold)
6. icebox
7. hot water
8. washing machine
9. laundry press
10. food preparation counter

The modern kitchen



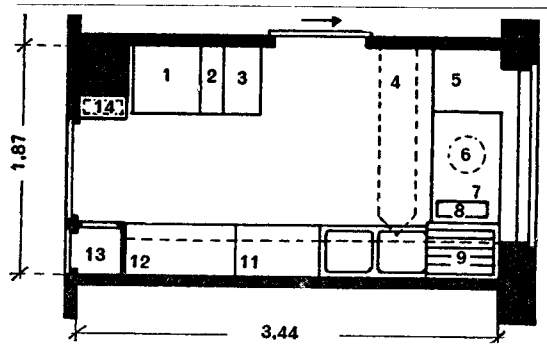




1. Proposal by B. Fuchs: kitchen combined with laundry room.
2. German standard kitchen (6.25 m²).
3. Standard English kitchen.
4. American kitchen, combined with eating nook.

Depending on type of kitchen, one can determine various types of minimum apartments.

a) Apartment with live-in kitchen.
b) " " working kitchen
c) " " kitchen combined with dining (transitional type).
d) " " nook for cooking (transitional type).
e) " without a kitchen.



Grete Schütte-Lihotzsky

Frankfurt kitchen
(1.87 × 4.44 m)

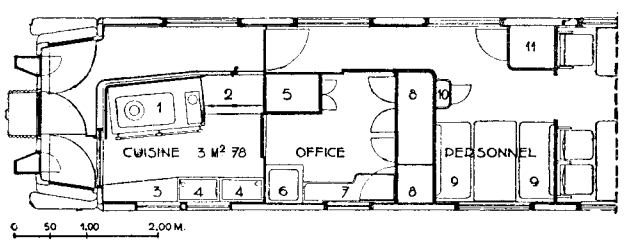
1. stove
2. drawer for flour and salt
3. gas stove
4. folding ironing board
5. food closet
6. rotating stool
7. work counter
8. garbage slot
9., 10., 11. sink and counter
12. closets for pots and pans
13. broom closet
14. heater

window made part of the kitchen cabinetry, accessible from both the kitchen and the dining room. In cases where the kitchen is not located adjacent to the dining room, a serving table on wheels may be used.)

In our situation, kitchen stoves are fueled by gas, coal, or both. The dual gas-coal models have the advantage of being able to use gas for quick cooking, while food requiring longer preparation times uses coal, which is cheaper. Gas appliances have certain advantages. They burn

Kitchen

Type	Area m²	Average number of daily meals
in urban apartments during the 19th century	ca. 25	4–10
in common and medium apartments	ca. 11.50	2–6
standardized American	8.91	2–6
standardized Belgian	8.65	2–6
standardized Stuttgart	8.60	2–6
standardized Frankfurt First Phase	6.43	2–6
standardized Frankfurt Second Phase	5.50	2–6
standardized Berlin (R^2 = Kitchen)	4.50	2–6
Kitchen of a railway restaurant car	3.78	100–150!!!



Kitchen of a railway dining car

1. stove
2. coal bin
3. food preparation counter
4. sink
5. wine rack
6. waste
7. work bench
8. closets
9. bottles below seats
10. light switches and fuses
11. silver

more cleanly and thus are more hygienic. There is no smoke; at the same time, the inconveniences connected with carrying and stoking coal are eliminated, and there is no dust and dirt from coal ashes and soot. It is a well-known fact that most of the soot above our cities is actually produced by our kitchens! Another advantage of the gas stove is the ease with which the flame's intensity can be regulated. Moreover, by using the special regulating knob of a Hotpoint stove, one can set both cooking time and temperature automatically for the preparation of different kinds of meals. Once the selected cooking time has been reached, the device cuts off the gas; thus when this type of stove is used, food preparation no longer requires constant personal supervision. But under our economic conditions, oil-fired or electric stoves are still too expensive.

The kitchen is supplemented by a **larder, a scullery,** and other **food preparation spaces.** The **larder** serves to store food supplies. It should be oriented toward the shady side of the house and must be well ventilated. It contains a refrigerator, which should be placed in such a way that it can be stocked from the outside. Electric refrigerators, such as the Frigidaire brand, can be placed directly in the kitchen, since they are not affected by fluctuations in external temperature. As its name implies, the **food preparation space** is a place where food is readied before being carried to the dining room table. The **scullery** is used for the rough and messy phases of food preparation and dishwashing. In smaller apartments, these subsidiary rooms are eliminated. In place of a larder, a ventilated closet in the parapet, the kitchen, or the hall may be included, while dishwashing and food preparation take place directly in the kitchen.

The kitchen is the nerve center of the apartment-household. It is the best designed and most rationalized room of the modern house, simply because as a place of production, a workshop, or a miniature factory, it was the most obvious place to apply the organizational experiences of modern factory production methods—in this case, to the processes of food preparation. The wholesale rationalization of the household had its beginning with the "running a home" [English in the original] movement, which, in turn, started its activities with the rationalization of the kitchen. Currently, a great number of scientific treatises on the subject of the new kitchen have been published, especially in America, where the majority of the middle-class households make do without servants and a cook (see Christine Frederick, *Household Engineering* [1920]).

Other service spaces remain to be mentioned.

The **cleaning closet,** used for cleaning shoes and for storing other cleaning utensils. It should have an opening to a garbage chute and a hoist for bringing up coal from the cellar, as well as a utility sink for disposing of dirty water.

The **laundry,** preferably to be located on the ground floor rather than in the cellar, with an adjacent room for drying, ironing, and sheet pressing. In rental houses these facilities are frequently provided with mechanical appliances for common use. In modern apartments the service spaces that were formerly located in roof garrets generally have been eliminated and their function taken over by the other specialized spaces (laundry, drying room, storage closets, etc.) on the floor or below the roof.

Cellars in urban houses are used mainly for coal storage. In rural houses it is common to use them for food and general storage. Each one of these functions must be assigned its own separate cellar space, and such items as potatoes and vegetables must never be stored in the same space as coal.

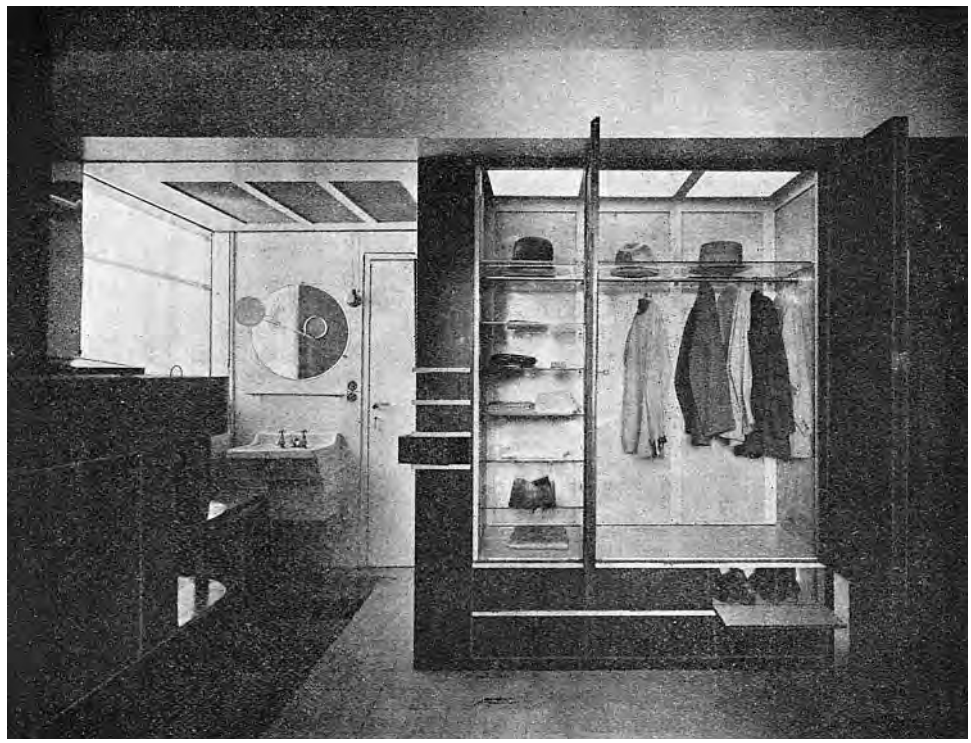
In the bourgeois apartment or villa, the **servants' rooms** are generally considered part of the household's service spaces. They are usually located in the basement or in the attic. Needless to say, such a manner of accommodating servants is barbarous. Even so, and even in villas

considered to be outstanding works of modern architecture (as, for example, the villa of the director of the Bauhaus in Dessau, Walter Gropius), the janitor is usually assigned an apartment or room in the basement. (See G. B. Shaw: "If we would treat servants as human beings, it would not worthwhile to have them at all, even for a moment. It is all right for their lordships to recognize their friends in the dog kennel, but never in the kitchen.") In principle, the apartment of a janitor or doorman should be the quality of any good, small apartment, and the servants' rooms should be on par with a regular room for singles in a bachelor home or student dormitory. Unfortunately, this elementary principle has been applied only rarely. Moreover, a maid's room in a rental apartment should have its own entrance, separately accessible from the hall or the corridor. Instead, Czech building regulations and government-backed mortgage securities prescribe that rooms for maid servants must be located next to the kitchen and be accessible via the kitchen. This is wrong, from the standpoint both of hygiene and of proper household management. Servants' rooms should be large enough to accommodate—apart from the bed—a small table, a clothes cabinet, a washbasin, and a clothes hanger. They should have ventilation and daylight equal to any of the other living areas in the house.

3. sanitary spaces

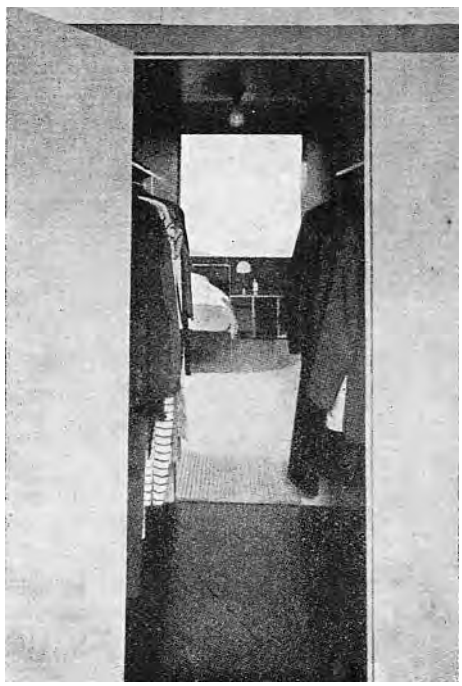
The **bathroom** is in all respects the best indicator of the quality of a good apartment. Theoretically, as a general rule, no modern apartment (or dwelling in general)—however small or inexpensive—should be without a bathroom. Nonetheless, a fully equipped bathroom still remains the exclusive privilege of the propertied classes, who live in larger or more expensive apartments. Smaller or minimum-size apartments usually have to make do with a small bathing alcove and a tub as part of the kitchen, or a small room with a shower in better apartments. (Installations designed to supplant the individual bathroom in minimum dwellings will be discussed in chapter 10.) In principle, the bathroom should be located next to the bedroom and be accessible from it, in order to avoid access to the bathroom via a cold or unheated hall. This is especially important when central heating is lacking. In large apartments or villas, the bathrooms and clothes closets should be located between the master bedroom and the lady's boudoir. In large villas, the bathroom should be accessible both from the hall or the gallery and the bedrooms, in order to allow servants access for cleaning purposes without having to pass through the bedroom or the walk-in closet.

Artificial lighting is acceptable for bathrooms. However, good ventilation is a must, for an atmosphere filled with vapors is objectionable, especially for persons with heart problems. The walls of the bathroom should be finished with waterproof materials, such as ceramic tiles or glossy paint. Besides ceramic tiles, terrazzo also makes for an excellent floor finish. Moreover, the bathroom floor should be sloped toward a floor drain. Since both ceramic tiles and terrazzo tend to feel cold to the bare skin, they should be covered with cork, rubber, or some other matting. The main equipment of a bathroom consists of the following: a tub with shower, washbasin, bidet (flushable), a toiletry shelf with a mirror above, racks and hooks for towels and robes, and a hamper for cast-off clothing. In some cases, especially in villas, the toilet bowl is located in the bathroom as well. The bathtub (with standardized dimensions—120–140 cm long, 45–55 cm wide, and 55–65 cm deep, with a capacity of 150–250 l) is usually made of white enameled cast iron, cement covered with terrazzo, or more expensive special enamel. The cheapest tubs are made of zinc-covered molded sheet metal, but are not to be recommended because they are difficult to clean. The best place for a tub is as a built-in item between the end walls of the bathroom. The best way to install a shower is to attach it to the wall by means of a flexible hose, rather than to have it rigidly wall mounted. If the latter method is used, the shower should be provided with a diagonally inclined spray head.



Jean Badovici & Ellen Grey 1928–1929

Built-in clothes closet in guest room of villa on Cap-Martin-Roquebrune (Côte d'Azur).
French Riviera.



Walter Gropius (1926)

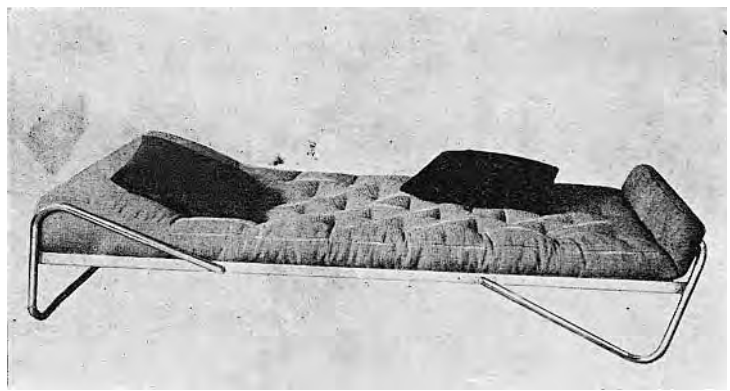
Clothes closet
in the villa of the director of the Bauhaus.

The clothes closet is built in between two adjacent bedrooms and designed as a walk-in closet **(begehbarer Kleiderschrank).**

Deutsche Werkstätte Hellerau-Dresden

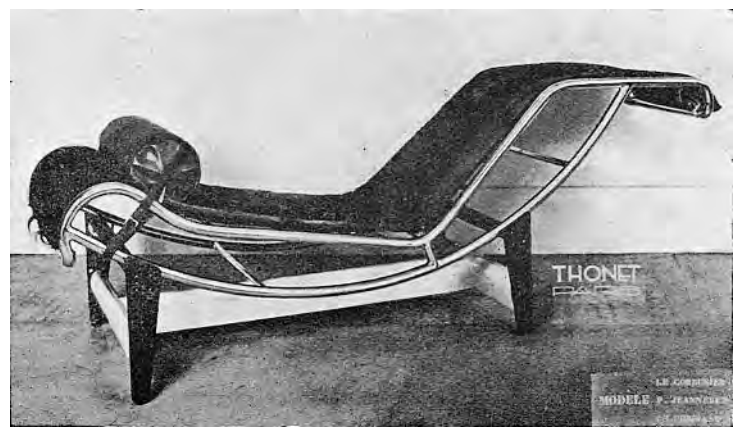


A futon instead of a sofa.



Ladislav Žák
Sleeping sofa.

Le Corbusier P. Jeanneret Mme Charlotte Perriand



Adjustable reclining chair on consoles.

Aside from the tub, the shower, the washbowl (always fixed in place and connected to running water, with separate taps for hot and cold water), and possibly a bidet and toilet bowl, the bathroom should also contain a well-illuminated mirror, placed above the washbowl or to one of its sides with a makeup shelf. In addition, there should be a place for hangers and racks, and—if possible—space for a small metal laundry hamper. If there is no central heating, the bathroom should be equipped with its own heater and a separate water heating device, preferably gas-fired. Some of the latest modern coal-burning bathroom heaters no longer require being kept continuously running, but the need to supply them with coal and to get rid of the ashes make them a poor choice for ease of maintenance and cleanliness. Gas water heaters of different makes have proven to be the best choice (the best-known brands are Junkers and Karma), since they are capable of supplying hot water not only to the bathroom but to the kitchen and all the other washbasins in the apartment as well.

In larger apartments the **cloakroom** or closets are usually located close to the bathroom. As a matter of fact, it is not a good idea to place wardrobes for clothing and underwear in bedrooms. In cases in which a walk-in clothes closet is located next to the bedroom, it should be possible to dress and undress there and not in the bedroom, to avoid the clutter of cast-off clothing. In comfortable apartments, the walk-in closet is essentially the only large, well-lit, and ventilated space that can be entered from both sides, where it is possible to place a wardrobe or a chest of drawers or to insert a built-in closet between the bedroom and the bathroom. In larger villas, the bedrooms may be arranged in such a way as to be accessible from the terrace. The terrace, used for lounging, sunbathing, and physical exercise, should be provided with a shower, exercise equipment, and other paraphernalia suited for outdoor activities. Since in our climate it is possible to exercise outside only for a few months during the year, comfortable apartments are sometimes equipped with their own special exercise room. In smaller apartments, exercising equipment may be accommodated in the bedroom, and so on.

4. living areas

The center of the house is the living room or the living hall—in short, the *salle commune.* The hall-type living room is derived from old English tradition: it is a central hall for the common use of all members of the family. It is also the largest of the rooms in the house and a space shared by everyone: here one reads or rests, members of the family meet, and guests are received. If there is no study in the apartment, one of its corners may be reserved for a writing desk and a library. If there is no dining room, another corner may be occupied by a table, a sideboard, and a cabinet, accessible from the kitchen or the food preparation room by means of a pass-through serving window. The introduction of central heating has made it possible to substantially increase the size of the hall and to accommodate in its space a variety of formerly separate living functions. It may combine living room, study, dining room, music room, and salon, all in one space, often subdivided by built-in furniture in such a way that the formerly independent rooms are now transformed into special alcoves and nooks. Where the living room has taken over all the above-named functions, only the bedrooms remain as separate units in the overall spatial organization of a villa, resulting in a plan with the following simplified layout: living hall + bedrooms + housekeeping, sanitary, and circulation rooms. Generally speaking, such a villa is best suited for use as a summer residence. For more permanent living, it is desirable that besides the bedrooms, every apartment should provide a separate room for each adult for rest, solitude, study, and so on, as well as a **children's room** and separate bedrooms for teenagers.



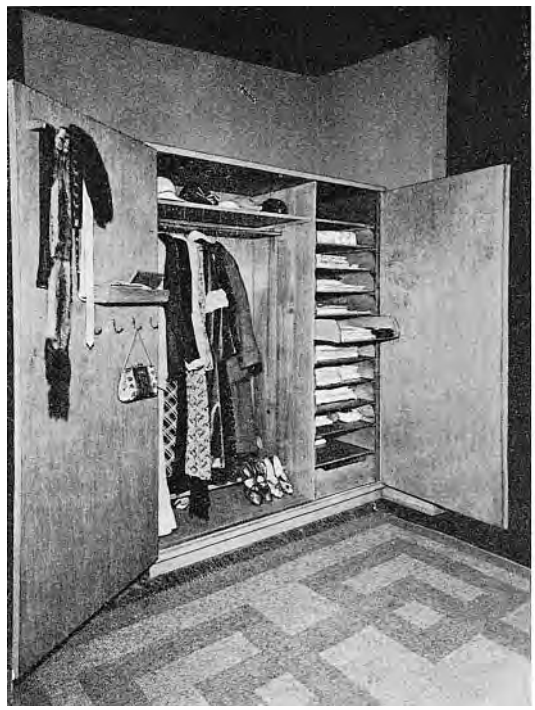
Jean Badovici & Ellen Grey (1928–1929)

Sleeping sofa in guest room. Villa on Cap Martin on the French Riviera.

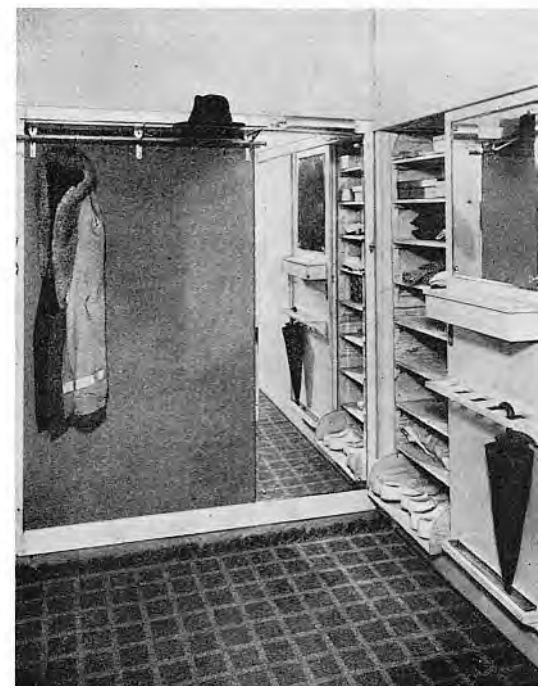


Antonín Heythum: Standardized furniture.

Bedrooms have been effectively reduced to mere sleeping cubicles, in contrast to older bourgeois apartments, where the bedroom was the largest and the "most presentable" room in the apartment. This design goes back to a time when the act of sleeping was part of a court ceremony, the *grand levee du roi,* and when every grand bourgeois liked to pretend that he was another Louis XIV. Our modern reality is different. Just as the kitchen of a railroad dining car



Closet for clothes and laundry.



Hall with hangers and closet.

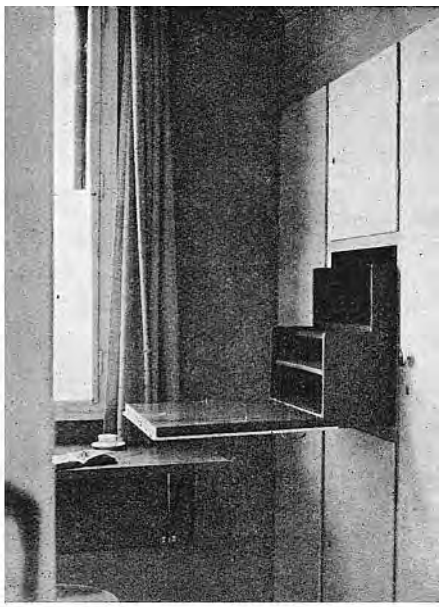
Antonín Heythum

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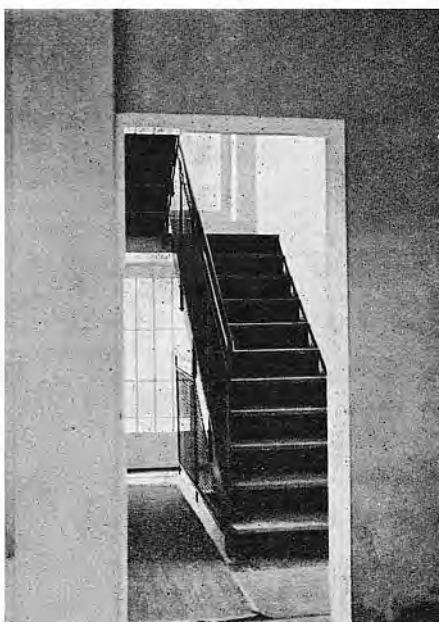
may be considered the model for the kitchen of a reformed dwelling, so the cabin of a transatlantic steamship or a railroad sleeping compartment is now the model for the modern bedroom. With good cross ventilation and—if need be—even artificial ventilation, there is no reason why the bedroom should not be reduced to the size of a small cubicle, provided of course that each adult be given his or her own separate bedroom. Unfortunately, this fundamental requirement, which must be considered a basic marker of civilized life and the cultural level of society, has yet to be implemented across the board, and has rarely been taken into consideration seriously in modern architectural design.

Assuming that the bedroom is essentially nothing but a cubicle for sleeping, then the only piece of furniture in it should be a bed: no more clothes cabinets, which should be placed instead in the dressing room, and no more washbasins and vanity tables, since both rightfully belong in the bathroom or the dressing room. By the same line of reasoning, the difference in how men and women organize sleeping arrangements should also be eliminated. The former night table may thus be replaced by a small table for putting aside a book read in bed, reading glasses, medicines in case of illness, or other small personal objects. Obviously, only luxury villas will be able to accommodate a large number of such sleeping cubicles. In rental apartments, the bedrooms are usually dimensioned so that they can include either two (spousal) beds, an armoire, and other furniture in the master bedroom or a single bed and less







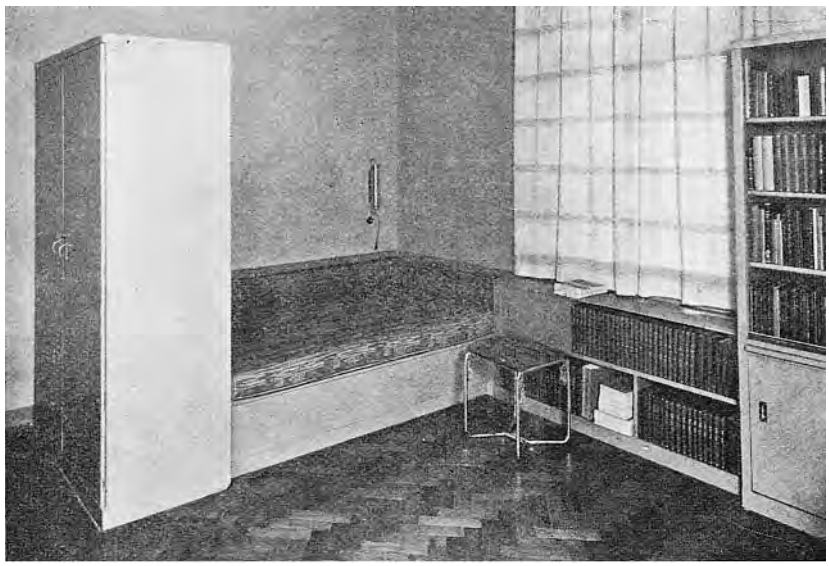


Oldřich Starý
1928

Interiors of a family house at the housing exhibition in Brno.

Kitchen closet with a serving window [to dining room].
Guest room.
Kitchen.
Staircase.

furniture in smaller, individual bedrooms. The latter arrangement is certainly more correct and more civilized. Apart from the bed, the single-person bedroom should contain a writing table, a bookshelf, an easy chair, and—if need be—some clothes cabinets or closets. If the bedroom is expected to serve the additional function of a private living room for one person (husband's bedroom, wife's bedroom), the bed may actually become an impediment. In that case it may be replaced by a sleeping sofa, or by a folding bed built into the wall or in a



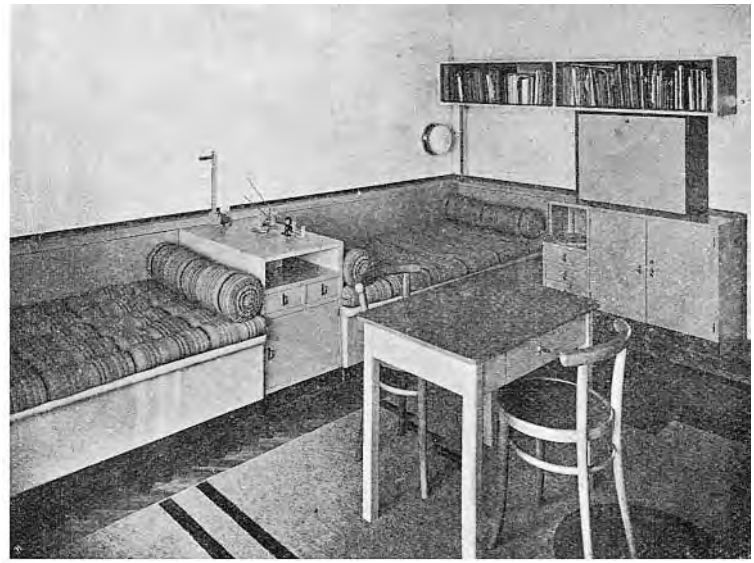
Corner in a man's bedroom-study.



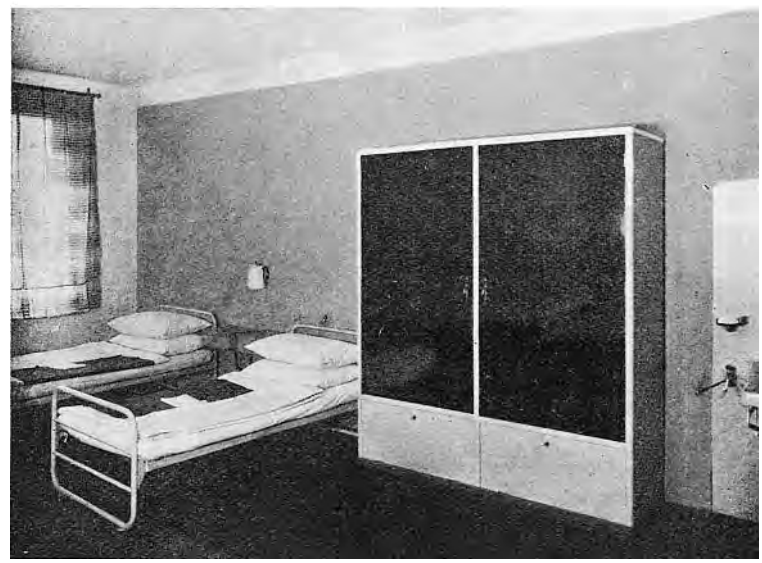
Living room corner: sleeping sofa and bookcase combined with night table.

Jan Vaněk

Manufactured by
S B S
Company



Bedroom with bookshelves, writing desk, and chair.



Bedroom (possibly hotel room).

Jan Vaněk

Manufactured by S B S Company

The director of the SBS Company, Jan Vaňek, has moved his architectural office to Prague, to undertake projects for the design of modern interiors and equipment.

Praha II. Riegrovo nábřeží. Pavilon Mánes.

cabinet. Guest rooms should be furnished similarly. Bedroom windows should be oriented so that the morning sun will fall on the bed.

If at all possible, **children's rooms** should have southern exposure, with good light and ventilation. Their windows should have a high parapet, to prevent small children from falling out. All furniture in the room should be scaled to a child's body, and there should be no sharp corners and edges anywhere. Walls should be lined with a washable finish, so that children can draw on them with colored chalks as on a blackboard.

As outlined above, the formula of the layout of a villa is as follows:

living hall + individual bedrooms + children's room + sanitary, housekeeping, and communication rooms.

The formula for a medium-size urban rental apartment is either

living room + individual private rooms + children's room + sanitary, housekeeping, and communication rooms or

individual private rooms + children's room + sanitary, housekeeping, and communication rooms.

By reducing the size of a conventional medium-size apartment, we arrive at the following formula for a small family-household apartment type:

man's (bed)room + woman's (bed)room + children's room + kitchen + toilet + entry hall.

In villas, the terraces, balconies, verandas, roof terraces, winter gardens, and so on function as open-air extensions of interior living spaces. In rental houses these extensions are reduced to balconies and roof terraces, the latter usually made accessible to all tenants. A terrace or balcony should always be accessible from the living room, and the floor plan of a villa should be organized in such a way that the terrace becomes an integral part of the inside living space. In their prevalence—indeed their surfeit—lower floor terraces as well as roof terraces have by now become an almost universal signature element of the modern villa. Modern construction methods, which have made it possible to provide flat roofs even in our harsh climate, have made possible the abuse of this design and gross exaggerations, leading to what is called *Terassenromantik* [terrace romanticism] in Germany. Conceptually, a flat roof should be considered economical only when it is used legitimately as a terrace, as a roof garden, for sunbathing, and so on. As usual, the reality is quite different: structurally speaking, under ordinary conditions, a flat roof is the best solution from the standpoint of economy and function when it gently slopes toward the center and drains through the interior of the building. Under certain local or rural conditions, a sloped roof with tiles, slate, or some another covering material may actually prove to be more economical. It would be nonsensical to avoid this solution and insist on a flat roof, motivated solely by its uses by inhabitants—especially in rural areas, where a roof terrace becomes entirely superfluous and where a garden provides a much better way to extend inside dwelling spaces to the outside. Roof gardens and planted terraces are thus suitable primarily for city housing only. Putting terraces on top of a villa located in the center of a large garden is nothing but pretentious fashion snobbery. Such terraces today express the same pompous ostentatiousness as did the esplanades of the baroque period.

Instead, to the extent that climatic conditions permit, the design of the modern dwelling should strive to achieve an optimal integration of inside spaces with the outside, connecting balconies and terraces in such a manner that the whole front facade wall separating the room from, say, a balcony can be opened up by folding or sliding doors, thereby transforming the whole room into an open veranda. The linking of the interior with the exterior to form a spatial whole in a small apartment not only helps increase its overall livability but fosters a sense of increased spaciousness as well: large windows or, if need be, fully glazed facade walls and balconies counteract the feeling of being confined in a cramped room of minimal dimensions.

The reform of dwelling that has led to the highest achievements of modern architecture in the design of villas for the affluent may be summed up by the following:

The opening up of the rigid floor plan, made possible by concrete or steel skeleton construction and the introduction of modern heating systems.
The revision of room sizes, such as the enlargement of the living room into a central space (the hall) and the reduction of all the other rooms to sizes corresponding to their various individual functions, such as housekeeping and hygiene.
The separation of housekeeping functions from the general living areas and the differentiation of areas of common use from private and individual rooms.
The linking of interior dwelling spaces with exterior space and the open sky.

●

It goes without saying that this reform has of necessity also led to the elimination of all ornament and other decorative features from the architecture of the house as well as from the furniture and all interior appurtenances of the dwelling. The primary aim was to transform the apartment in accordance with the requirements of utilitarian factors, studying its characteristics just as one would study the organization of a factory or a railroad terminal: the private house was to be conceived as a machine for living and the apartment house as a factory for dwelling. This rationalization was carried out most methodically for those spaces and installations that serve exclusively or predominantly utilitarian functions: good examples are the kitchen (which became transformed into a rationalized workshop), laundries, ironing rooms, larders with their new iceboxes, and so on, all of which are now thoroughly mechanized.
That said, it should not be forgotten that the ideology of the propertied classes still considers the dwelling to be not merely an instrument to satisfy the practical needs of the various dwelling processes but also an object of representation. As a result, the tendencies toward the house's objectification and functional improvement have become mixed up with aesthetic tendencies and idiosyncratic whims of individual clients, which include their longing for originality, uniqueness, style, and so on. The result is artistic play and formalistic arbitrariness. In other words, decoration that, even if it now assumes a nonornamental guise, is just as irrelevant to a modern house (i.e., a machine for living) as it is to modern transportation conveyances such as yachts, railroad cars, air ships, transatlantic steamers, and automobiles. "If the problem of dwelling and its equipment were to be studied the same way as the chassis of an automobile, our houses would soon be significantly improved. If houses were to be built by means of mass production methods, similar to those used for the production of automobiles, we would see the rapid emergence of unexpected but wholesome, correct, durable, and precise shapes" (Le Corbusier). And so, in spite of all that, the bourgeois dwelling, even when dressed up in its most modern form, has not ceased to glory in pretending to be a work of art.
Even the well-intentioned sermons of Adolf Loos, which promulgated the view that the house as a work of art is an anachronism left over from the Middle Ages, a barbarism, and proof of lack of civilization and culture, have had little effect on the psychology of the propertied classes, whose views are deeply permeated by the most conservative attitudes and encumbered by the ballast of dead traditions. Moreover, the majority of contemporary architects who see themselves as modern find it difficult to shed the mantle of tradition, besides suffering from the effects of their education and past conventions; and thus, even though they may not admit it, they still regard the house as a work of art, albeit clothed in modernistic and fash-

ionable style. In that sense, the house as a work of art still retains its legitimacy for the bourgeoisie and bourgeois architecture, even as it pretends to be modern.

"When he thinks of his future house, the client nurtures in his heart a poetic, lyrical dream. He dreams that he will inhabit a symphony. He opens his heart to the architect. The architect burns with the desire to play Michelangelo: under pressure, he constructs a concrete ode, which may or may not agree with the dreams of his client. The result is conflict, because poems—especially when composed by somebody else—unfortunately cannot be inhabited. Ah, the fugues of bathrooms, the dramas of stairs, the sonnets in the shape of bedrooms, the melodies of the boudoirs" (A. Ozenfant).

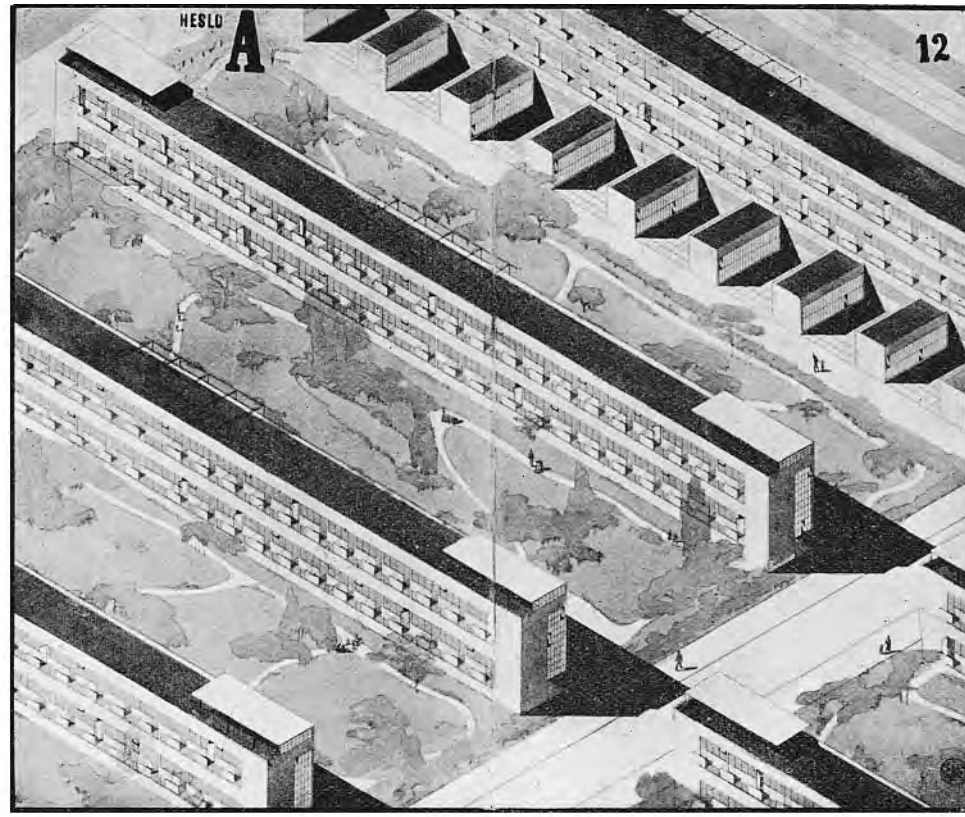
the minimum dwelling 10.

three types of floor plan for small apartments: 1. the live-in kitchen; 2. apartments with a small kitchen or living room with a cooking nook; 3. apartments without a kitchen ● the kitchen as a single piece of furniture ● for each adult an independent living space ● windows, doors, walls, furniture

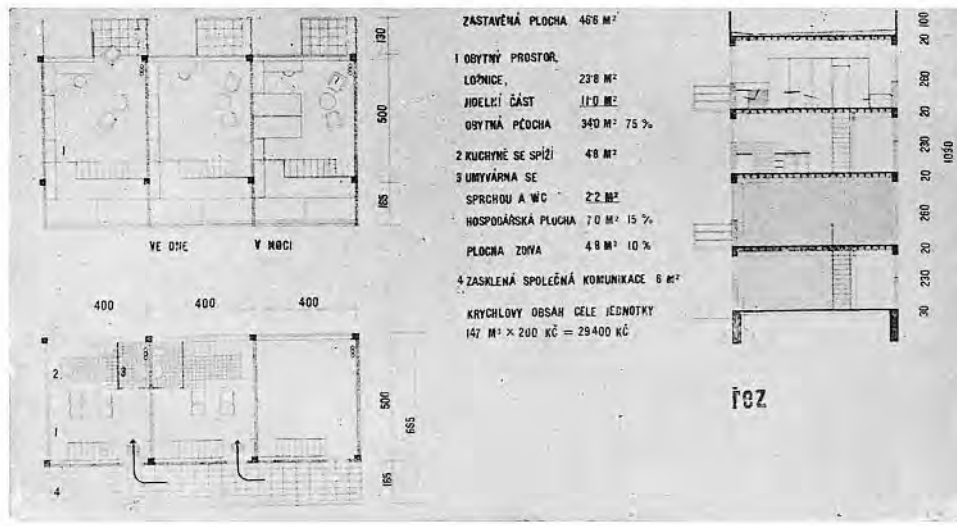
The previous chapter dealt with the subject of the large, opulent apartment and its modernization, and the effects that this reform had on housing in general, as well as the principles of healthy and meaningful living that can be derived from this reform. Any discussion of this subject should keep in mind that the real social and economic problems of housing for the strata of the subsistence minimum can hardly be solved by merely proposing this or that ideal functional solution, for the fact is that such an ideal is currently beyond reach. The correct question to be asked is how to provide these strata with a dwelling that would at least satisfy the basic minimal requirements for healthy living.

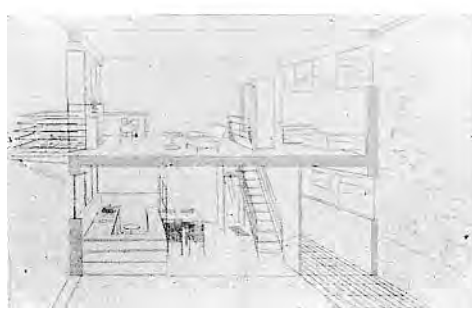
The genesis of the catch-phrase "minimum dwelling" as the most pressing architectural problem can be traced to a number of causes; among the most important are the changes in the social structure of the population that have taken place during the past few decades and the worsening of the housing crisis after the war, which adversely affected even middle-income groups and impoverished working intellectuals. The housing market tried to adapt, recognizing that the biggest demand was for small and inexpensive houses. New construction statistics reveal the following: the number of small apartments of one to three rooms has increased most and the number of medium-size apartments has decreased (with a significant increase in the number of large luxury apartments), which eloquently confirms the pauperization of the middle classes and the deepening of class differences. Because of the high demand on the open market for small and inexpensive apartments, the private construction sector built more houses with small apartments, which had become an attractive speculative proposition. However, these too turned out to be too expensive for the less affluent. This confirms the well-known fact that the most profits can be made on the worst and smallest apartments, because their construction costs can be kept to a minimum and because they provide a primitive level of comfort compared with larger apartments. At the same time, the rents for a small apartment did not drop in proportion to their reduced floor area: the rent for a one-room apartment is certainly not one-tenth of that for one with ten rooms. The rent for a five-room apartment is usually only twice as high as that for a one-bedroom apartment. As a portion of overall construction costs, mechanical service items, such as toilets and gas and electrical installations,

First prize in competition of municipal Prague for conceptual proposals for houses with small apartments.



Single-row housing system.





Ossendorf-Pozemný-Tenzer 1930

Houses with minimum apartments. Split-level apartments. Houses with side corridor (recessed balconies on every second floor). Area of apartment 42 m², 4 beds.

Brno
1931–1932
Josef Polášek
Municipal housing
in Králové Pole.



House rows (5 rows, 4 stories high).

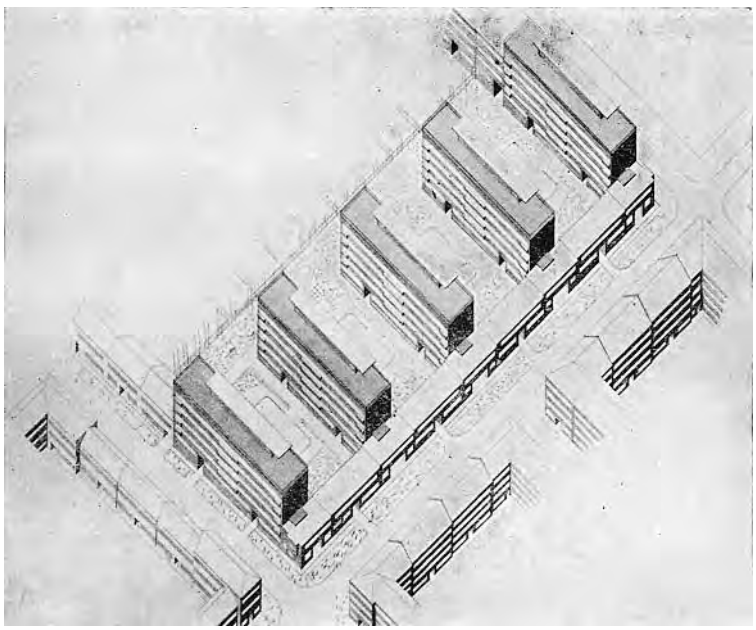


Space between housing rows



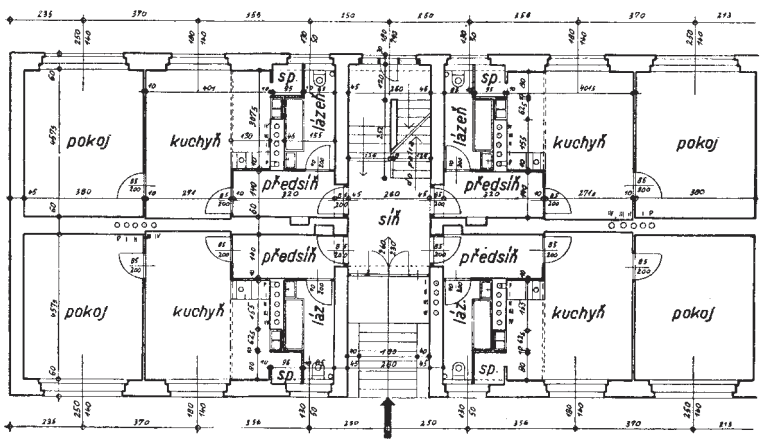
A group of 4-story-high houses, single-row site planning.
Blocks are laterally closed by low-rise rows of shops, facing the principal road.
Apartments face east and west.

190 one-room apartments;
40 one-room apartments with a study;
8 two-room apartments;
4 shops.
Central mechanized laundries.
Children's playgrounds.



Josef Polášek
Brno
1931–1932

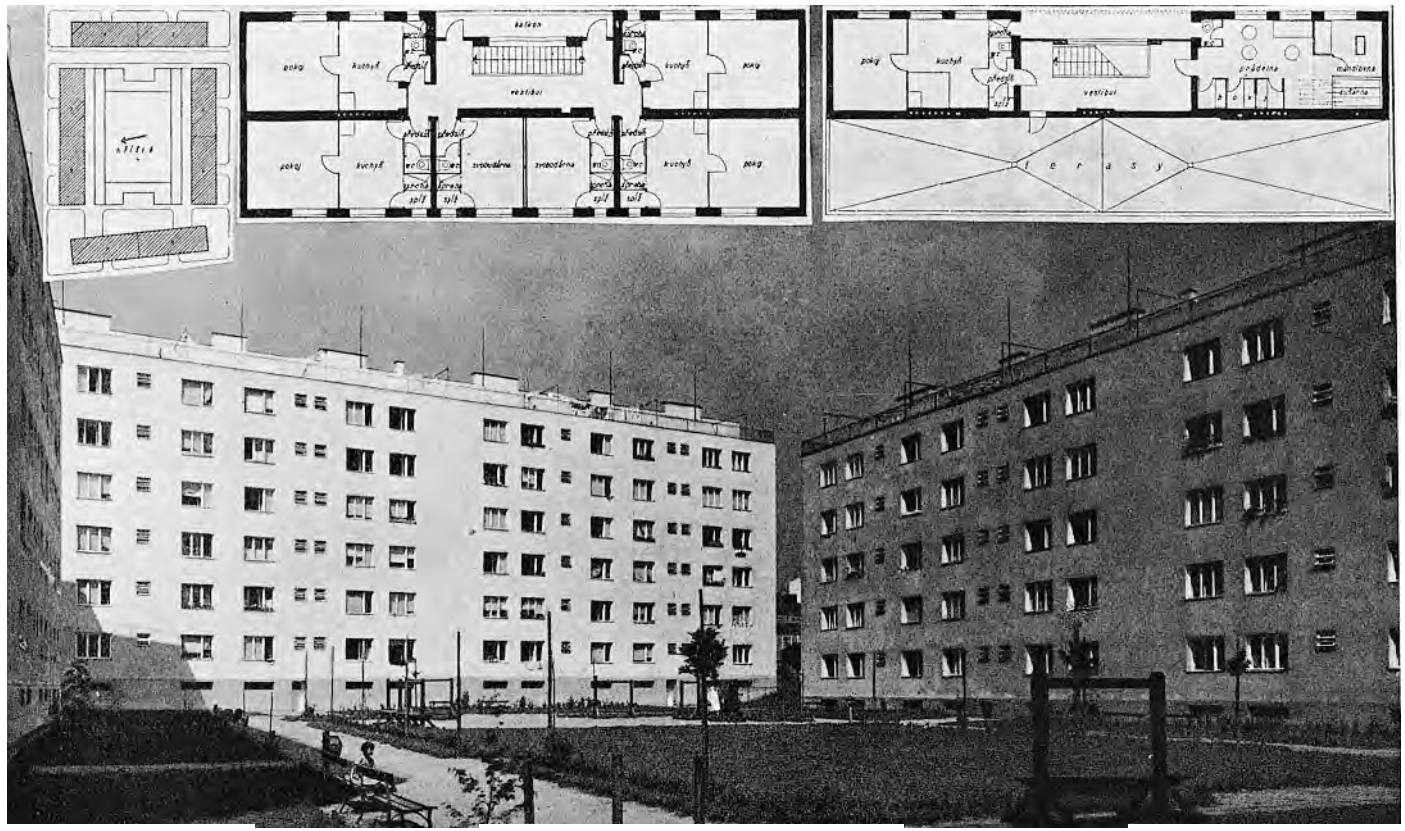
Muncipal housing colony in Králové Pole in Brno.



Apartment layout: hall, bath and toilet, food storage closet, kitchen (living room with cooking nook), room (bedroom) with balcony. (Legend: pokoj = room, kuchyň = kitchen, předsíň = hall, lázen = bathroom, sp. = closet, síň = entry hall.)

are also considerably more expensive in a small apartment than in a large one. This is the main reason why both reducing and simplifying expensive mechanical installations are primary approaches to lowering the construction costs of small apartment projects.

Construction and rent speculation were widespread even in new postwar development, resulting in housing that is neither better nor healthier than that provided by old apartments in rental barracks. The apartments built at that time are of extremely modest size—usually just one room and a kitchen, and sometimes only one room—lacking all comfort, with just enough light and ventilation provided to satisfy minimal code requirements. Only subsequent market



Josef Polášek

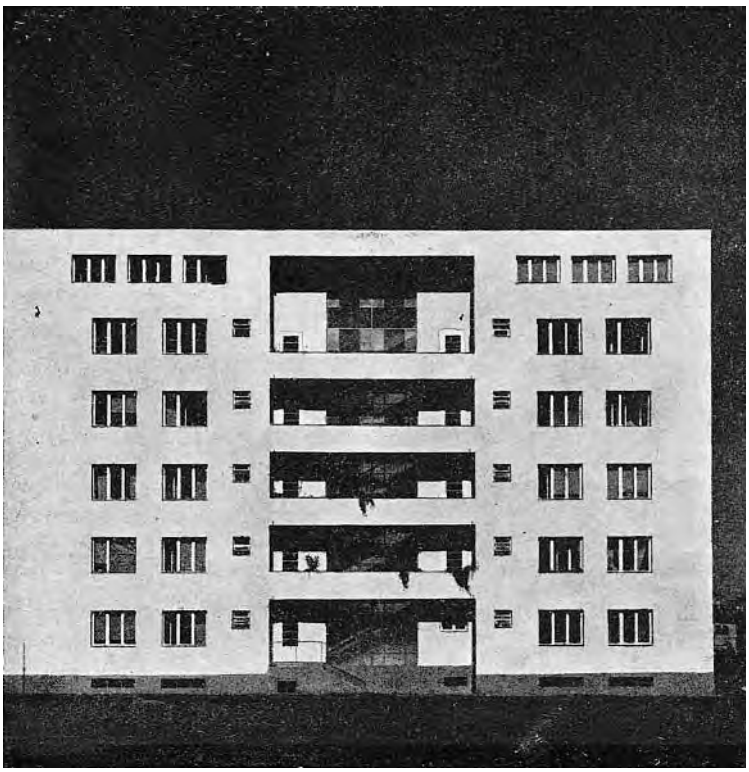
Brno 1930–1931

Urban apartment houses in Brno.

Peripherally built-up site, open gaps at corners. Street facade, see p. 239 Brno-Zábrdovice.

Four apartments per floor: hall, toilet, kitchen, and one room; also two bachelor rooms: hall, toilet, and a small study. Top floor: a single apartment and laundry.

Josef Polášek 1930–1931 Brno



Municipal housing in Brno.

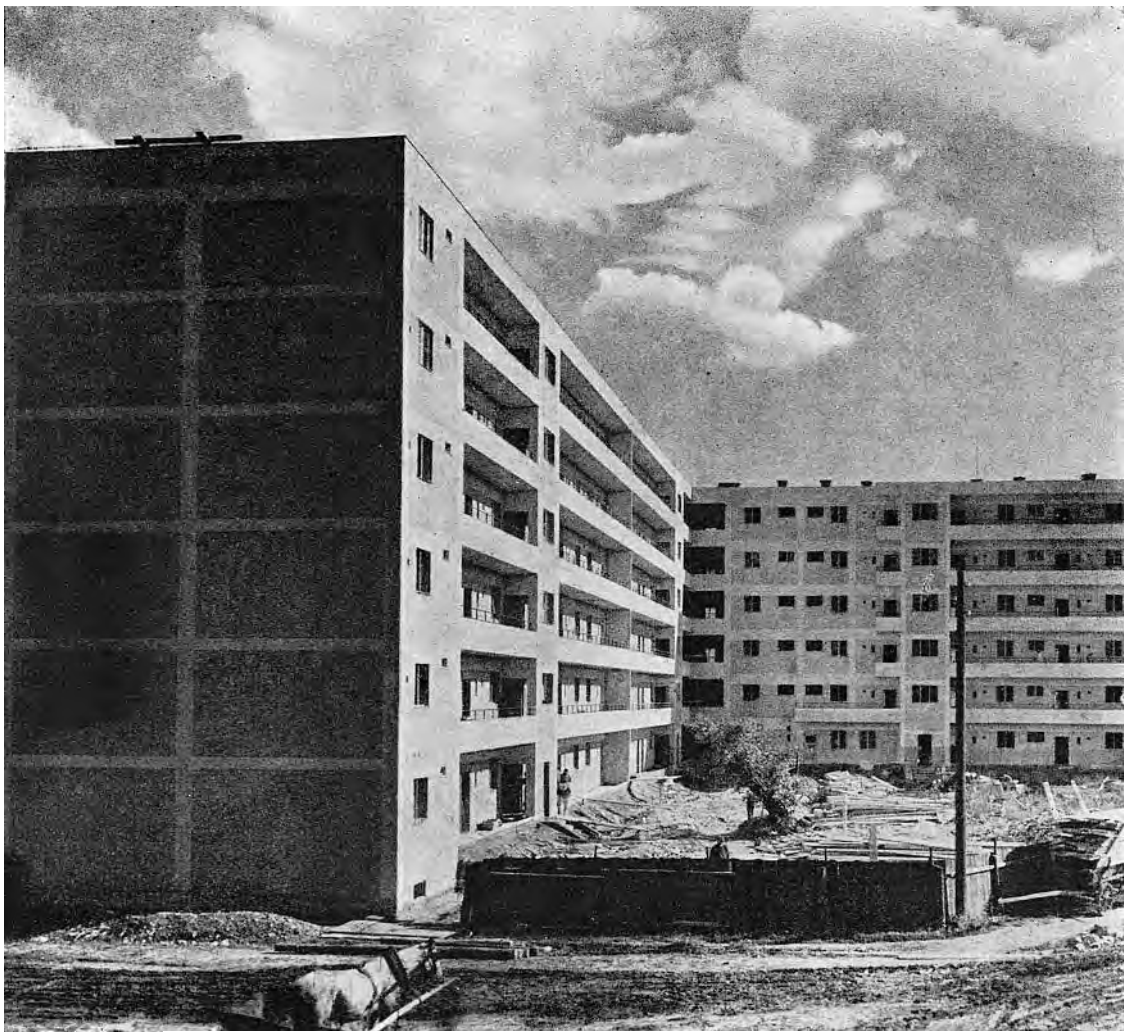
Minimum apartments (one room plus kitchen, or a small one-room flatlet).

competition forced builders to somewhat improve and modernize their product. It also provided an opportunity for modern architecture to apply some of its reforms to the problems of popular housing, albeit on a very modest scale.

The reform and modernization of small popular apartments by modern architecture made it abundantly clear that the problem of the minimum dwelling could not be solved by the mere reduction and simplification of the floor plan of the large apartments of the wealthy, whether traditional or modernized. Thus, it was not a question of simply reducing the number and size of rooms, or simplifying mechanical services and other amenities. It is self-evident that as long as we define the minimum dwelling as a traditional household type, its design will unquestionably involve the reduction of the size and number of rooms, apart from requiring a different organization of the floor plan with different appliances and furniture. The only possible strategy left is to attempt to reorganize the floor plan, along with opting for less expensive mechanical equipment and furniture.

The minimum apartment as a self-contained, family-based-household type of dwelling is still seen as the only basic housing option for all members of society. It is essentially defined by its domestic housekeeping functions, with the housekeeping rooms the nerve center of both large and small apartments.[1]

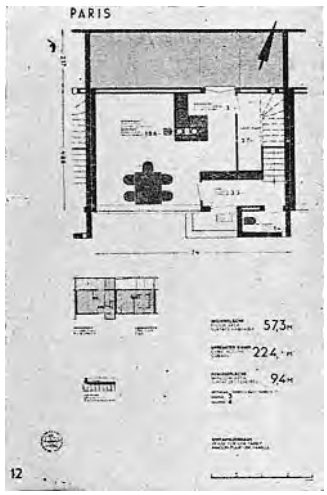
[1]) Sociologically speaking, such a dwelling is the conventional housing type of the presently impoverished middle classes and a marginally better-off segment of the classes of the subsistence minimum. Among them, family and the traditional household organization still prevail, albeit without the luxury of servants, and in many cases the woman is earning her keep by holding an outside job, besides being tied to the drudgery of her household chores.



B. Weinwurm & Vécsei 1931 **Bratislava**
Housing complex Unitas. Open gallery–type houses with small apartments.

In reformed versions of the minimum dwelling, all the housekeeping functions are now crammed into a single space—the **kitchen.** To the extent that the kitchen has been retained as the basic functional element of a small apartment, several variations have evolved.
Basically, there are three types of small apartments:

1. **Apartments with a live-in kitchen,** either as a single room (i.e., kitchen or so-called room with a stove) or as one room and a kitchen.
2. **Apartments with a small kitchen** and one to three rooms. A special case is an apartment of minimal dimensions, whose kitchen is so reduced that it ceases to be a self-contained space and is transformed into a mere nook within the living room area. This type of minimal apartment may be regarded as either a throwback to the old live-in kitchen type or as a transition to a higher form of apartment (i.e., without a kitchen).
3. **Apartments without a kitchen,** i.e., a dwelling that provides each adult with a separate room (in which only a single piece of furniture is provided for food preparation).



Paris

Floor plan of a one-story row house with small flats. Area 57.30 m2 with 3–4 beds.

Wide and shallow live-in cell. Windows of living space face south into garden. Narrow courtyard on north side.

These three varieties of small apartments are not equivalent. Each corresponds to a different lifestyle and has a different social content; each is the expression of a different culture and ideology. Thus, in the present stage, the apartment without a kitchen may be considered the most developed and most progressive, while the live-in kitchen represents an antiquated form, medieval and reactionary.

On the whole, the most primitive type of kitchen in a small apartment is the **live-in kitchen.** Even though the reduction of an apartment layout to a single room may serve many purposes, it nevertheless signals a return to one of the most antiquated dwelling types, whose single, undifferentiated, universal space serves combined living and housekeeping functions (sleeping, eating, and so on). A household with only one room at its disposal has no other choice but to adapt to its limitations. The live-in type of kitchen goes back to a time when all the inhabitants of a house spent most of their time at home; then, the combined kitchen–living space was also made to serve as a workshop, besides accommodating the domestic functions of cooking, child rearing, recreation, eating, and sleeping. Here the kitchen hearth was truly a family hearth, and the kitchen was therefore not only a place for preparing meals but the vital center of family life as well. In spatial disposition, it symbolizes the notion of the family as an integrated economic unit.

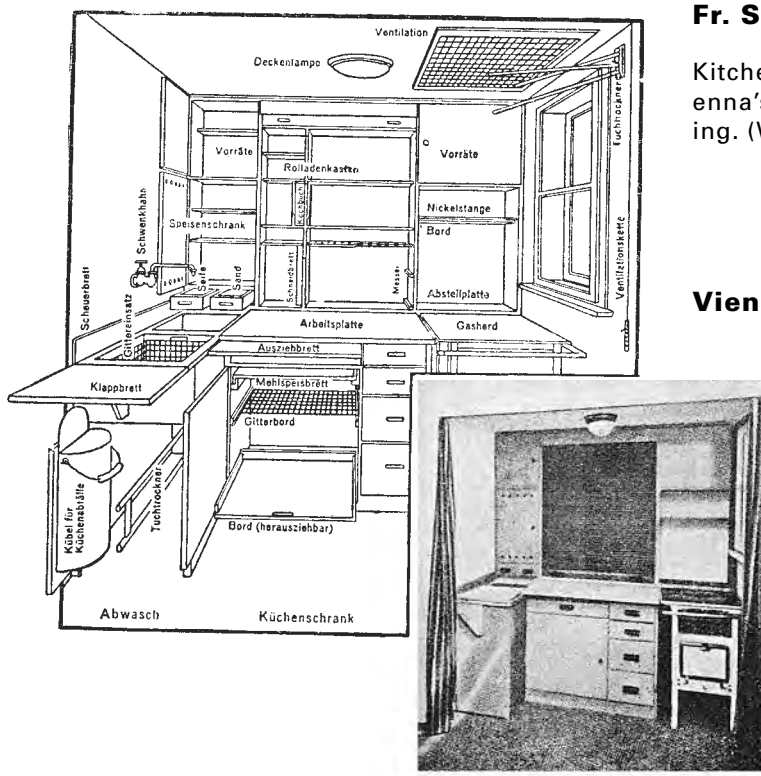
It is therefore utter nonsense to promote the live-in kitchen as a suitable form for modern dwelling, since people today spend most of their time outside the home, returning there by and large only to sleep. Assuming that the goal of a worker's dwelling is mere lodging, an attempt to achieve it by means of a live-in kitchen is self-contradictory. The modernization and reform of the small apartment have retained the live-in kitchen only because deep-rooted conventions and tradition persist, especially in countries where the less affluent and the impoverished middle classes have a low standard of living and a poorly developed housing culture. Besides, the live-in kitchen as an all-purpose space has its origin in medieval ways of dwelling and therefore does not respond to the lifestyle of those people who currently must survive at subsistence level. The first reform of the traditional live-in kitchen was devoted to the revision of its interior space by modernizing and rearranging its furniture and by creating different

nooks for cooking, eating, sleeping, and so on, with the result that the newly refurbished live-in kitchen essentially became an imperfect substitute for different specialized rooms (dining room, living room, bedroom, and kitchen).

In apartments that consist of a single room and a kitchen, the layout was organized in such a way as to retain the kitchen as the main living space in addition to its other functions, such as a place to eat and for children to play in. In extreme cases, the kitchen had to serve as a surrogate bedroom and a study room for school-age children as well. The separation of sleeping from cooking areas (i.e., the principle of dividing the apartment into day and night uses) was a consequence of the general drive to improve hygienic conditions in housing. Thus an apartment of one room and a kitchen may in effect be defined as a layout that is already functionally differentiated, at least as far as the separation of private functions (especially sleeping) from common dwelling is concerned. One serious disadvantage of this solution is the unequal use of these spaces (assuming that family life and domestic household habits have not as yet been as radically curtailed, as in the case of a worker's daily routine. Thus, if we assume that the inhabitants of such an apartment spend most of their time at home, the live-in kitchen becomes overused, while the sleeping room is used much less. For this reason, it proved more rational in apartments of a single room and kitchen to devise the layout so that the kitchen could also be used as a dining room, and the other room as a combined sleeping-living area. With appropriately arranged furniture, better use could be made of the floor area in such apartments. Examples of such new furniture types are folding tables and, if need be, folding seats in the kitchen, which do not take up much space when not being used during meal time, as well as folding beds or sleeping sofas in the other room.

As small apartment layouts achieved a specialization of functions, eventually cooking was completely separated from all other dwelling processes; this meant that the function of sleeping had to be assigned its own room as well. The separation of sleeping from cooking areas made it possible to reduce the dimensions of each. Thus, the space saved by reducing the size of the live-in kitchen could be used to increase the size of the living room, sometimes even providing enough surplus to add one or two small bedroom-sleeping cubicles to the floor plan. It was by such means that the floor plans for small apartments was arrived at: a small kitchen, a relatively large living room, and one to three sleeping cubicles. Given this new functional differentiation, such an apartment cannot be called minimal anymore; it is really just a miniature version of a large apartment. It is essentially a rationalized medium-size apartment, whose floor area has been squeezed down to 45 to 55 m^2—in short, nothing more and nothing less than a miniature version of the most typical form of a bourgeois apartment (to some extent, this is also a return to the conventional type of the two- to three-bedroom rental apartment of the nineteenth century).

All these attempts to get rid of the primitive form of the live-in kitchen in small apartments eventually led to the development of the Frankfurt and Stuttgart kitchens. As discussed above, even the rationalized kitchen-workshop generally remains an underutilized functional element in the overall organization of the family dwelling. To elaborate: the same kitchen that produces meals for two to six persons in these apartments is capable of producing approximately 100 to 150 five-course meals for 400 persons daily when it is in a Mitropa dining car, measuring 4 m^2 (more precisely, the kitchen of a restaurant railroad car is 3.78 m^2), and 48 persons share its small dining space during each meal. Given this scenario, it was not unreasonable to drastically reduce the dimensions of the space dedicated to the preparation of meals and to dishwashing, transforming the kitchen into a mere cubicle, a kind of handy kitchenette with an area of no more than 2.5 to 2 m^2—especially in designs for subsistence-



Fr. Schuster

Kitchen nook in Vienna's public housing. (Winarskihof)

Vienna



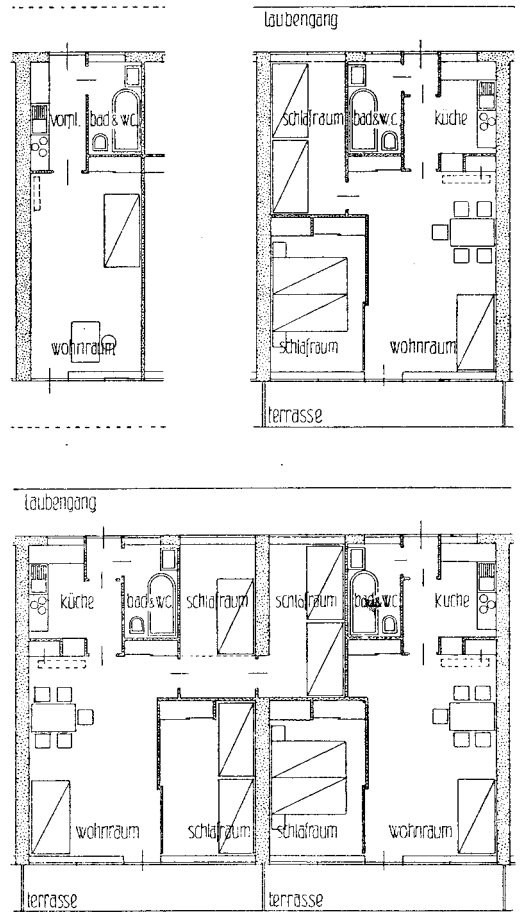
Steel kitchen, manufactured by the SAB Company.

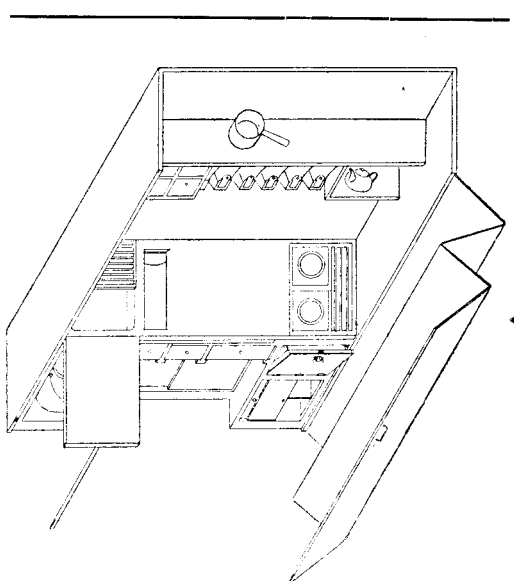
Hans Schmidt 1928

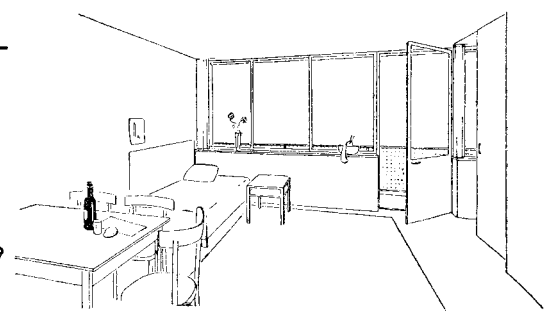
Proposal for cooperative houses in Basel.
35 apartments with 1–4 rooms, common laundry, club, workshops.

This project was not realized, as it did not meet Basel building regulations.

Scale: 1:200.
Top: 1-room apartment; 1-room bachelor apartment without kitchen (hot plate in hall); and 5-bed, 2-room apartment.
Center: 6-bed, 4-room apartment and 3-bed, 2-room apartment.
Bottom: Living room.







Mockba **Moscow**

Building Committee of the RSFSR, 1928.

M. J. Ginsburg

Rationalized kitchen as one piece of furniture: cooker, counter, sink, cupboards, and drawers. The whole assembly can be closed like a closet by a folding door.

level minimum housing, lived in by a woman who is working outside the home and who is not able to devote much time to cooking, cleaning, dishwashing, and so on. Once the kitchen is reduced to such a cubicle, then—assuming that an operationally rational and economically sound solution for the minimum apartment is desired—the whole concept of a separate kitchen becomes an absurdity.

That this contention is correct has been proven in cases in which the principle of a separate kitchen has been abandoned altogether and we thus arrive at a somewhat improved layout for the cheapest type of small apartment, consisting of a living room with a small cooking nook (separately ventilated). And so, the vicious circle is closed and we are back again at the live-in kitchen in disguised form. All these manipulations of kitchen-based floor plans demonstrate that this concept is a dead end. Just consider how kitchen work has to be wastefully repeated over and over again in fifteen to twenty kitchens of a large rental apartment house complex, in hundreds of kitchens in a single block, and you will have to admit that all these past attempts at rationalizing the kitchen have yielded no tangible results—that is, as long as we continue to cling to the necessity of private home cooking and housekeeping, and as long as we reject the notion of communal kitchens and common dining rooms.

Given the economic constraints imposed on the design of the minimum dwelling—regardless of whether it has a live-in kitchen, a living room with a cooking nook, or two separate bedrooms—its equipment, space, and furnishings by definition still had to be reduced to their respective minima. The only facilities provided in the latest designs for minimum dwellings are a toilet and a hall, the latter usually reduced to a mere wind catch; instead of a larder, we find a small air-vented closet in the window parapet. No bathrooms at all are provided in these cheap apartments, simply because a fully equipped bathroom makes a small apartment too expensive.[2] The missing bathroom is compensated for by a portable tub in the kitchen (or a sitting tub), or by the so-called Frankfurt bathroom, analogous in its simplicity to the Frankfurt kitchen, called Camera-Bad, by Bamberger, Leroi, and Company (it is economical only to the extent that it reduces the cubature of the apartment, while its installation still remains rather costly). Alternatively, the bathroom is replaced by a washroom (a washbasin and a shower with a drain in the floor). Sometimes, the washroom is combined with a toilet in a single space (1.3 m^2 is sufficient for this). Regarding the installation of washrooms, toilets, and so on in old apartments that lack such facilities (as does some recent construction as well), small, prefabricated shower units, similar to those designed by Anton Weber (dimensions 80 $\times$ 94 $\times$ 200 cm) for apartments of minimal dimensions for Vienna municipal housing, may be used to advantage.

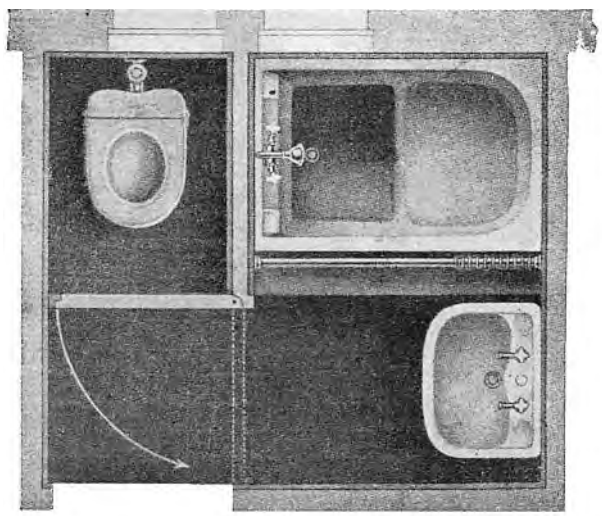
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[2]) However much the catechisms of modern dwelling emphasize that every apartment, even the smallest one, should be equipped with a bathroom, practice has shown that a bath necessarily increases the cost of an apartment—not only by increasing its volume by another room, used approximately thirty minutes per day, and not only because even a basic (simple) installation of a bath is relatively expensive, but also because it creates considerable additional maintenance burdens. For a four-member family, a weekly soaking bath makes up (in expenditures for water and gas) a considerable percentage of the rent, which shows that providing a bathroom for dwellings of the existential minimum is today in most cases an impossibly utopian aim. After all, the needs of a worker's family are better served by a shower than a bathtub, and it is certainly better to shower daily than to take a bath in a tub once a week: a shower also saves time, a factor very important for a person working outside of the home and for a home without a servant or a maid. A shower in the apartment and public baths with a swimming pool close by, or common bathing facilities for a whole housing block or in the factory, should be able to fully satisfy the needs of physical culture and hygiene.

The most radical approach to downsizing and simplifying sanitary and service equipment for apartments is exemplified by the reduction of the kitchen to a mere **American-style sideboard,** which combines in a single piece of furniture a sink, gas heater, food preparation surface, and cabinet for dishes and cutlery. Another American innovation is the reduction of the bathroom to a shower cubicle, again conceived as a single piece of furniture. This cubicle, consisting of a watertight cabinet with a shower and drain, can be placed in the kitchen, bedroom, hall, or any other room.

Another design approach to the minimum dwelling is a layout that represents a transition toward a collective way of dwelling. As plans based on the old family household have proven unfit for solving the problem of the minimum dwelling or improving low-cost housing, despite all the changes made in the organization of its floor plan of a fundamentally bourgeois type, a new approach to this problem has become inevitable. The dwelling type described in what follows (viewed here as a transitional stage toward a new dwelling style) represents both an acceptable and a feasible solution, which will eventually lead to the development of a new type of dwelling—the collective house. Past solutions always took as their point of departure the family household with a kitchen: a kitchen plus some undersized rooms, or, in other words, truncated versions of the bourgeois dwelling. In contrast, a modern solution to the minimum dwelling must start with the space for living, because a worker's apartment cannot be designed on the principle of the domestic family household. The family as a viable economic unit could develop only among the propertied classes.

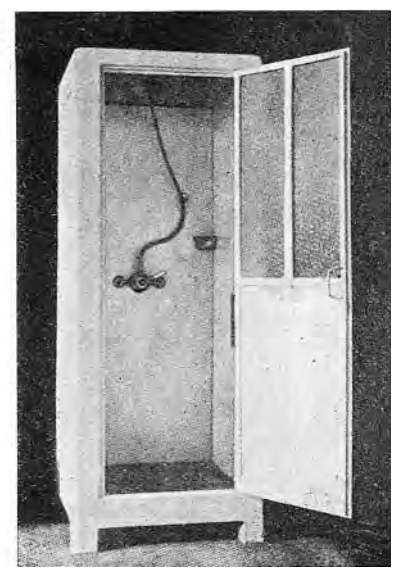
As a place for family living and rest, the kitchen is actually superfluous, a burden, and thus a useless appendage in a worker's apartment. The commute from home to work makes it impossible for factory workers to eat lunch at home; the lunch break is too brief to return back to



Frankfurt bathroom Camera bath

Manufacturer: Bamberger, Leroi, & Co. Design by Karl Gutman.

(Dimensions of bathroom unit 1.7 × 1.5 m; tub 104 × 70 × 62 cm.)



Prefabricated modular toilet unit (sanitary function conceived as a single piece of furniture) used in Viennese public housing.
Design: **Anton Weber.**

Minimal apartment of 45 m², according to Loucher's Law in **France**

45 m² for 6 persons = 7.5 m² per person
45 m² for 4 persons = 11.25 m² per person
45 m² for 3 persons = 15 m² per person
45 m² for 2 persons = 22.5 m² per person
Average: 14 m² per person

work in time. The same goes for office workers and service personnel—in short, for all people of low income. Any rational solution for a minimum apartment—that is, an apartment for the working class, service personnel, and the working intelligentsia—presupposes the following steps: 1. Formulate a program for the apartment that conforms with changes in the lifestyle, work schedule, and family condition of the classes of the subsistence minimum. 2. Design the minimum dwelling not as a reduction of a bourgeois or petit bourgeois medium- or large-size apartment, or as an emergency solution, but as an authentic, new type, with its own inherent dwelling standards that respond to the biological-hygienic as well as the sociocultural needs of the modern proletariat.

The disintegration of the traditional family began with the entry of women in the workforce, along with the establishment of the principle of equality between men and women. As a result, the family has become atomized into independent individuals, which in turn has made it necessary for individuals to maintain a certain psychological distance vis-à-vis each other even in marriage, and therefore at home as well. For these reasons, any rational solution to the minimum dwelling must posit the following rule as its most basic requirement: **each adult individual must have his or her own separate (living and sleeping) space.**

Such a dwelling will not be based on a scheme in which its rooms are centered around the kitchen like planets orbiting around the sun of the household, or like a city huddling around a market square. Instead, the new layout will be organized as a parallel row of independent rooms, each serving as the basic living space for a independent individual. Thus the former universal living space will be reproduced on a **higher level,** with the difference that most of the old household functions will be effectively eliminated and that we here have not a live-in kitchen for a family but a live-in space for an individual. Such a solution marks **the end of the bourgeois small apartment type** with its emphasis on the family-based household. Of course, if absolutely necessary, it should be possible to insert a ready-to-use kitchen module between two living cells. In effect, this can be accomplished with a single piece of furniture, complete with sink, gas cooker, some storage cabinets, and a food preparation surface: used in this way, **this kind of** a kitchen ceases to function as the center of the apartment and merely suggests something left over from past dwelling types. All housekeeping functions are eliminated from such a minimum dwelling on principle: kitchen, dining, bath, laundry, and so on—and will be aggregated for common use outside the apartment. In cases in which child care is not provided by the public school system (child care centers, crèches, day care, etc.), children will have to make do and share their living space in the private accommodations of their parents.

It goes without saying that such a small apartment will not be able to adequately provide all the functions formerly satisfied by a large, patrician bourgeois apartment. Modern architects

do not seem to be able to grasp the fact that it is simply impossible to design a minimum dwelling for workers on the model of a small apartment of the impoverished small bourgeoisie by trying to cram the whole repertoire of housekeeping functions—such as the kitchen, children's rooms, bedrooms, and even a living room capable of serving both common and representative purposes—into an area as small as 40 m^2. The results are deplorable. Even so, it is interesting to observe that in our country and other countries as well, wherever the petite bourgeoisie sets the tone of cultural life, their apartments in general no longer boast any large common spaces, since their social life takes place primarily outside the apartment, in cafés, restaurants, and snack bars. Communal facilities, such as canteens, cafeterias, snack bars, clubs, and so on, are the natural extension of a small apartment, which should and does serve private functions alone, especially now when "the old battle of the sexes between the pub and the home" (Chesterton) has come to its deservedly inglorious end.

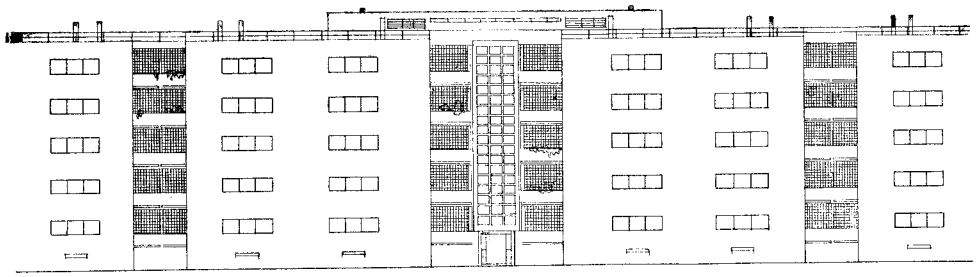
The principles that ought to guide architectural solutions for minimum dwellings can be summarized as follows: in order not to be found wanting, the specifications of the dwelling minimum must not be reduced below biologically acceptable limits. In other words, inhabitants must be provided with sufficient sun, light, and air, as well as adequate space to work, rest, sleep, eat, and bathe. As mentioned before, this requires the exclusion of certain functions (e.g., bathing, cooking, dining, and clothes washing) from the apartment layout and their aggregation outside the apartment. This also means that some of the functions formerly included in the apartment will now have to be assigned to different public institutions, such as hospitals, convalescent homes, schools, children's schools, sports centers, old age homes, and so on. It is unrealistic to expect that the poor will ever be able to hire outside help to take over their housekeeping—their cooking, cleaning, and so on, and so on. The absence of servants calls for a maximum mechanization of all housekeeping functions. At the core of all solutions for the minimum apartment is the imperative of saving the human energy formerly expended on housekeeping chores by its inhabitants. The goal is to minimize energy expenditure on work movements associated with performing processes indispensable to dwelling in a given household.

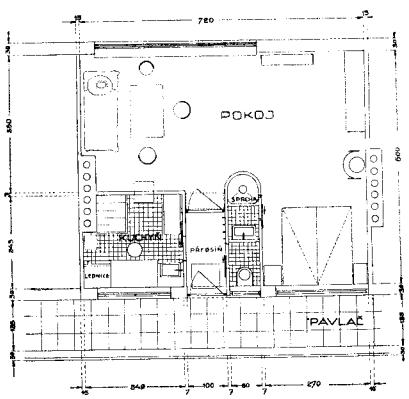
The significance of an ergonomically correct solution for apartment design has been confirmed by a statement from Pollette-Bernège, the chairman of the French Economic Organization League: "Because they are living in irrationally designed apartments (i.e., apartments that inefficiently cause wasted expenditure of movement and energy), we now have in France 10 million housewives who are compelled to sacrifice daily two hours on completely unprofitable work. As a result, they are forced annually to devote 7,300,000 hours of their time to entirely useless, unproductive work."[3] The best way to achieve energy efficiency in housing is to shorten domestic communication distances (from the kitchen to the dining room table, from the library to the writing desk, from the bed to the closet, etc.), especially in relation to the kitchen, where all movements and work sequences have to be designed in such a way as to be within easy reach. In addition, continuous ventilation and good natural as well as artificial lighting will also contribute significantly to the reduction of stress and fatigue. A small, quality floor plan, carefully thought-out to the last detail, can provide more comfort and livability than an irrational plan in an older, traditional large apartment.

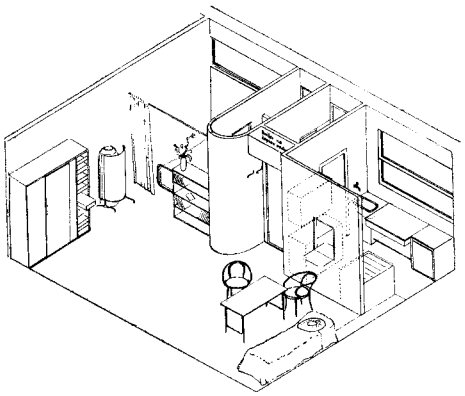
In general, we define a good floor plan as a layout that groups together spaces logically, separating living from housekeeping areas and sleeping areas from those assigned to other liv-

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[3]) See Jiří Kroha, "The Energetics of Dwelling," *Index* 3, no. 3.



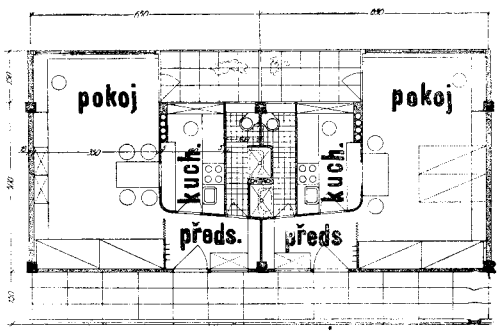




A

Proposal for gallery-type housing with small apartments.
A. Apartment floor area 47.60m², 2–3 beds.

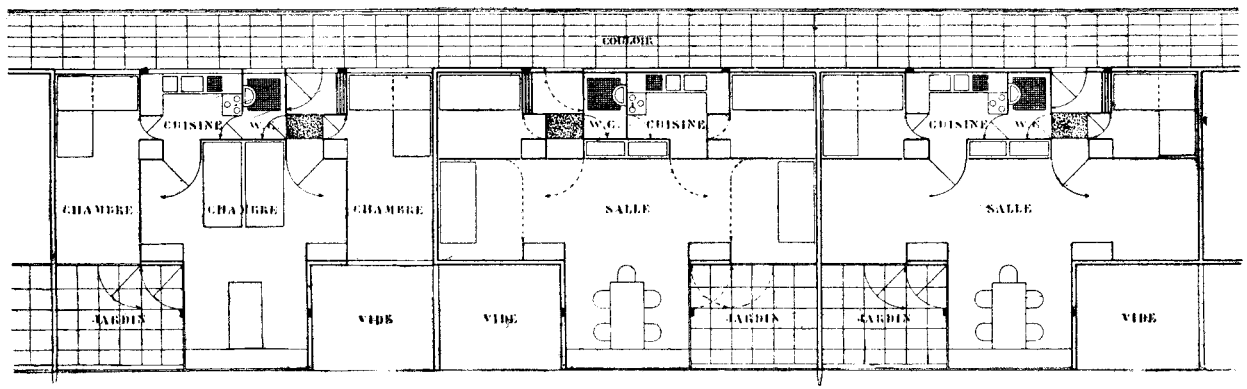
B. Proposal for apartments with a balcony, with varying wide and narrow sections. (Legend: pokoj = room; předs = hall; kuch = kitchen.)



Eugen Linhart & Jan Rosůlek (1930)

ing functions. It is a plan that provides separate sleeping cubicles for all members of the family, father as well as mother, sons as well as daughters, and—if need be—makes it possible to change the use of those cubicles according to the changing number and lifestyle of their occupants. It is a plan that avoids pass-through spaces, a plan in which the bedrooms are oriented toward the east and the living room toward the west or south, and a plan in which

at night during day

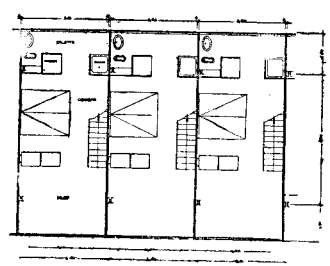


Le Corbusier & Pierre Jeanneret (1928)

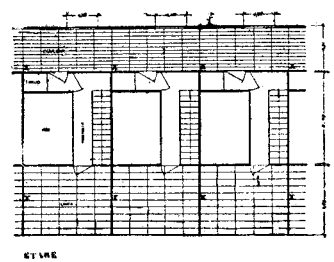
Proposal for a rental house with apartments for the subsistence minimum—area of apartment 56 m².

Owing to the movable partitions, the floor area has been organized in such a manner that the effective floor area coefficient of each apartment actually equals that of an apartment of an area of 86 m².

Lower floor.

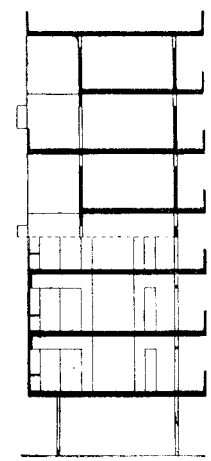


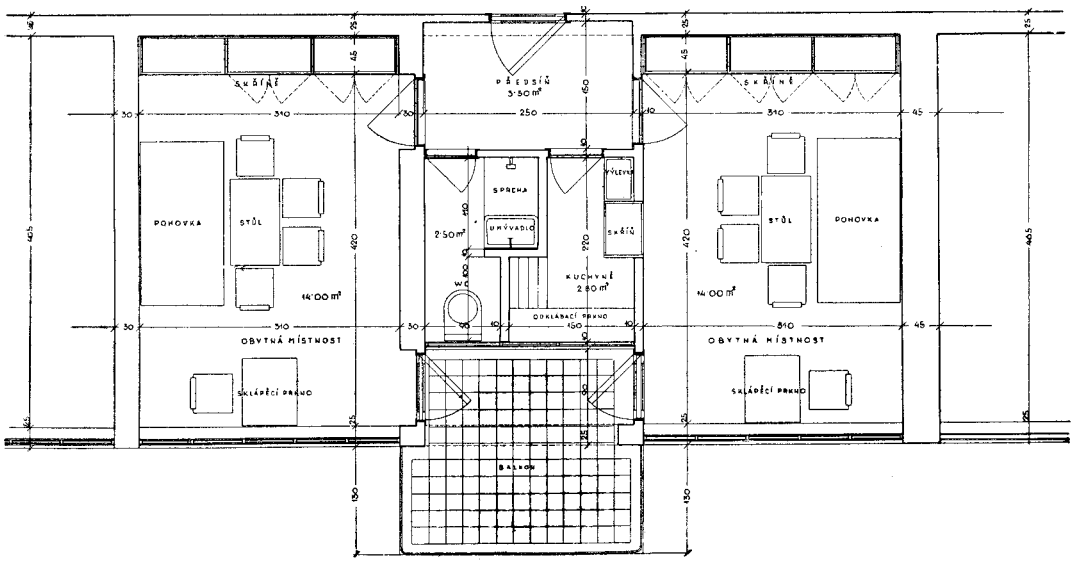
Upper Floor.



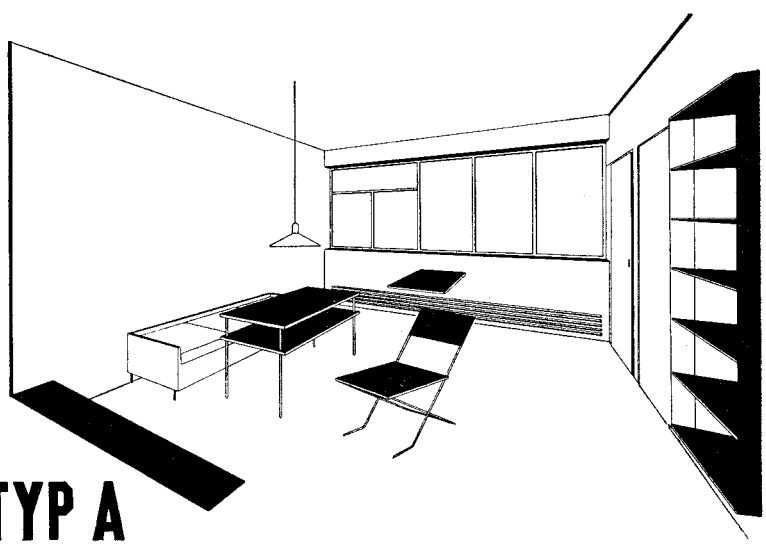
Le Corbusier & Pierre Jeanneret (1928)

Hotel floor plans.
Typical room layout, recessed side corridor.





A flat of two independent rooms with a common hall. Toilet and kitchen are inserted between the two rooms.



TYP A

The principle of this small apartment is: **For every adult person, one dwelling space.** The dwelling cell consists of two adjoining rooms (16.80m²). A kitchen and a toilet are inserted between the two rooms along the facade (if they are occupied by a married couple). The children are naturally accommodated in children's homes. When this dwelling unit is occupied by **two single persons (as it is divided into two independent rooms of a bachelor type),** the kitchenette is replaced by another toilet. A small apartment of this type is a **transitional step** step toward genuine **collective dwelling**

Jan Gillar 1932

A small dwelling cell in one of the houses in the housing colony in Ruzyn in Prague.

windows and doors are positioned to ensure the efficient placement of all furniture and to avoid unnecessarily breaking up the continuous surfaces of the walls. Besides, any apartment that wants to be called economical must be sparing in the use of doors. It is an apartment with harmonious dimensions governing the proportions of all its rooms, with good sound insulation to prevent the transmission of noise from neighboring apartments, full of light, with clean and cheerful colors for walls, furniture, and fabrics. And finally, it is an apartment that **provides each adult individual with his or her own room,** a rule that should become the most fundamental principle of any architectural solution in housing.

To sum up: the minimum apartment is a **closed cell,** a self-contained whole, serving all the psychological, economic, recreational, and physiological needs of its inhabitants—in short, meeting all the normal requirements of the former family-household apartment at a different scale. It cannot be expected that in such a scheme it will be possible to satisfy all the functions of the former bourgeois type of dwelling; these can be met only partially. Therefore, the mature form of the minimum apartment will be a series of individual living cells that will not be self-sufficient in the traditional sense. It cannot be characterized as a "domestic hearth"; instead, its form will be determined solely by the basic physiological-recreational and psychological processes of dwelling. In other words, by dwelling as rest, reading, sleeping, and intimate personal life.

components of the apartment

1. the window

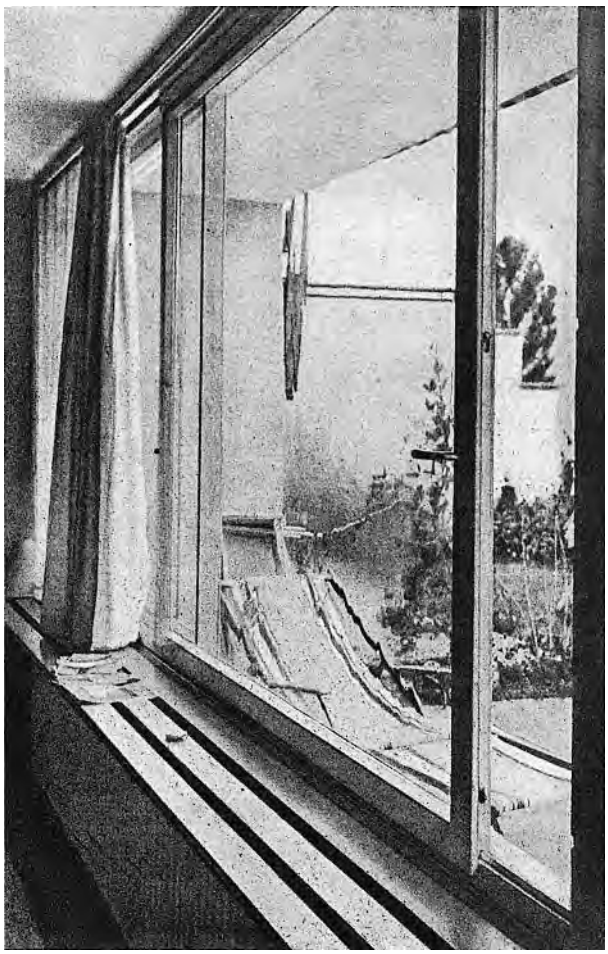
Modern architecture rejects the tectonic elements of the baroque and Empire periods, especially the vertical window. A nineteenth-century room had one or two perpendicular windows, placed on the axis of the front facade wall. The vertical window allows light to penetrate deep into the room, but it leaves the corners dark. Moreover, the pier separating the windows casts a permanent shadow into the room (in load-bearing facade walls, this pier may be up to 60 cm deep). Gradually, the narrow, vertical window was made wider, eventually acquiring a square or even a decidedly oblong shape. This change was made possible by the introduction of the new post-and-beam construction systems (steel or concrete) and by the use of transverse bearing walls, which led to the elimination of the bearing function of the facade wall. As a result of these structural changes, windows can now be extended from column to column, or from one cross wall to the next. Placing the window directly against the edge of the slab eventually made it possible to open up the whole facade as a fully glazed, transparent skin. However, since the window continues to represent a relatively expensive item within overall construction costs, the use of such colossally dimensioned glass surfaces is currently still outside the realm of practical possibilities in housing construction. It has thus become necessary to limit window dimensions to a more reasonable size.

The use of the **oblong window** of limited vertical height in frame construction, where the windows are separated from each other only by a structural post or the cross wall, is now common. In arcades with a projecting low console, a **continuous window** along the wall's full length is also possible.

In terms of economy, the window has to satisfy the following three requirements.

- **Surface economy:** it should provide the most reasonable relation between maximum window area and minimum cost (which tends to reduce the window area).
- **Thermal economy:** it should guarantee minimal heat loss for heated rooms.
- **Spatial economy:** it should not take up too much usable space and create an obstruction in the apartment.

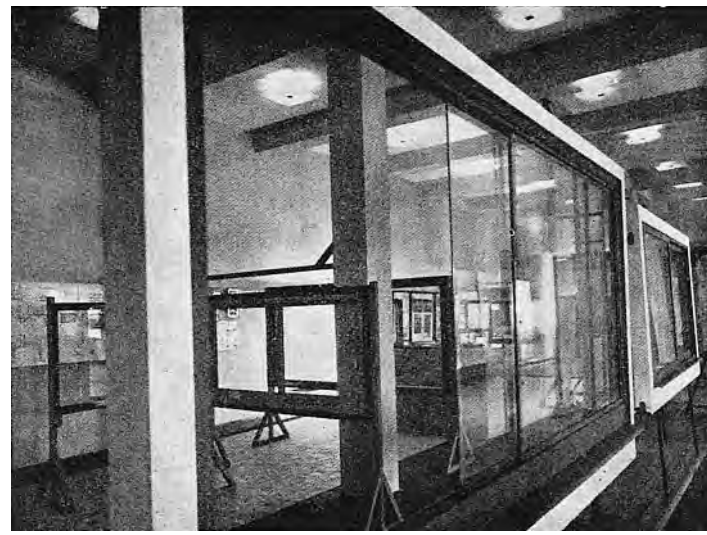
Zurich
Neubühl
1930



A horizontal sliding window. Single glazed, 6 mm glass thickness. Window area = 38 percent of room floor area. Height of room = 2.4 m. Low parapet.

Building regulations stipulate that the minimal window size for habitable spaces be not less than one-tenth of the gross floor area. German regulations require 1 m^2 window area for each 30 m^3 of a room's volume. Of course, these are minimum requirements and certainly desirable. To the extent economically feasible, it would be even better to increase the window area of a habitable room to approximately one-quarter to one-third of its floor area. The lighting of a room can be improved by choosing a suitable window format. Photometric methods have confirmed that Le Corbusier's horizontal, oblong window, extending across the full width of the room between two flanking walls, provides a room with four times the illumination of two traditional "classical" vertical windows with a mullion in the upper third of the window, while using the same area of glass! Horizontal windows also distribute light more uniformly within the room and eliminate sharp shadows, as light is reflected evenly from the walls and the ceiling. In contrast, narrow vertical windows may transmit outside light into the interior with greater intensity, but fail to illuminate the interior evenly; in addition, they create deep shadows and dark corners. The light admitted through a window can be increased by approximately 10 percent by rounding or canting mullions and sills. Such rounding facilitates a more efficient transmission of oblique rays of light to the interior. Strip windows should be placed with their upper edge near the ceiling to aid in the reflection of light from the white surface of

Horizontal sliding windows exhibited during Third International CIAM Congress in 1930.



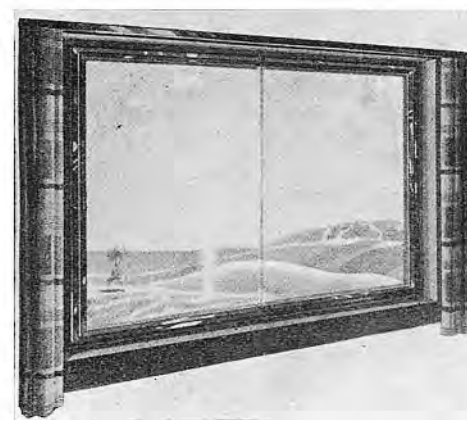
Brussels
Palais des Beaux Arts

Jean Badovici & Ellen Grey

Tilting window in Cap Martin villa on French Riviera.

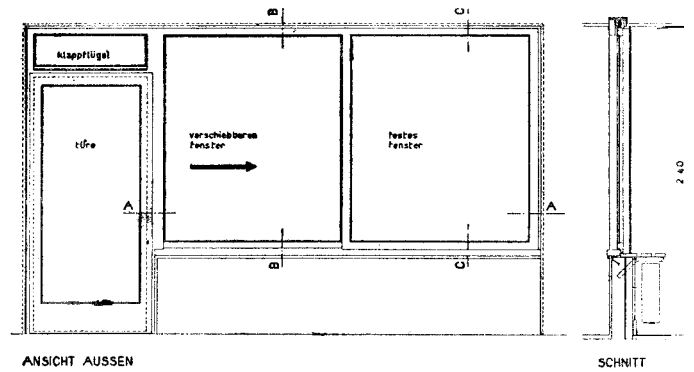


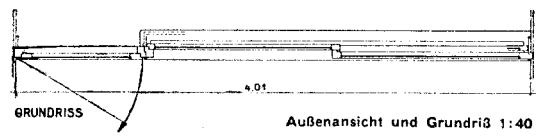
Window without mullions, System Rockhausen.



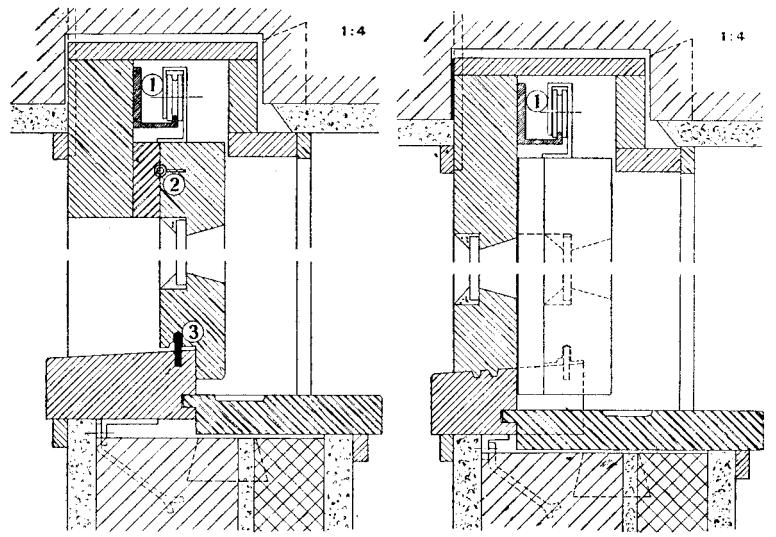
Zurich-Neubühl 1930

Horizontal single-glazed sliding windows in Neubühl colony.



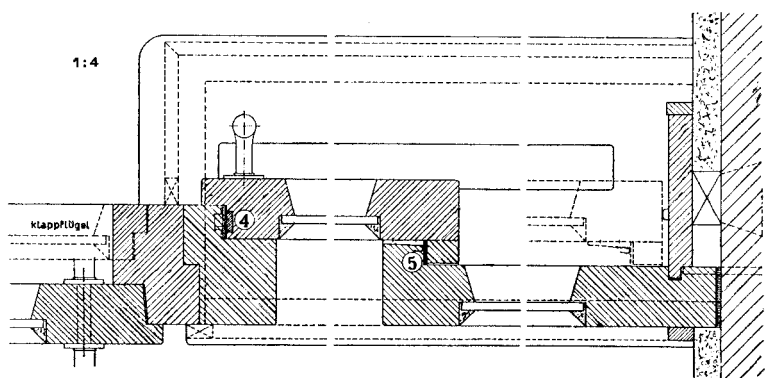


Außenansicht und Grundriß 1:40



Lotrechter Schnitt B—B

Lotrechter Schnitt C—C



Perfect tight fit. Opening sash hung on rollers; easy sliding.

the ceiling. This placement also makes it possible to raise the height of the parapet. Window frames and mullions, especially in the case of double windows, reduce the light-admitting area somewhat; in response, some have used either single-pane glazing or metal frames (or at least hardwood frames), which, however, are more expensive.

Metal windows have the advantage of a thin profile, but their heat loss is 50 percent higher than that of wood windows. For this reason, metal frames are often combined with wood: the window itself is metal, while the casing joints are made of wood, making a more resilient and tighter fit. Where climatic conditions or heating methods permit, considerable savings can be achieved by using single-glazed windows, which are only half as expensive as double windows (and, especially with sliding and double-hung windows, are easier to install). In our climate a simple but double-glazed window is more advantageous. It is cheaper than a double-hung window with single glazing. In the double-glazed window, the air space between the panes of glass acts as insulation. (In fixed-glass windows, it should be possible to seal the panes hermetically and fill the space between the double glazing with some kind of colorless gas with better insulating properties than air, possibly also facilitating a better transmission of ultraviolet rays.)

Studies of the problem of the minimum dwelling and attempts at more economical solutions of its floor plan have shown that when floor area is reduced, windows become more difficult to deal with: what is needed is a window that will not obstruct space when opened and that does not protrude inside the room, since an open window of standard dimensions may take up 15 to 20 percent of the overall area of a small room. This is nearly one-fifth of the apartment and poses a serious problem by obstructing potentially usable space for placing furniture and moving about. Windows that pivot around a vertical central post, so that only half or a third of the window projects inside the room with the rest projecting out, are one answer to this problem. Windows that open entirely to the outside have been used in some cases, despite their drawbacks. Other solutions include tilting or combined pull-down and tilting windows, with a strong preference for vertical or horizontal sliding windows.

Vertical sliding windows are common in North America. They possess certain ventilating advantages: the upper leaf can be slid open for ventilating purposes, or can be aligned with the lower leaf halfway down to allow the air to circulate through both the top and bottom openings. Vertical sliding windows are not recommended for use in minimum dwellings, mainly because of their complicated pulley mechanism and their difficult installation, which makes them more expensive than horizontal sliding windows. Of course, further reducing the cost of horizontal sliding windows and eventually pivoting windows as well would be desirable, for they are currently still too expensive for small apartments. In countries with a mild climate, where tightness is not of great importance, acceptable sliding windows are cheaper and therefore used much more frequently. Industry needs to continue its work to improve horizontal sliding windows, which so far still represent an unsolved problem, whereas hundreds of models of vertical sliding windows are flooding the market, especially in the United States.

Aside from cost, the choice of a window system is determined above all by climatic conditions. For this reason alone, it would be desirable to test all new window models thoroughly for water- and airtightness: the results of tests currently conducted by various research institutes show a rather wide range of performance. The best examples of technically superior tight windows are the windows of a modern railroad coach or an automobile. The railroad window is designed in such a way as to separate the function of ventilation from that of admitting light: instead of the top ventilating leafs on a pivot used in domestic-type windows, the railroad vent can be operated by means of sliding ventilating baffles that are manually adjustable

but tight. The window itself is made to slide separately into a recess below. The window of an automobile is made of strong safety glass (shatter-proof, reflective) without a frame. It is lowered by turning a crank. The application of these principles to domestic uses has yet to be explored. One reason may be that lowering a window into a pocket in the parapet is currently still too expensive. Because of its mechanical complexity, the problem of the window is not an easy one to solve, particularly since it is expected to satisfy not one but three basic functional tasks—providing ventilation, lighting, and a view. At the same time, it is expected to be perfectly airtight, which is, in effect, a contradictory requirement.[4] The window is the eye of the house, its periscope to the outside world; hence the tendency of architects to make it as large as possible, while at the same time dividing it by mullions as little as possible. Of course, if necessary a large window can always be curtained off, shaded with a pull-down blind, or completely darkened by a wooden shutter. Except for the overly heavy, squeaky, but otherwise highly effective and practical wooden shutters, industry has yet to find a good solution for shielding large glazed facades.

With the introduction of electric ventilators, air exhausts, and other heating and ventilating systems, the window has lost much of its importance as a ventilating device. Be that as it may, modern building regulations have recognized this change and now require that every inhabited room has to be permanently ventilated either mechanically or naturally. It has been found that the height of the room has no effect on the quality of inside air, once continuous ventilation is provided: from the standpoint of hygiene, even the smallest dwelling space is unobjectionable if equipped with continuous ventilation (the exhaust of foul air and intake of clean air). In contrast, a large unventilated room may actually be more harmful to health. Research has also shown that work is less tiring in continuously ventilated rooms. Since thorough airing of a room with windows alone can only be achieved by means of cross ventilation—that is, by inducing an air draft—the question of ventilating systems is one of the most important factors to be considered in ensuring good hygienic conditions in housing. An ideal ventilating system is therefore essential, especially if one intends to reduce the overall volume of the rooms in an apartment and particularly their height, which current building codes have judged as unnecessarily generous: lowering the height of rooms yields lower construction costs.

The separation of the ventilating function from the other functions of the window makes possible the substitution of a glass wall for individual windows. This leads to another conflict of functions: to the extent that climatic and meteorological conditions permit, it is desirable to link the interior of a house with its exterior. But if a fixed glass facade wall is used, it directly conflicts with the intention to open up the building volume to the outside. This conflict can be resolved only by conceiving the house as a combination of hermetically closed spaces and the open outside: that is, enclosed rooms and spaces on the one hand, and open terraces, ve-

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4) Contradictory functions of the window:

1. To admit light and at the same time isolate the temperature of the interior from that of the exterior.
2. To ventilate. This was eventually solved by separating the function of ventilating from that of lighting. A glazed facade does not perform a ventilating function, which has to be provided instead by special mechanical devices. It is here that we encounter the most profound contradiction between ventilation and lighting: namely, the incompatibility between the glass facade and commonly used heating systems. This incompatibility is the cause of the technical inadequacy of many modern buildings, which are difficult to heat and which, on a warm, humid day, tend to become insufferably hot. Le Corbusier's proposal for a hermetically sealed house is an attempt to solve this problem.

randas, and balconies on the other. In both cases, modern heating/ventilating installations (or something similar) must be introduced as an indispensable complement to the glazed facade wall (whether made of transparent, translucent, opaque, clear, or colored glass). In other words, we are dealing here with a window transformed into a wall, whose only function is to bring in light, and not to provide ventilation. This new concept requires careful coordination between all aspects of the structural frame, and between the glass facade on the one hand and the heating/ventilating system on the other, to ensure the even admission of light and air without regard to outside temperature (viz., the Penelheating system, the Carrier hot-air system, Le Corbusier's "exact air" circulation concept for his hermetically sealed house, and so on).

The window transformed into a fixed glass facade wall has the advantage over windows that open in that it significantly lowers heat losses from the interior: glass as a generic building material actually provides high levels of insulation, both thermally and acoustically. The problem is tightness of fit. For example: a tightly fitting single-sheet glass window that is fixed has a higher coefficient of resistance to heat transfer than a loosely fitting double-glazed or an openable casement window. In practice, fixed glass facades and hot-air circulation systems are currently only economically feasible for large office, commercial, and school projects; they are still much too expensive to be used in the construction of residential housing. Similarly, special kinds of glass (e.g., Vita-Glas) that allow the passage of ultraviolet rays, so important for harnessing the disinfecting power of the sun's rays are currently still used infrequently because of their high cost: at best, it is possible to glaze a small area of an individual window equipped with such a specialty glass and position it so that the sun's rays that pass through the special section will be able to spread through the entire space of the room. An example of this arrangement is the bedroom windows of the hostel of a worker's school in Bernau near Berlin (designed by Hannes Meyer), which have their upper (ventilating) section glazed with such a glass and which are positioned so that the sun's rays passing through these panes irradiate the surface of the beds during certain hours of the day.

In order to admit as much sunlight as possible, windows should be shifted toward the wall on the right in a room oriented east and the wall on the left in one oriented west. In rooms oriented south they should be placed as high as possible, near the ceiling. For even illumination, which is more important than intensity, the top recess of the window should be as shallow as possible. Ideally balanced levels of illumination may be achieved by placing windows high (in some cases on top of a very high parapet), preferably right against the ceiling. Such a placement will reduce the contrast between minimum and maximum light intensities, since intensity of light decreases only slowly with distance from the window.

doors

Just like so-called classical windows, Renaissance-type doors and double-leaf "portals" are out of place in a modern dwelling—even more so in a small apartment. Modern doors must conform to human dimensions, generally obeying a norm of approximately 80 × 200 cm or, according to the Frankfurt norm, 65 × 197 to 90 × 197 cm. Glazed doors are functionally equivalent to windows, be they balcony doors or doors between interior spaces. If glazed, they serve the same function as large windows. Just as the facade wall has been transformed into a giant window, so interior partition walls can now be made transparent with the use of sliding, folding, or other glass doors, or they can be replaced entirely by clear or opaque glass partitions. Regrettably, all these options have very little practical value for small apartments. As far as solid doors are concerned, smooth laminated plywood doors with metal frames are

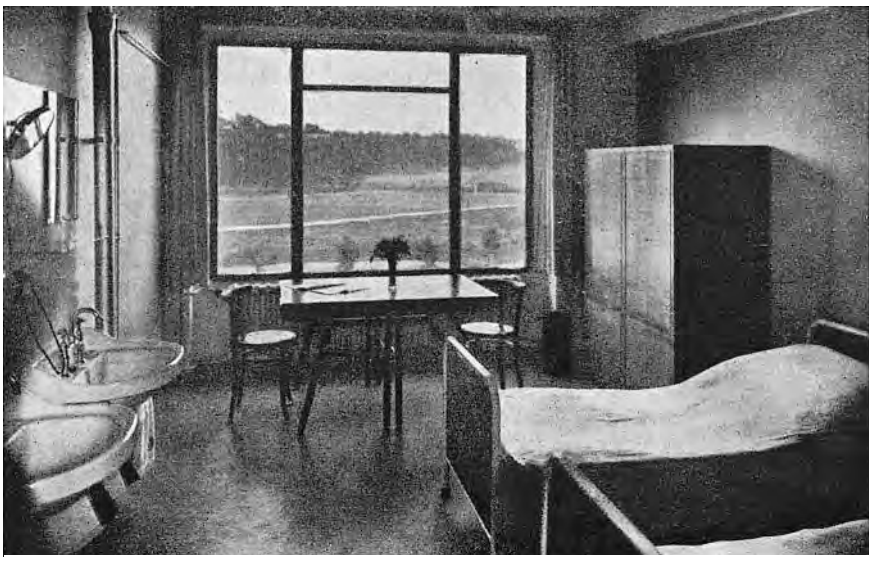


Photo W. Peterhans.

Hannes Meyer: Room for two beds in the dormitory of apprentice school in Bernau, near Berlin
1928–1930

The apprentice school shown above—one of the purest and most accomplished examples of modern architecture—serves as inspiration for the solution of collective dwelling. The project is a definitive forerunner for a solution for a housing commune. In particular, the dormitory represents a superbly designed live-in cell (for two persons, intended for temporary occupation). It is a space shared by two persons who live and work together, and thus their living environment is shared as well. The movable side lights of the windows are glazed with a glass that allows the pasage of ultraviolet light to enter the room and land on the surface of the two beds inside.

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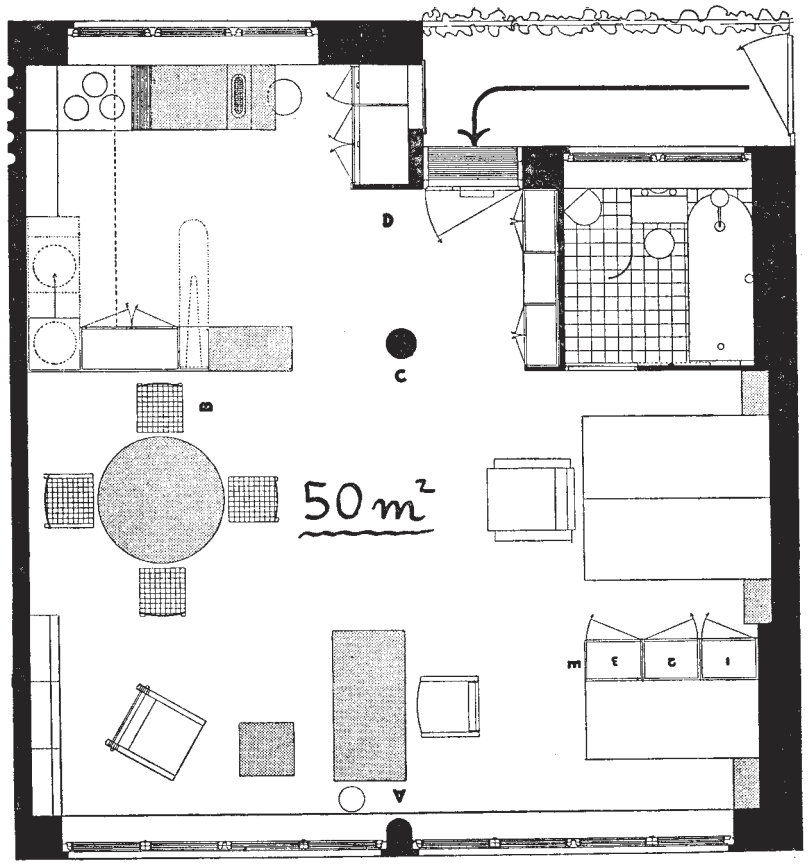
currently the preferred choice. In a small apartment, sliding doors may in many cases be more advantageous. Their use may lead to more economical utilization of an already small usable floor area, otherwise obstructed by the leaves of open doors on hinges.

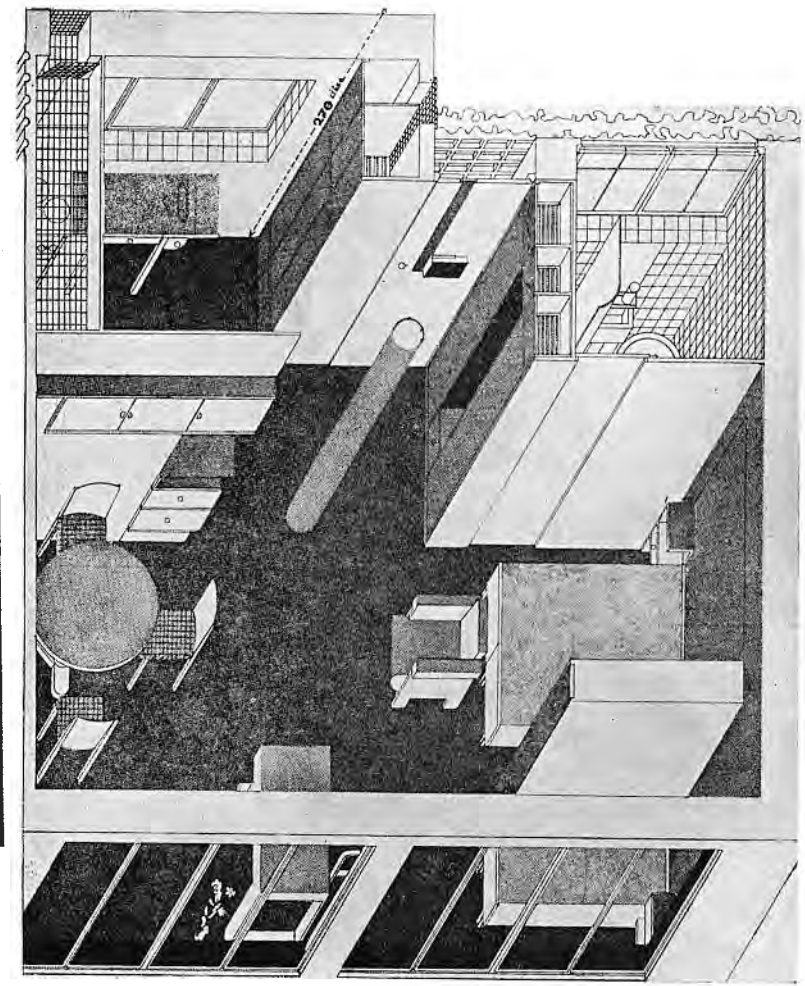
walls

In modern skeleton construction, bearing walls are replaced by posts: neither the facade wall nor the interior walls fulfill a bearing function any longer. This means that they can be easily transformed into glass surfaces and made movable, whether sliding or folding. Similarly, the former interior structural dividing walls become transformed into light, nonbearing partitions. In modern brick construction—that is, in buildings with transverse brick bearing walls—these are only used to separate neighboring apartments and carry the structural supports of the floors: the interior of these apartments thus can be subdivided by light, self-supporting partitions made of a great variety of lightweight materials. Glass partitions are still quite expensive. As mentioned before, it is the Japanese house that has demonstrated the advantages of light, sliding partitions. As far as the color of walls is concerned (painted, wallpapered, or the natural color of the material), the problem is quite complex, but can be schematically reduced to the following concerns:

1. Balancing the dispersion of light (ability to reflect light)
2. Orientation
3. Psychological effect on the emotional disposition of dwellers

Today, walls previously left monochromatic or stenciled with old-fashioned ornament could be replaced by abstract neoplastic and suprematist compositions made up of rectangles and





K. Kupka, 1928
Furnishing a minimum flat (50m²).
First prize in the competition of the "Svaz Českého Díla."
Realized by SBS Co.

"50 m²" shows a scheme for furnishing a popular apartment in a rental house. The house is designed as a multistory walk-up, single-bay type. Two apartments are served by a staircase from a balcony, sufficiently wide to have chairs and a table placed on it. The house is equipped with central heating and kitchen gas stoves. Common laundry and drying room are located on the top floor. Kitchen, service rooms, and baths face north. The gas stove, sink, and hot water heater are placed in a nook next to a window. The nook is also ventilated mechanically. The food storage closet is ventilated naturally. Bathroom, toilet, and washbasin are accessible directly from the bedroom. The bathroom walls are finished with white ceramic tiles. The floor of the whole apartment is covered with colored linoleum, of black or blue color. The hall, which is hardly needed in such a case, has been omitted altogether. All interior partitions are reduced to a minimum. The walls are covered with monochromatic wallpaper. Each facing wall has a different color. The ceiling is white. The apartment is designed to accommodate a family of three. All furniture is made with an interior wooden frame, covered on both sides with plywood. The plywood is of different colors. The living room is cherry, with a brushed finish. Kitchen and wardrobe are colored yellow, with a brushed finish. All interior surfaces of drawers and shelves are—where required—also painted. Near the entrance, placed on the wall of the bathroom, is a large built-in wardrobe, up to ceiling height (made of sections), equipped with various hooks and pivoted hangers for the storage of clothes, etc. It is painted yellow inside and out. The apartment can accommodate three beds. The kitchen is not separated by a partition from the dining room, nor are the bedrooms separated by partitions from the living room, thus allowing all dwelling functions to take place in a single open space. Besides, we are living in a time when the need for separate rooms serving different functions is rapidly coming to an end, and there is no need to separate dining room salon, or study from bedroom, etc. Furniture is held to an absolute minimum. Only the most necessary items are supplied. Those included are designed to be functionally efficient and affordable. Chairs are of different type and color, upholstered or with hard surface, as needed. All furniture is movable, freestanding, and finished on all sides.

(Original report of designer.)

Apartment as a universal space, furniture grouped in open corners.

K. Kupka: Furnishing of a minimum apartment.

Stuttgart

Floor plan of a small apartment (57.4m²) in a walk-up rental house.

Exceptionally deep plan and narrow frontage. Bedroom, bath, toilet have no natural daylight and ventilation. Glass partition walls. American mechanical ventilation system.

circles: but ultimately, the calm of a large, single-color surface has won out. Walls should be treated as an important architectural device to utilize, not as a colorless surface. Loos may have envisaged the city of the future as a "white scion," but he seems to have forgotten that in an absolutely colorless space we become disoriented, for man requires a certain color contrast between objects in empty space and empty space as such, that is, between the body and its environment. Color is vital for human existence, both physiologically and psychologically, and it is just as important as light, air, water, wind, smell, movement, and sound are for biological survival: life thrives when surrounded by colorful architectural surfaces. Color orients us in space and at the same time articulates and organizes space. Colorless, gray space is blind. Too much color confuses our spatial perception. The world of a sunny day is inseparable from color.

Color has the ability to open up space and enlarge it optically. This is important for the design of small apartments. Our eye is innately accommodated to yellow. Black color appears to the eye as advancing; green, blue, and purple as receding. This is not just an optical illusion but a real color tropism. On a dreary day, a bright color is a substitute for sunshine. In their attempt to eliminate all ornament and decoration from the dwelling, some modern architects have sometimes gone so far as to reject even color as useless decoration, giving birth to the fashion of pure white "hygienic" interiors and exteriors. Color in architecture (provided it is not abused as a painterly mannerism, as for example in the polychromatic architecture of Doesburg, or the painted facades by Bruno Taut in Magdeburg), should therefore be viewed not as mere decoration but as energy. Besides, white color is not harmless: too much of it irritates the optic nerve. Orange stimulates; red mildly excites; green is neutral, healthy for the eyes and soothing, as is blue (sky blue), which enlarges space optically; darker blues have a more melancholic effect. A wall with windows, because it appears optically illuminated less than do the other walls, should always be white, as should be the ceiling. The decisive factor in the choice of color is the orientation of the room with respect to the sun. Walls fulfill a different function in the balancing and the dispersion of light and should be of suitable colors. Interiors should not be jumbled. That does not mean that all walls should be of the same color. The science of color perception is still undeveloped, and so far we do not even know for sure how color affects the functioning of vision, but it is certain that color has an important influence on our mental state and moods and that man responds vitally to color stimuli, both universal and subjective. For example, in the Lumières' factories, where the workspace was illuminated by ruby red windows workers performed their tasks faster and women workers had more children than in a normally lit environment. When the workers moved to other workshops with green illumination, both productivity and fertility dropped precipitously! It is well known that psychiatry uses colored light for therapeutic purposes, and that plants vary in their growth rates in hothouses of differently colored glass. In choosing a color scheme for a room, one should consider only those colors that can be accommodated by our eyes without difficulty, never colors that will irritate our eyes, such as certain red-purple hues and combinations of red and blue (because the human eye is incapable of accommodating itself to either one of these hues simultaneously, it becomes quickly fatigued). Similarly, it is advisable to use bright colors with restraint, since they too are bound to become tiresome. This implies a bright but not a flashy color scheme. A square meter of bright color will dominate a room much more powerfully than a larger surface covered with diluted pastels or neutral colors. In addition, color tends to evoke not only tactile but also thermal sensations (i.e., cold and warm colors).

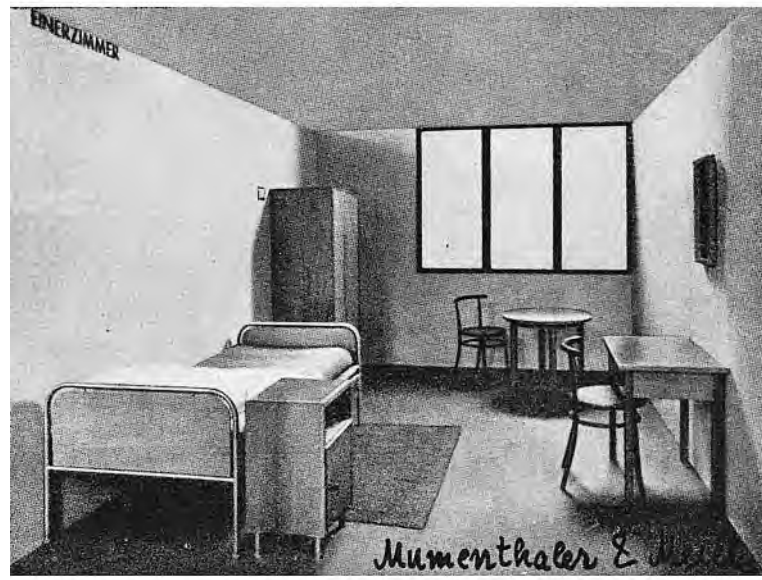
Basel 1929

Exhibition of standardized furniture (Gewerbe-museum).

Artaria & Schmidt

Family living room.





Mumentha-ler & Meier

Room for a single person.

Mumentha-ler & Meier

Family living room with sleeping sofa.



furniture

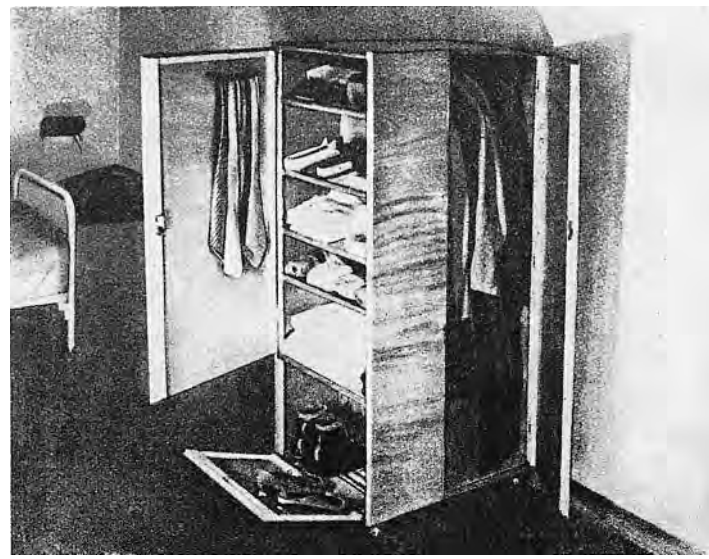
The first task of modern architecture in its reform of housing was not to decide how to furnish an apartment but to get rid of old furniture. This meant to clean up the heritage of bourgeois apartments of the nineteenth century: all those fancy glass display cases, jardinieres, cuckoo clocks, and all the other accumulated authentic or fake trinkets that the bourgeoisie in their passion for antiques and folkloric items had hoarded in their rooms. Thus, the first task was to reduce the number of pieces of furniture. Next, it became necessary to reduce their dimensions, by shrinking former thrones to the size of an ordinary armchair and transmute colossal sleeping sarcophagi into regular beds. At the same time, it became evident that furniture making would have to change from a simple art and handicraft into a branch of home engineering. Nevertheless, furniture making is still encumbered with petit bourgeois stylistic and fashionably decorative conventions (to a much greater degree than building construction is) and is still constrained by nauseating compromises between neglected functionality and empty gestures of surrogate decorative-monumental-exhibitionist form. Along with the continued employment of ostentatious, ornate furnishings in salons and other representational rooms, a "simplified modern" style using less ornamental forms gradually became more accepted; this led to the development of purely utilitarian furniture, designed to serve authentic practical and intellectual needs. It was Adolf Behne who made the astute observation that "the first sensible functionalist form of medieval furniture was the reading desk." And so, while salons, dining rooms, and bedrooms in Europe followed the vagaries of upscale fashions of art, the first perfectly functional designs made their appearance in the shape of American office furniture, metal hospital furniture, luggage, garden chairs, tables and benches, Thonet chairs made with bent wood, and so on. In fact, a genuinely modern furniture industry, offering quality and exemplary functional apartment furniture, came into existence only a few years ago.

Norms for functionally designed furniture are established by grafting the properties of the human scale onto standardized forms of things: for example, the design of American office furniture is entirely derived from the standardized paper sizes for typewriters and anthropometric determinations of human dimensions, so that one can, for example, sit at a desk with all drawers easily within arm's reach. The dimensions of a book shelf are equally dictated by standard book formats and the radii of human motions. So are the dimensions of a wardrobe: wide enough for clothes, hangers, drawers for underwear, shoes, and so on. Old furniture, whose dimensions and make-up were designed to accommodate dress coats and crinolines in the past, needs to be redesigned to the requirements of modern clothing, such as overalls and sportswear. In the same way, standardized dishes and cutlery dictate the design of standardized kitchen cabinets and other kitchen furniture. Furniture is most closely linked to the normative order of human needs; thus, once those needs are understood, we will succeed in arriving at an inventory of what furniture is truly necessary and indispensable. Moreover, this implies that it will be possible to reduce the amount of furniture now used by eliminating redundancy. For example, a person needs to sit while working, eating, and resting (each of these postures implies its own type of chair, unless we learn in the future to sit and sleep on the floor like the Japanese); he or she needs a table for work (writing and kitchen work); a closet for clothing, linen, and dishes; shelves or cabinets for books; and finally, a mat for sleeping. That is about all.

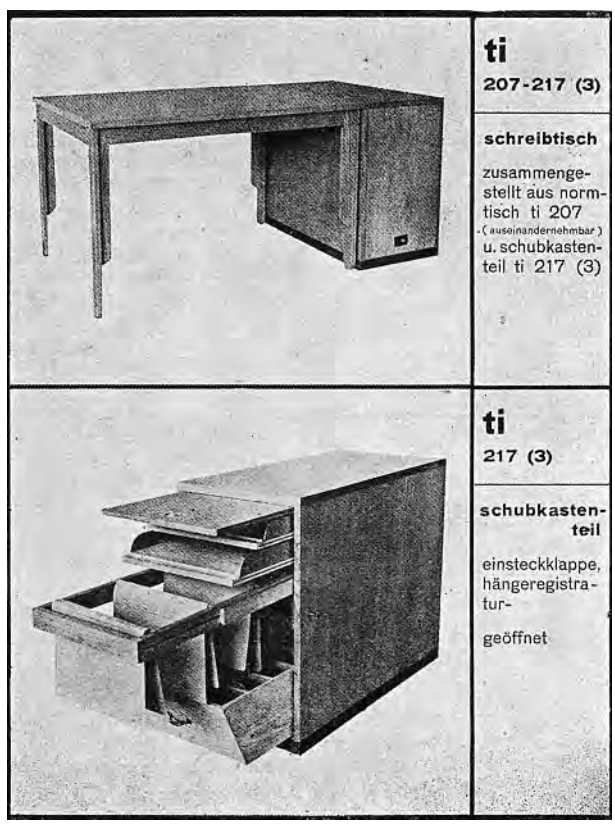
Less should be more, especially in the minimum apartment, where every nonessential piece of furniture becomes a hindrance. In a small apartment it may even be necessary to combine the functions of various furniture pieces so that a single item can "help out" and serve a number of different tasks: instead of a bed and sofa, a sleeping sofa; instead of a bookshelf and a

Bauhaus-Dessau 1930

Clothes storage closet placed in corner of room; movable and portable. Can be closed like a suitcase.

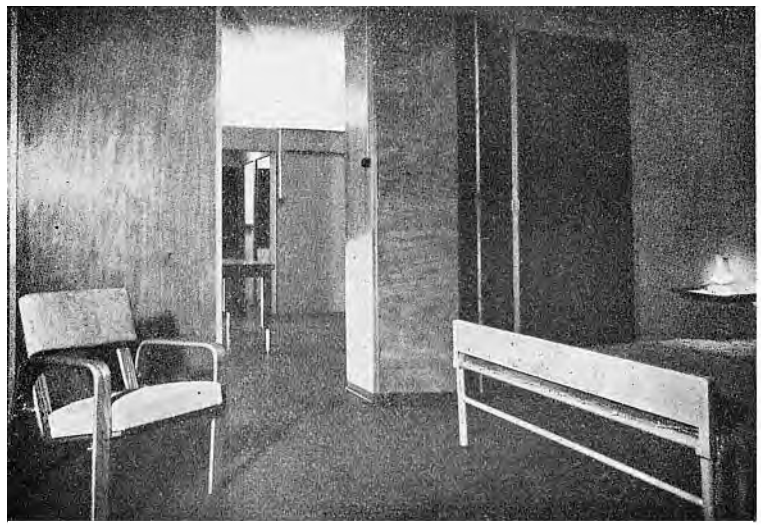


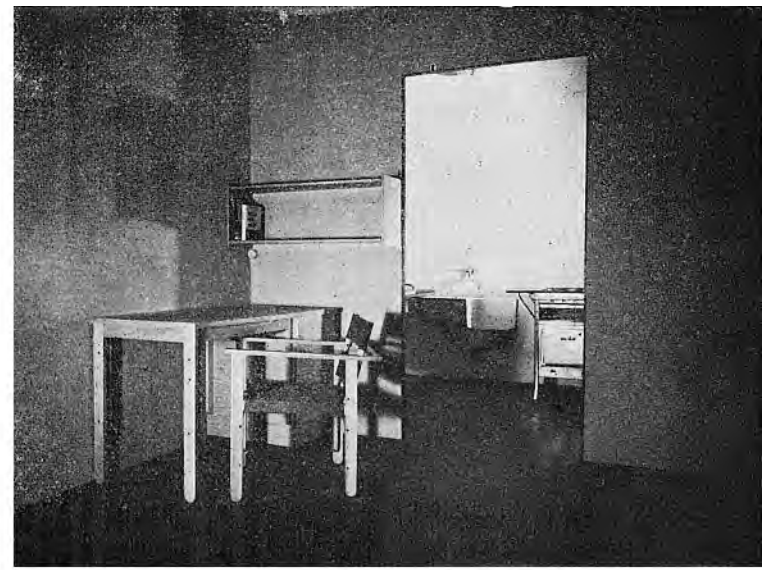
Furniture for people living outside the family household.



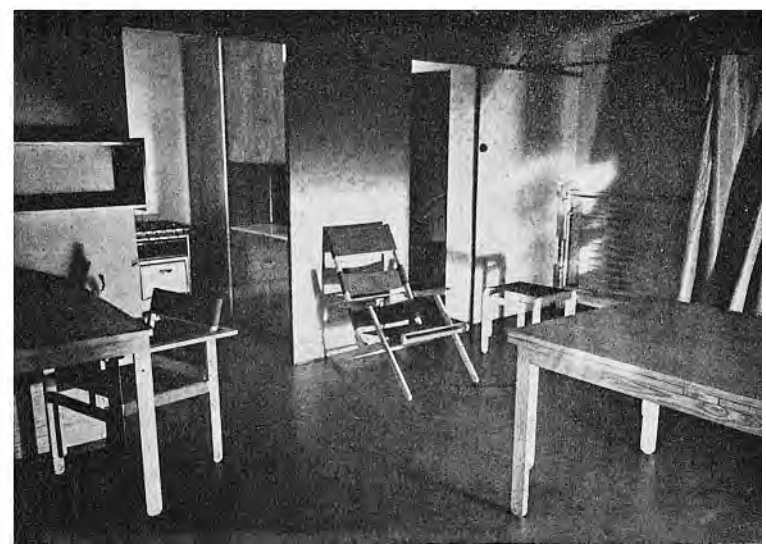
Bauhaus-Dessau 1929

Writing desk, can be combined with chest of drawers with sliding shelf, or used separately.





Bauhaus-Dessau: Furnishing of a popular apartment with one room and kitchen. **1929**



Under the leadership of Hannes Meyer, the Bauhaus workshops in Dessau systematically explored the problem of popular dwelling and its furnishing. Hannes Meyer coordinated the work of the furniture and textile workshops to deal with this problem as well. The architectural division worked out solutions for the Törten colony in Dessau, realized in 1930; standardized furniture models for popular housing of the boardinghouse type were developed in coordination with the workshops, aimed at single persons living outside the family household.

writing desk, a secretary connected to a bookshelf. The need to economize and save space calls for strict limits on the dimensions of furniture, as well as reducing its size with folding mechanisms—for example, folding chairs, drop-leaf tables, collapsible beds, and so on. Here, too, the furnishings of a railroad car provide the model. It is obvious from the preceding that furniture reform must be considered fundamental in the design of a minimum dwelling. Once the decision has been made to reduce the area and the spatial dimensions of the apartment, its layout will no longer be able to accommodate old furniture, which will prove to be too large and cumbersome and will make movement in the small rooms difficult. Besides, the bulkiest items will be too large to be carried in or out through the apartment's narrow doors. If we assume that a so-called minimum apartment ought to be furnished with old furniture, it becomes very difficult to significantly reduce its dimensions. In terms of cost, this means either save on cubic space, which requires spending more on new furniture, or avoid spending on new furniture but lose the possibility of saving on space. The answer is clear: only by improving furniture and installations, by utilizing their potential to the limit of their functional capacities, and by rationally apportioning every centimeter of space can one provide an apartment of small dimensions with an acceptable level of comfort.

The reduction of furniture implies the abandonment of so-called completely furnished rooms. In other words, get rid of furniture sets as currently sold by the furniture companies, which are frequently made up of completely useless pieces, added to otherwise necessary items. These are sold as "coordinated" ensembles to increase profits. Any one of these coordinated sets—dining, library, bedroom—invariably includes such useless items. Furthermore, each individual set is configured in such a way that it cannot be used in, or simply does not fit into, a small apartment. Therefore, the furniture inventory of a minimum dwelling must be as spare as possible. For this reason, each and every room has to be equipped with furniture that will satisfy its specific dwelling functions: sleeping, working, resting, eating, dressing, and so on.

As outlined above, the specifications for a minimum apartment of the most advanced type are in essence the following: one, two, or three habitable rooms, plus a small kitchen reduced to a single piece of furniture, comprising a kitchen cabinet with a burner, a sink, and a work surface. The furniture of a minimum apartment should satisfy in the simplest and most practical way all basic dwelling functions: a sleeping couch (or, if there is a great need for space, a Murphy bed or wall folding bed), a small table, a few chairs, possibly a Morris easy chair, a rocker, an upholstered easy chair, a clothes closet, a bookshelf (shelves or cabinet), a writing desk (or secretary), and a folding table near the bookshelf or cabinet. The living room for a single person, with a size of 9, 16, or 20 m^2, should satisfy all dwelling functions and—at the same time—provide sufficient open space for moving about, even if no communal dining is provided. It should be provided with as few pieces of furniture as possible, which thus take up as little space as possible. Assuming that the bourgeois apartment of the nineteenth century had an average ratio of area covered by furniture to that of unobstructed space of 3 to 1 (but always more than 1 to 1), in a modern apartment this ratio should be reversed in favor of free space, between 1 to 2 and 1 to 3.

As far as materials are concerned, wood is being increasingly replaced by metal in furniture, mainly because of initiatives of the steel industry, which is trying to create new markets for its products with metal items such as metal cabinets, tables, and chairs, and even beds made of steel tubing and similar constructions. The competition between wood and metal has not been settled as yet, and it probably will never be decided one way or the other. Wood will probably not remain the sole material used in modern furniture; it will more likely be used in combination with glass, sheet metal, tubing, asbestos, rubber, fibers, and so on. Chrome and nickel

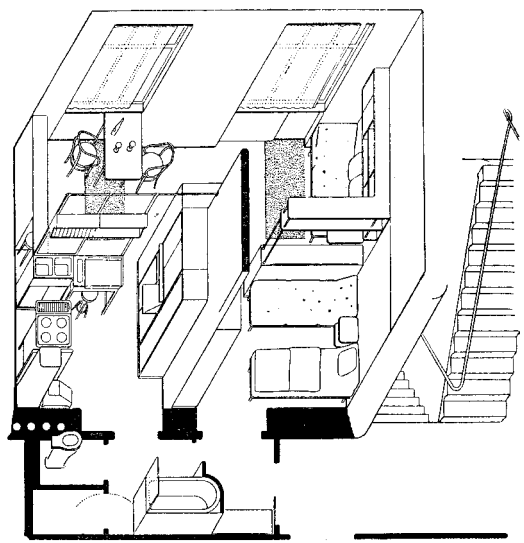
furniture is currently much in fashion, but is more expensive than furniture made of, say, bent or molded wood. With proper processing, soft wood is just as good a material as hard wood, and much cheaper.

Functional furniture is not an accessory but an organic part of a good functional apartment floor plan. For this reason, furniture must be coordinated with other dwelling installations as integral to the design of an apartment layout. Current developments indicate a trend toward renting completely furnished apartments, akin to bachelor flatlets and residential hotels. This relieves renters of many inconveniences connected with moving (all they bring along is their luggage and books), as well as saving them the expense of having to purchase their own furniture. Rentals of furnished apartments should be of tremendous advantage to people on the move and should make a change in living accommodations much easier. However, in the current economic climate it is virtually impossible for minimum income groups to afford this option. An substitute solution between the extremes of renting either a fully furnished or an empty, unfurnished apartment is an apartment equipped with built-in closets. Apart from providing a storage function, these built-ins also save considerable usable floor space in small apartments.

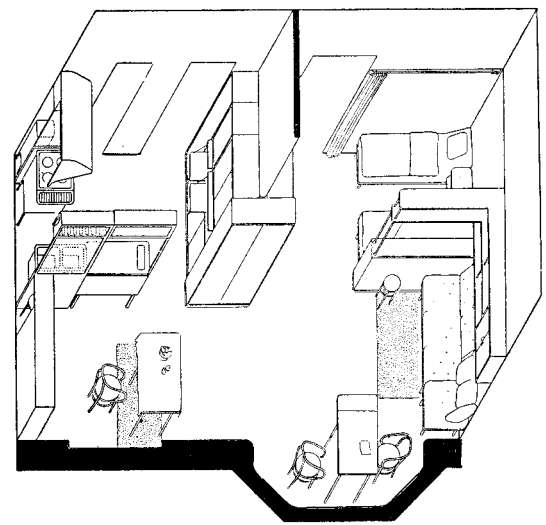
As mentioned before, the mammoth furniture of the nineteenth century is of no use in a minimum apartment, and so the poor are forced either to give up their inherited furniture or to rent an apartment that is unnecessarily large and expensive. Interestingly enough, older pieces of furniture of the Biedermeier and Empire periods are actually quite easy to use in smaller apartments, because of their more reasonable dimensions. Concerning the adaptation of old furniture to new apartment living, Bruno Taut, in his book *The New Dwelling* [1924], offers renters of modest means invaluable advice on how to adapt and modernize older items: the saw, hammer, chisel, and paint will serve well when there is not enough money to buy new furniture. Discarding ornament, scrapping useless pieces, removing unnecessary parts, and making various other modifications to old furniture will reveal its functional core and can make it useful for small apartment living. Thus, the improvement of the housing standard for low-income people must commence with the problem of what to do with old furniture and with the refurbishment of old housing. Even though this is an emergency stopgap, its importance should not be underestimated.

To the extent that they can afford housing at all, minimum-income groups—especially in low-wage countries—are largely dependent not only on their old furniture, either inherited or bought in thrift shops, but also on living in old houses, which tend to be cheaper than new housing. The rehabilitation of apartments in old buildings, especially those dating back to the turn of the century and the beginning of the twentieth century (which also includes decrepit new speculative housing), is obviously more difficult than just adapting old furniture to modern use: in most cases it would be difficult to rehabilitate these old houses without certain structural changes to their interior—that is, without demolishing interior partitions, moving door openings, and so on. In cases in which the apartment in an old building is very small to begin with, rehabilitation becomes virtually impossible. Any effort at housing reform must also include the rehabilitation of apartments in existing rental houses and rental barracks, which are currently the most prevalent form of dwelling for millions of the poorest segments of the population.

Given the current state of affairs, it is difficult if not impossible to pose the question of the minimum dwelling except as a paper exercise. Certainly, it is possible to point to a number of very advanced technical achievements, and it is equally possible to go on about this or that new high-quality furniture item. And, of course, one can always point to a few examples of modern architecture of outstanding cultural value. But that is about all. Trade shows and



1.



2.

Ladislav Žák 1929:

Proposal for the conversion of the interior of an old building into small apartments.

1. Demolish wall between kitchen and the adjacent room and reduce size of kitchen. In place of a single, large room, a space with differentiated functions is created, with sleeping, living, and dining nooks. The hall is converted into a bathroom, which is ventilated through the closet.

2. A similar removal of old partition walls in a larger apartment produces similar differentiated nooks.

industry offer one novelty after the other and an abundance of innovations in household equipment and appliances, without ever asking whether they are really useful or recognizing that only a shrinking number of affluent families can afford them. Worst of all, most of the improvements shown in these exhibitions and offered on the market are useless for the minimum dwelling, simply because the majority of low-income people cannot afford them. Why then all this idle talk promising that the housing problem will be solved by modern technology, when despite all the great innovations in construction and advances in mechanical installations, people still live in unhealthy hovels; and despite the remarkable advances in heating and ventilation technology, hundreds of thousands of urban and rural inhabitants must live without central heating and other technical refinements and instead are languishing in subterranean unheated hovels, unable to afford either heat or hot water? What is the use of all the new patented windows, which so perfectly transmit sunlight, when hundreds of thousands have only a single barred window below the level of the sidewalk or a tiny dormer in a roof attic as their sole source of light, though science tells us that all human beings, and especially children, cannot live a healthy life without sun and light?

The question of the popular dwelling is therefore not a question for architecture alone: it is—above all—a social and political question. Paper projects for rational and hygienic small apartments are not enough. These projects will not eliminate the misery of current housing conditions—the inhumane rental barracks, hovels, and run-down apartments in old houses. The struggle to improve the housing standard of the workers; the struggle for decent housing that will satisfy minimum hygienic, biological, and civilized requirements; the **struggle for the minimum dwelling** (roughly defined here as a decent, healthy dwelling) will be won not by new, high-quality construction alone but only by a political struggle—for better housing laws, for the socialization of housing, and for the repair and rehabilitation of unhealthy old apartments at public expense. In the final analysis, a **definitive solution** of the housing problem can only be accomplished by the **radical reconstruction of our cities,** and ultimately by the comprehensive reconstitution of the very concept of the contemporary city.

USSR
CCCP

Socialist housing

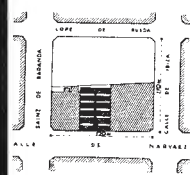
Novo-sibirsk 1932

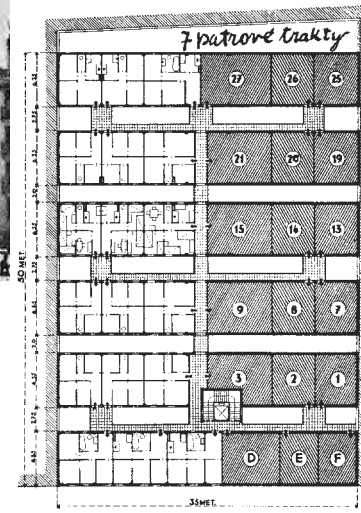


New workers' housing for railroad employees.



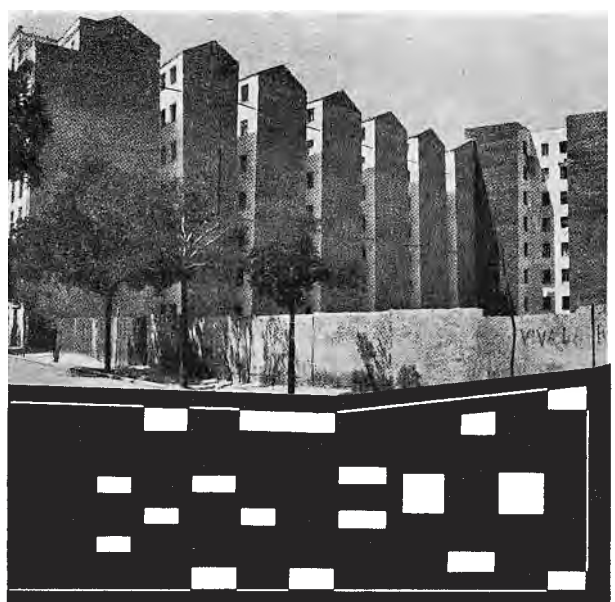






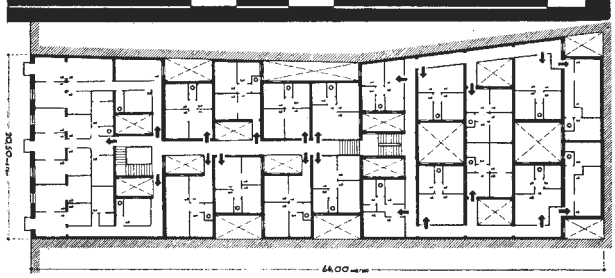
Madrid—Calle de Narvaez, 1930

New 7-story rental barracks. Shocking exploitation of site and tenants Only one staircase and one elevator for the whole building, to serve 1,500 tenants. Floor area per person 1.5 m2, i.e., a density of 6,000 people per hectare. Width of courtyards 2 m, height of buildings 28 m; 277 families live here, 36 apartments per floor, of which 30 face a courtyard. Apartment floor area ca. 26 m2. Three-quarters of the families have no bathroom, not even a tub.



New apartment blocks with small apartments in Madrid (1931)

Madrid—Calle Santa Engratia, 1928



This rental barrack project of an older date is typical for Madrid. Two staircases without elevators per building. 21 apartments per floor, of which 18 face small courtyards and light wells, 2 × 4 m and 25 m deep. Average floor area per apartment is 31 m². 600 tenants live in one of these buildings. Floor area per person is 2–3 m², i.e., 4,300 persons per hectare.

low-, medium-, or high-rise houses? 11.

garden villa colonies ● detached family houses ● duplexes and row houses ● medium-height multistory houses: stair access to single- or double-loaded corridor, terrace, balcony types, or houses with side or central corridors ● narrow vs. wide dwelling units ● high-rise housing ● discussions at the Brussels international congress of modern architecture ● collective mega-houses

Any solution for the floor plan and for organizing the operational regime of an apartment cannot be considered separately from its construction type, be it a detached house or multistory apartment. Each is influenced not only by different construction systems but by a different composition of the floor plan as well.

As stated before, the freestanding villa is not a suitable candidate for a minimum dwelling, for reasons besides the high expense of its type-specific construction processes. Villas of the type "small, but mine" are a misguided and illogical answer to the problem of the minimum dwelling. To dwell on the uneconomical nature of this housing type as an approach to the minimum dwelling for the classes of the subsistence minimum would be a waste of time and effort. Even one of the most ardent propagandists of garden cities with low-rise houses, the Berlin director of construction management, Dr. Martin Wagner, has acknowledged this fact.

As discussed in chapter 2 of this volume, a whole mythology has developed around the concept of the detached single-family home, and it is this mythology that permeates the very essence of its social and economic being. One result has been the development and encouragement of a kind of psychosis that sees the detached family house, sitting independently in the center of a garden, as the symbol of quiet family life, an illusory return to nature and whatnot. This cottage mentality is supported and propagated from all quarters by the most peculiar arguments. The English garden city movement saw in this house a means toward the salvation and the restoration of the health of the cities and humanity. It is only the experience of the last years that has demonstrated to the advocates of the *Flachbau* [low-rise development] that the idea of housing millions of people in detached houses is economically a fantasy, besides making transportation within cities virtually unworkable.[1] In addition to these considerations, the

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[1]) Of course, this assertion has only relative validity, with respect to local economic conditions. We do not wish at all to imply that a relatively large house, which may be the most advantageous solution today, will remain forever the exclusive construction and dwelling type. One cannot exclude the possibility that in an epoch of complete de-urbanization and dispersed settlement, the small house will come into use again, albeit on a higher level—with the difference that this will be not a family home but a house for independent individuals, and that when there are no more cities, large

detached family home must be currently considered affordable only for the affluent and—as far as the workers are concerned—a narrow upper crust of the workers' aristocracy.
A reduction of the cost of a small villa can be achieved only by the serial production of detached family houses, which entails the standardization and mass production of its individual components (windows, doors, etc.). This approach should become even more effective, once a transition is made from the detached house to a combination of duplex and triplex types.
Further economies can be achieved by row houses, either one or two stories high—possibly with two apartments, stacked one above the other, with kitchens and living rooms of both apartments on the ground floor and the bedrooms on the upper floor, positioned symmetrically with respect to a common staircase. Frankfurt's experience has proven that such a row house type represents a feasible economical solution. The very possibility of saving money on construction and operating costs, which in turn makes it possible to lower rents, by grouping together apartments and houses proves that a rental multistory house with a large number of units is a substantially more economical way to provide small apartments than are small single-family houses. Current practice has confirmed that from the point of view of economy, the so-called *Flachbau* of single- or two-story houses—whether row house, freestanding, or duplex type—cannot compete economically with a house with a greater number of floors, even after taking into account the extra cost of stairs and corridors in multistory houses. Obviously, other factors, such as the cost of land, water and sewer installations, cost of capital, and so on, have far more influence on the price of low-rise houses than on medium- or high-rise solutions; equally, comfort amenities for small single-story houses are relatively more expensive per unit than for multistory housing.
Assuming that the multistory house with small apartments is more economical than a low-rise house, the next question to be asked is **which type of multistory housing and what number of floors** will provide the greatest savings construction and operating expenses, while at the same time satisfying the minimum health and safety requirements expected of all decent housing. This question cannot be answered in isolation from site-planning considerations, since—as we shall demonstrate later—row housing (*Einzelreihenbau*) is currently being promoted as the solution most favored from the point of view of cost and transportation and as providing the most advantageous conditions for healthy living. For these reasons, we have decided to take the detached single-family house as our point of departure in the following discussions on the question of high- versus low-rise solutions.
Until recently, the **multistory stairwell house** was considered the most economical building type for multiple-unit housing. Using Schwangenscheidt's theoretical calculations, Ernst May concluded that under optimal conditions, an outside gallery multistory house is 8 to 10 percent more expensive than a stairwell type with the same number of apartments or floors; but he decided that the open gallery type was more desirable as promoting healthier living. Yet despite May's recommendation, whenever it was deemed necessary to realize maximum savings in construction costs in popular housing, the stairwell type was used. Further economies in the stairwell type could be gained in only one way, namely by clustering the greatest possible number of apartments around a single stair landing. A good example of this strategy is Anton Brenner's Vienna houses, where he has managed to group up to eight apartments around a single stairwell, with four apartments served by each individual landing.

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houses typical of **today's cities** will be abandoned. The rural single-family house in the central and west European countryside is indeed a deep-rooted form of dwelling type even in our day, but its architectural level is generally very poor and backward. A certain improvement of quality and cost for country houses could be achieved by using modern techniques of construction with wood.

Mannheim

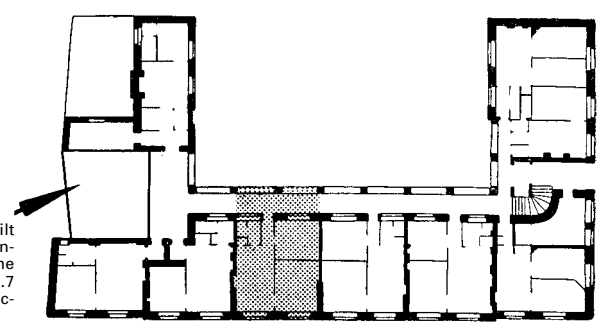


Example of open gallery–type housing for French workers employed by the Mannheim Glassworks.

Another solution aimed at obtaining the greatest possible number of small apartments on each floor combines the open gallery type with the stair type, so that stair landings are connected to short, open galleries leading to the apartments. This tendency to group as many apartments as possible around a single staircase, and thus lower overall costs by reducing the relative cost of stairs leading to open or closed corridors, has led to the widening of regular double-loaded sections into sections two, three, or even four bays deep. Because of their excessive depth, such solutions must be considered undesirable from the standpoint of healthy living; the resulting apartments will not be able to receive proper sun and ventilation, and their corridors will be inadequately lit and ventilated as well. It goes without saying that a double-loaded type with a central corridor between two rows of apartments will be more economical than the open gallery type or a house with a single corridor on one side, since the cost of gallery or corridor access can be distributed over twice as many apartments. However, these savings must be weighed against the disadvantages: apartments of the double-loaded corridor type will get sunlight from one side only and lack cross ventilation, and the central corridor will receive no natural light along its entire length.

In principle, the double-loaded corridor solution should be admitted only where the corridor is terminated at each end with windows and is no longer than 20 meters, or is periodically interrupted by the insertion of open verandas, designed to provide the corridor with lateral access to direct daylight. In considering the conventional double-loaded stairwell type, the fact that no more than eight small apartments can be grouped around a stair landing per floor

Bloomsbury



Example of an open gallery–type house, built during the first three decades of the 20th century. The apartments are separated from the open gallery by service rooms. Floor area of 40.7 m^2: kitchen 2.8 m^2 (!), living room 17.3 m^2, second room 7.2 m^2, bedroom 10 m^2.

should always be kept in mind as its principal disadvantage. This also severely constrains the number of floors that can be efficiently served by each single stairway, thus limiting the economies to be gained from increased height. If we assume that it may be possible to do without an elevator up to a maximum of five stories (manually operated freight elevators should be installed even in three-story-high houses), then it will not be possible to build stairwell-type houses more than five stories high. Moreover, the maximum number of small apartments per floor served by a single stair in a double-loaded corridor house—never more than eight—is too low to justify the additional cost of installing and operating an elevator; and the cost of stairs, even in buildings without an elevator, already is a significant portion of the overall construction budget.

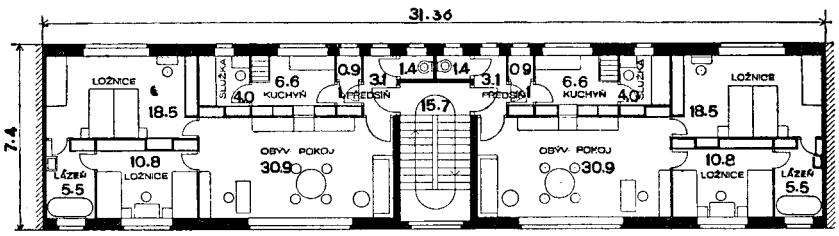
As part of the discussions on the subject of high-, medium-, or low-rise houses held during the Third International Congress of Modern Architecture [CIAM] in Brussels, the Frankfurt architects **Kaufmann and Boehm**—now working in Moscow—presented an overview of their calculations as to what type of housing with what number of stories is economically most advantageous when designing small apartments. They used a generally accepted small apartment floor plan of 40 to 42 m^2, accommodating four to five beds (i.e., a plan with a deep section, an economically more viable option than one with a long, narrow section).[2] For row housing (*Einzelreihenbebauung*) they decided to base their calculations on a scheme in which the house rows are positioned at right angles to the streets and the distance between the houses adds up to twice their height, resulting in a population density of approximately 350 persons per hectare (p/ha) for low-rise development and about 600 p/ha for medium- and high-rise development—densities that the authors considered acceptable from the point of view both of healthy living and of traffic conditions. (The density in old residential districts in European cities is on the average 700 to 800 p/ha; in overcrowded districts, it may be as high as 1,000 to 1,500, and in rare cases even 2,000, as in Warsaw, and up to 2,500 p/ha in Madrid.)

The cost analysis conducted by Kaufmann and Boehm differs from similar previous exercises in that it is based on meticulously detailed calculations rather than rough estimates, as were—for example—those by Gropius, Distel, Haesler, Rettich, Serini, Lübbert, Leo, Haberland, and others. The principal merit of Kaufmann and Boehm's calculations is in demonstrating beyond any doubt that even on inexpensive sites, a single-story house cannot compete in cost with multistory houses, since low-rise development not only increases overall settlement area and communication distances but also means additional expenses for longer roads and sidewalks, as well as thinly spread-out sewer, water, and electrical distribution systems. Hence, the general rule: **low houses = high rent.** Boehm and Kaufmann also corrected Schwangenscheidt's calculations by proving that beginning with the third floor, the **open gallery type is more economical than a single-bay staircase type.** Only the single-story open gallery type is less economical than the single-bay staircase type. In turn, the open gallery type with a longer frontage is more advantageous than the single-loaded staircase plus corridor type, which is encumbered by the stairs and the connecting corridors.

The most economical solution for the open gallery type is to proceed on the basis of a row of one-level apartments per floor. Vertically stacked apartments of two or more floors with recessed balconies can be realized to advantage only in skeleton construction systems, in which case their frontage can be reduced to as little as 3.8 meters. Kaufmann and Boehm base their answer to the question of how many floors are most economical when the gallery type is used on the following findings: first, they claim that up to a height of four to five stories with a

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[2]) For a reproduction of this floor plan, see the CIRPAC publication *Rationelle Bebauungsweisen* [1931], p. 19.



Pavel Janák (1929)
Proposal for a stairwell-type house: single-bay wide with two apartments per floor. Wide and shallow floor plan, long frontage. Floor area 80.7 m².

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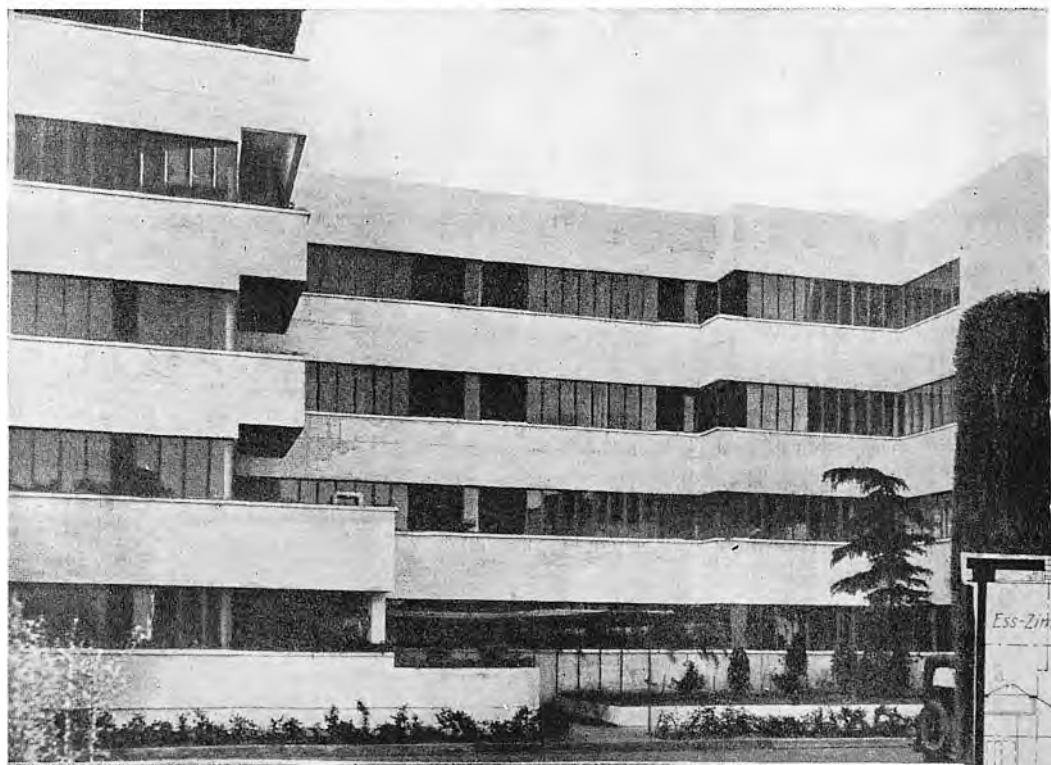
frontage of 60 meters, and using a single staircase and no elevator, it is still possible use brick construction with lateral bearing walls.[3] Therefore, the line at which the lowest construction costs shift from brick to skeleton construction is presumably somewhere in the neighborhood of four to five stories.[4] Assuming brick construction and a single staircase, the cost-effectiveness of construction improves proportionally with height up to the fourth story. Beginning with the fourth or the fifth floor, it may be advantageous to switch to skeleton construction (which turns out to be more expensive up to the sixth floor), and install an elevator as well as central heating and hot water heaters, besides having to provide an additional stair. Under the conditions previously outlined, two staircases will suffice, up to a height of eight stories. For each additional four stories, an additional staircase and an elevator have to be added. Long-distance central heating is most efficient for groups of about 1,200 apartments. The calculations of Kaufmann and Boehm lead to the following conclusions.

A four-story brick structure with lateral bearing walls is the most advantageous option for row housing of the gallery type with a 60-meter-long frontage, without an elevator or central heating (this presupposes that coal will be carried four floors up to the apartments). Once that height is exceeded, a concrete or steel skeleton structure is more practical, along with the requisite number of elevators, additional staircases, and central heating. Based on these specifications, we arrive at an optimal number of ten to twelve floors, with the stipulation that the economic advantages of such ten- to twelve-story houses will always fall short of the four-story type described above. However accurate or detailed the calculations made by Kaufmann and Boehm may be, their conclusions must still be viewed with caution and certainly cannot be considered as the final word on the subject. Once this qualification has been registered, certain **other qualifications** must be factored in when one tries to determine which height is the most advantageous in any given situation. One of the most decisive factors affecting height is the cost of land, which differs widely from place to place. In turn, cost of land cannot be divorced from transportation conditions, which may call for higher or lower population densities. For example, rapid urban transit will foster higher population densities in residen-

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[3]) Besides their lower cost, lateral bearing walls also have the advantage of providing better acoustic separation between adjoining apartments, since they are not pierced by openings.

[4]) The actual construction practice of the last few years seems to indicate—at least in our country—that well-designed reinforced concrete frame construction is as inexpensive as brick construction for four-story houses and on occasion even lower ones.



Richard J. Neutra
1928
Los Angeles
Gallery-type apartment house.

Common roof garden.
Common club room.
In living room, two folding beds; small kitchen with dining nook.



tial districts. In another place that depends entirely on automobile transportation, high densities may be undesirable and lead to slowdowns due to traffic congestion, resulting in greater losses of time as longer distances are traversed at slower speeds.

For these reasons, in all discussions concerning high-, medium-, or low-rise buildings we must keep in mind that the question cannot be decided by applying some universally valid, abstract absolute rule; the advantages of particular height are always **relative,** and the decision must factor in not just its important **dependence on the cost of land** but also the effect of population density on desirable transport distances, and so on. Even in the Soviet Union, which has abolished land speculation (which may be seen as the main driving force behind the urge to increase the height of buildings, i.e., to build skyscrapers) and has nationalized all private land, the value of each parcel had to be set differently from place to place, because of differences in geography, topography, population density, and other factors; in some cases, a relative shortage of sites made high-rise development necessary. Where there was surplus or less desirable land, low-rise development was considered preferable.

The real productive value of land is given by its natural qualities (fertility, mineral wealth, thermal springs, etc.) and thus becomes an important factor in the determining the height of development, even in cases in which land speculation need not be considered. And even where it may be possible to adapt a horizontal mode of development (*Flachbau*), where the cost of land does not play an important role in budgeting, and where there may be a surplus of available land, it is imperative to consider the **priorities of the functional and operational aspects** of a project (industrial, administrative, health-related, etc.). For example, modern industrial assembly-line production may suggest a predominantly horizontal solution for low-rise residential models. On the other hand, modern publishing operations require vertical solutions, and it is for this reason that in Moscow, where there is no shortage of land, the Dom knigy (the headquarters of the state publishing house) was conceived as a skyscraper.

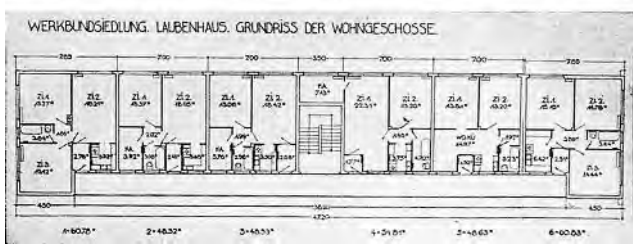
Still, the question remains: **Is it more advantageous to organize the functions of a dwelling vertically, or horizontally?** The correct approach to the question of whether to use high-, medium-, or low-rise dwelling types must be based on the respective advantage of each alternative. Unfortunately, so far none of the discussions on this subject have answered this question as formulated above.

The most significant result of Kaufmann and Boehm's detailed analysis is their successful identification of the most economical generic housing type in terms of its construction costs. But the most economical construction solution may not also be the most rational—that is, it may not respond optimally to the social and psychological as well as economic needs of its inhabitants, in addition to accommodating related urban planning and transportation requirements. Having said this, one must admit that Kaufmann and Boehm did succeed in demonstrating that the gallery type is more advantageous than the double-loaded stairwell plus corridor type from the point of view of both economy and health. Therefore, while the double-loaded central corridor type is more economical than the gallery type, that economy is offset by a number of health-related defects, mentioned earlier. The use of this type may be advisable only as an emergency solution—for example, during a severe economic depression. Conversely, when there is a high standard of living, the solutions recommended by Kaufmann and Boehm will not be adequate: a good example is the case of the United States, where—as reported by R. J. Neutra—the population has become accustomed to efficient high-performance elevator service and would scarcely accept a four-story house without central heating and an elevator.

Objectively speaking, carrying coal up to the fourth floor manually is also an expense (no matter whether such a chore is performed by the poor housewife or by the worker of the coal de-

Wu Wa, Breslau 1929
Paul Heim & Albert Kempter:
Open gallery–type house (Laubenganghaus) in exhibition colony Grüneiche in Breslau.





Both the Stuttgart and the Breslau exhibitions were not limited to showing villa types only; they tried to present solutions of other housing types as well, in order to address the problem of today's urgent housing needs and to address the issue of housing reform by including **multistory houses with small apartments.** So far, urban rental housing has consisted mainly of rental barracks, built by speculators and architect developers, especially during the so-called Founding Years in Germany. In order to improve on the plans of speculators, which were designed to squeeze out every square centimeter of space for maximum profit, architects had to reach for a solution that dates back to a period preceding the Founding Years (i.e., before the turn of the century); they found it in the **open gallery type.** The exhibition presented modernized and improved versions of this type, with plans adjusted for contemporary living conditions in a small apartment.
The exhibition **Wohnung und Werkraum** captured the attention of modern architects with its examples of gallery-type houses with small apartments.

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livery service—for a large tip), which thus should be included as a legitimate expense in general operation and maintenance budgets. In apartments lacking gas-fueled kitchen ranges, heaters, and radiators in the bathroom, the costs of carrying coal upstairs add up to a considerable sum. Bearing in mind that heating a bathroom with coal produces grimy soot and dirty ash (in addition to the inconvenience and messiness of carrying coal) it would probably be more practical not to install bathrooms in such houses, providing the tenants instead with well-equipped public baths. Moreover, as mentioned earlier, the low income and substandard living standard of the poor have usually made it impossible in any case to consider installing bathrooms in apartments built to minimum cost standards. In this connection, it may be worth mentioning that according to a statement by Kaganovich, in Moscow central district heating is considered an essential amenity in all new housing construction.
Insofar as the report of Kaufmann and Boehm to the Brussels Congress cannot be considered the last word in the discussions of whether the four-story medium-rise house should be considered the most advantageous type, its principal merit is that it has confirmed the viability of row house development and demonstrated the economic advantages of the open gallery or single-loaded side corridor type over the double-loaded stairwell type.

The gallery type already has been used frequently, during the time of the Empire in the first half of the nineteenth century. Modern architecture is now rediscovering its usefulness in a more elaborate and technically more sophisticated form. The reason for this revival is that it is perceived as the most rational structure for accommodating a great number of small apartments in large-scale housing developments. Provided that the rows are pointed in the north-south direction, the basic advantage of the gallery type is its capacity to offer optimal conditions for healthy living, giving all apartments good light, both front and rear sun exposure, and direct cross ventilation for all living spaces. The Laubenganghaus, designed by the architects Paul Heim and Albert Kempter and exhibited in the Breslau [now Wroclaw] WuWa exhibition of 1929, was one of the first examples of this type; it was instrumental in causing contemporary architects to recognize its advantages, which eventually led to its comprehensive reevaluation and reform.

Still, in many ways, the contemporary mature gallery type is quite different from both its Empire and Breslau Laubenganghaus predecessors, as the experiences of the last years have provided architects with significant new insights that have led to a number of important changes and improvements. It thus may be said that architecture's revisiting the gallery-type house is not so much a return as a reproduction on a higher level: we are now able to do things that were impossible to realize with the far less advanced technology of the past. On the whole, today's most advanced gallery types are distinguished mainly by the narrow floor plan of their apartments. It is only recently that deeper floor plans are being promulgated (e.g., by Pavel Janák in our country). Obviously, a room with a long frontal wall and a horizontal window along its whole length has much better light and access to sunlight than a room with a narrow front wall and conventional windows; in addition, it is easier to furnish than a narrow, deep room (a consideration that—in a small apartment—must be seriously weighed).

On the other hand, long and shallow floor plans generate excessively long facade walls and correspondingly long house rows. This will decrease the potential number of apartments per 100 meters of passage by as much as 40 percent, besides lowering the economic efficiency of interior circulation elements, outside access ways, and galleries. And, of course, the desire to economize will encourage builders to line up as many apartments as possible along the length of the gallery, a compression that can be accomplished only by replacing long and shallow floor plans with narrow and deep ones. In principle, a deep floor plan with good access to sun and with adequate cross ventilation is unobjectionable, as proven by Gropius's calculations, which have demonstrated that lower costs need not be purchased at the expense of lower standards of healthy living.

Finally, it should not be forgotten that existing building regulations and safety codes limit the maximum distance between the door of the most remote apartment and the nearest staircase, which in our country is 25 meters. Taking into account this fire regulation, a quick calculation yields a length of frontage of a gallery-type house with one staircase at the center of about 50 to 55 meters (under such circumstances, it is correct to locate the stair in the center of the building, not at the ends of the gallery). Within this limitation, it is therefore possible to line up from twelve to thirteen small apartments with a deep and narrow floor plan along the full length of a gallery or corridor. A good example of such a solution is the Frankfurt Hellerhof project, designed by Mart Stam (Type D: 39 m^2 floor area; the width of the apartment is 3.91 m, with a depth of 8 m; the width of the gallery, 1.70 m; the apartment consists of a living room, bedroom, balcony, kitchen, hall, toilet, and bathroom; it can accommodate two to four beds).

The next question to be answered is whether the floor plan of gallery-type apartments can be extended vertically to create two-story dwellings. The economic advantages of this type have

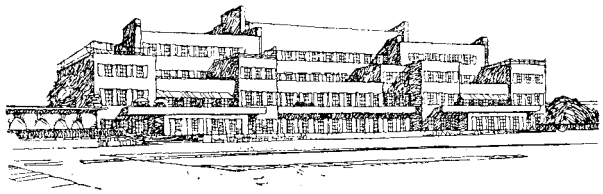
yet to be reliably documented. The only certainty is that when apartments are stacked two stories high and served by a gallery on every second floor, the apartment floor plan can be made even narrower. Unfortunately, the space required by the interior stairs to get from the lower to the upper level of the apartment, aside from the inconveniences caused by the vertical separation of its functions, makes this solution unacceptable for minimum apartments. Furthermore, it would be utterly nonsensical to use stacked dwelling designs where the family-based household functions have been abolished and where only individual living cells are to be provided: there would be absolutely no reason to stack the living space for a single individual vertically, whether that consisted of 6, 9, 12, or 15 or more square meters. But if such a solution should be preferred, some savings could be obtained by locating the side corridor or gallery on every second or third floor and providing access to the floors above and below by small auxiliary stairs.

To sum up: the main advantage of the gallery-type house is that each apartment has direct access to an outside space. Open the door, and you are immediately outside in the fresh air, just you would be in a low-rise single-family house. Of course, this advantage is partially lost in harsher climates (with wind, cold, snow), where the corridor may be enclosed and glazed in—in short, where the open gallery becomes transformed into a closed side corridor, not unlike the side corridor in a railroad car. Even then, the possibility of cross ventilation remains: sash windows that open can be provided in the corridor, with glass openings large enough to allow the rays of the sun to penetrate across the hall into the interiors of the apartments.

The following rules may be derived from the most advanced and most economical solutions for gallery-type houses:

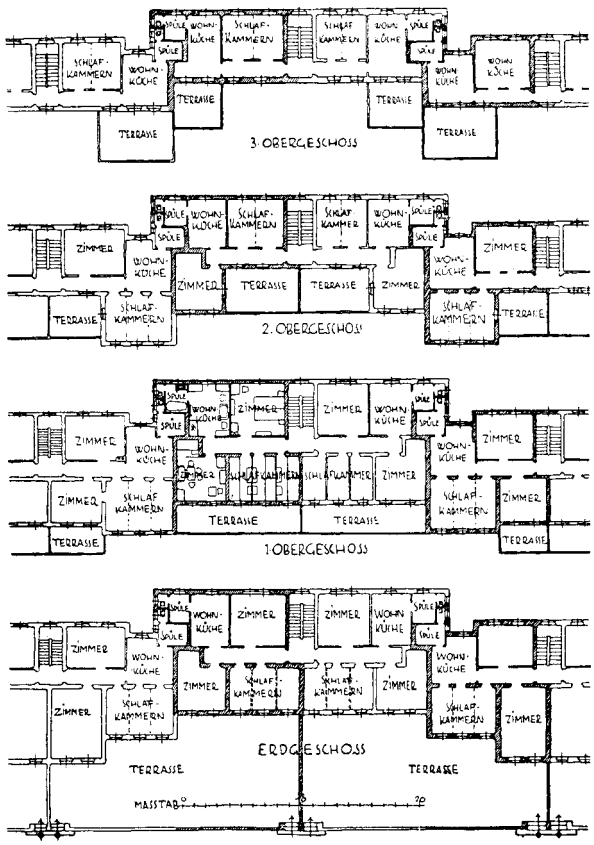
1. Shallow apartment floor plans and a tendency to place a maximum number of apartments per floor.
2. North-south orientation of rows. Cross ventilation and sun on both sides of the apartments: living areas with afternoon sun, service and sanitary areas (eventually even bedrooms) with morning sun. Open gallery along the eastern facade.
3. Isolation of the apartments from the noise of the open gallery by placing service functions and the hall between the corridor and living areas (if possible, use sound-insulating materials). In the case of east-west siting of the housing rows, the continuous open gallery should be located along the northern side of the facade, with service rooms (kitchen, hall, toilet, bath) placed adjacent to the corridor, as demonstrated by Mart Stam's open gallery project (Gangtyp) in the Frankfurt Hellerhof colony, or the open gallery designs of the Bauhaus, developed under the direction of Hannes Meyer in Törten, near Dessau.

Another type of medium-height rental apartment that differs fundamentally from both the stairwell and gallery types is **terrace housing,** whose advantages Peter Behrens endeavored to demonstrate in the Stuttgart Weissenhof model housing colony. Behrens is the author of a number of other terrace housing projects as well. The terrace house has been frequently publicized as the ideal alternative to the rental barrack type in our suburbs. Its greatest advantage is that every apartment, even on the higher floors, is provided with an open outdoor space, which thus allows people to enjoy sun and fresh air day or night. This feature is not without significance for the prevention of tuberculosis. Adolf Loos designed a workers' terrace housing project for the Vienna municipality that—just like the Behrens project—remained on paper only. Loos wrote on this subject: "It has been a long-standing wish of mine to realize a terrace house with workers' apartments. The life of a worker's child from birth to his first day in school is especially hard. For a child, locked up by his parents in his room during their time at work, a large common terrace would mean the same thing as an escape from jail." Loos



Peter Behrens 1924

Proposal for a three-story terrace house in Vienna.



Ground floor and second floor are three bays deep, with central corridor.

used the concept of the terrace house first in his villa for Dr. Scheu in Vienna-Hietzing and returned to this idea again in 1923 with his Grand Hotel Babylon project in Nice: as one might have suspected, it was not a project for workers' housing but a luxury hotel. It consists of two stepped pyramidal wings: the receding floors provide all front-facing rooms with a large terrace. The interior of the pyramid contains a party room, a skating rink, and a winter garden, albeit without natural light. Loos proclaims that his hotel concept could be easily adapted to serve as a workers' collective house (!?!).

Another solution for a terrace house was developed by Henry Sauvage in his projects on the rue Vavin (1913) and the rue des Amireaux (1925) in Paris. The latter is a rental apartment house on a narrow street; its receding stepped floors provide it with a little more light and open sky. The disadvantage of the stepped row house on the rue Vavin is the unlit dark, empty space created by the receding upper floors. The project on the rue des Amireaux is a corner house at the meeting of three streets; it contains a number of small apartments on seven floors. Its interior space is utilized as a hall with a swimming pool. Sauvage's Paris projects

use a different principle than those designed by Loos by treating the lower terrace as a (cantilevered) *gabarit.*

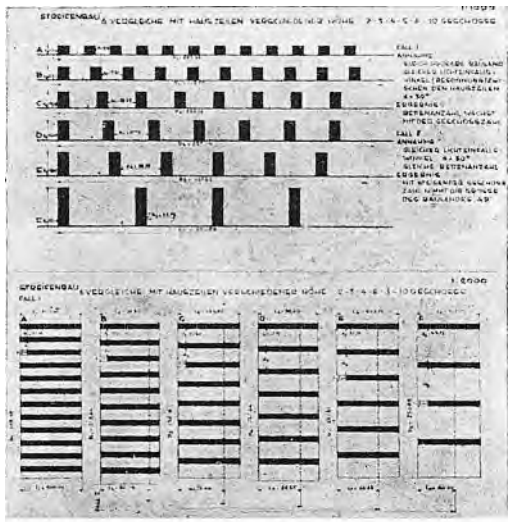
In effect, the terrace house must be viewed as a cross between the villa and the rental apartment; for this reason, it has proven difficult to justify as a viable solution for minimum dwelling types. Economically, the terrace house cannot compete with the gallery type. It does not allow for flexible floor plan solutions, and in most cases it is quite expensive to build. The terrace setbacks on the upper floors require the provision of excessively deep floor plans for the lower floors. In some projects, the ground floor apartments are up to 15 meters deep, resembling underground caves devoid of any light and sun. In other cases, the terraces for the first and second floors are created not by setbacks but by balconies, supported on posts, which leave the rooms behind in permanent shade. The most intractable difficulty in the design of terrace housing is the problem of what to do with the more or less useless space left over below the recessed terrace apartments. If we transform the terrace into an Aztec-type step pyramid, as Loos did in his Hotel Babylon, all we are left with is a large, dark space of problematic value, in place of a burial vault inside a pyramid. Peter Behrens has attempted to address this problem by stacking groups of houses of different height on top of each other in such a way that the roof of the lower house serves as the terrace for the next higher house. Hard as he tried, he still could not avoid rather awkward floor plans with dark inside corridors. Another difficulty of the terrace solution is that as the number of stories increases, the number of apartments on the upper floors decreases. For example, in the Stuttgart Weissenhof terrace housing, the third floor had to be reduced to a relatively small apartment joined to a disproportionately large terrace.

The terrace house has been abandoned by modern architecture as an **economically desirable type, owing to its difficulties in accommodating small apartment floor plans and related problems with the standardization of these three apartment types** (stairwell, gallery, terrace). The conclusion to be reached after reviewing these three types for today's rental apartment—is that the **most rational solution** proves to be the mature medium-rise row house of the **open gallery type (or with an enclosed side corridor) with shallow apartment floor plans.**

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This may be a good place to attend in more detail to the discussions held during the Third International Congress of Modern Architecture on the subject of low-, medium-, or high-rise dwellings. Reports on this very important subject were submitted by Walter Gropius, Le Corbusier, R. J. Neutra, and Kaufmann and Boehm (see above). It is interesting to note that the *Flachbau,* so loudly publicized during the past thirty years by the proponents of single-family houses and the apostles of garden communities and decentralized cities, has ignominiously failed to elicit much enthusiasm during these discussions. In trying to answer the question of which particular house type should today be considered most advantageous, Kaufmann and Boehm chose the four-story gallery, basing their assessment primarily on its economic cost without considering its social and psychological effects and its other ramifications for lifestyle. In contrast, other reporters of and participants in the discussions took issue specifically with those aspects that Kaufmann and Boehm had intentionally omitted. R. J. Neutra was the only delegate who approached the subject from the American commercial standpoint.

Walter Gropius posed the question of the "Flach-, Mittel- oder Hochbau" [low-, medium- or high-rise] as a challenge to find the most rational but not necessarily the most economical

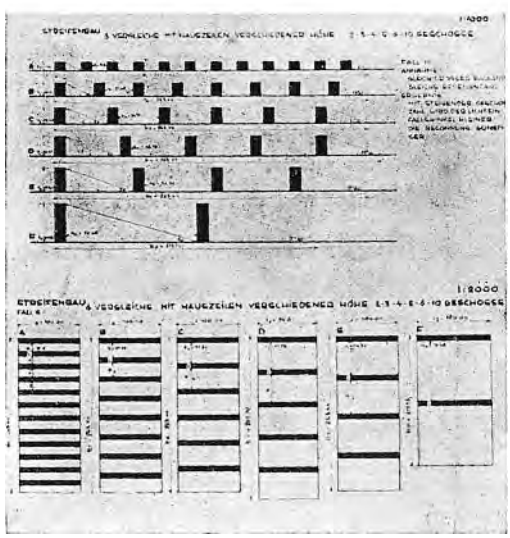


Walter Gropius 1930

Comparison of rationalized spacing of house rows, based on their height (dotted lines represent site area saved with greater number of floors). Single-row housing assumed as standard.

Assuming the same site and same sun angle of 30°, the number of beds increases proportionally with the number of floors. With the same number of beds and an increased number of floors, the site area can be reduced.

A = 2, B = 3, C = 4, D = 5, E = 5 floors.



Assuming the same site with the same number of apartments, the distances between the rows increase proportionally and sun angle exposure becomes more favorable.

Rows of ten-story houses with the same population density facilitate green spaces between the house rows eight times wider than in the case of single-story rows.

building type for housing; he opened the discussion by offering his own definition of the problem: "It is important to emphasize that the term 'rational' is not the same as 'economical.' As we understand it, 'rational' essentially means to be reasonable and, in addition to its purely economic aspects, implies social and psychological requirements as well." The gist of Gropius's report may be summarized as follows.

The question as to which dwelling form is the most advantageous for city dwellers is currently decided on the basis of more or less subjective opinions and the inclinations, way of life, employment, and—above all—material means of each individual inhabitant. For many, the

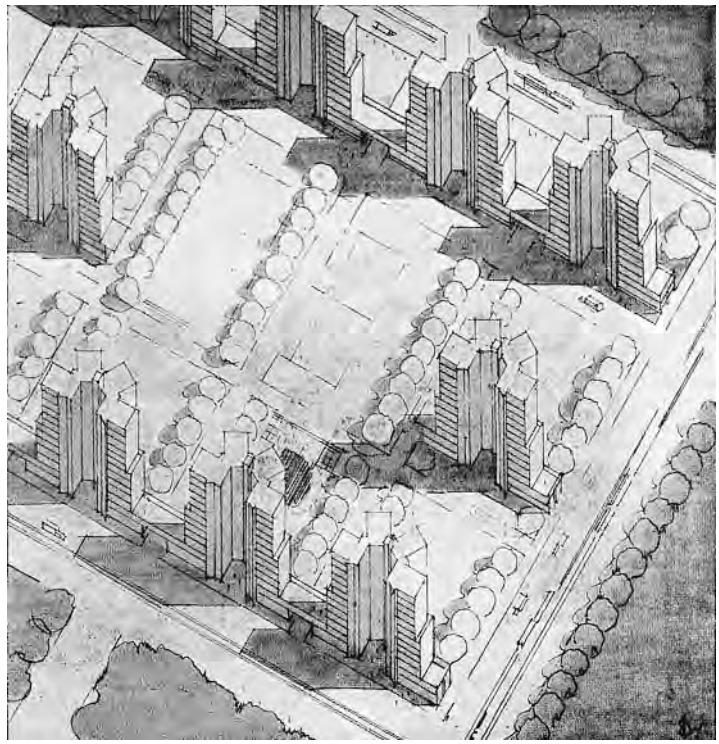
single-family house with a garden represents the ideal: a quiet country place away from the stresses of the city, that is, a type reminiscent of old village styles. The detached house offers peace, quiet, spatial separation from other families, relaxation in one's own garden, easy supervision of children, and so on. Of course, it is a type that is economically neither suitable nor profitable as a solution for the category defined as the minimum dwelling. Living in a detached house is relatively expensive, work in the household is laborious, and its inhabitants are firmly tied to one place. Aside from these considerations, colonies of low-family houses require long access roads and increased commuting distances, causing considerable loss of time and general traffic problems.

The **high-rise rental house** makes possible the shortening of travel distances and access roads, saves both time and money by offering common service facilities, makes housekeeping easier, and fosters the development of communal lifestyles. Things are less favorable with respect to the supervision of children playing, since playgrounds are usually located outside at some distance from the apartments, or on a different floor. As an option for minimum apartments, the high-rise fares better. From the practical point of view, a ten- to twelve-story type may be recommended as the most advantageous dwelling for districts close to the center of the city, or where land is overly expensive.

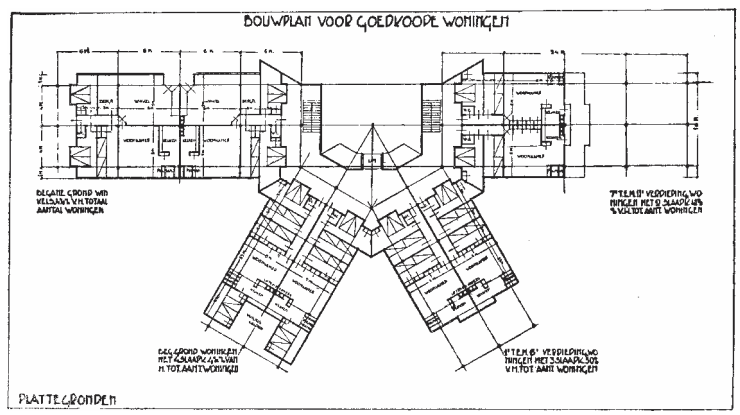
The **medium-rise house,** averaging two to five stories, lacks the advantages of both the low- and the high-rise options. In effect, it suffers from the disadvantages of both, in addition to its own inherent drawbacks. Even though the medium-rise house is currently the most common and most widely used dwelling type, it must be pointed out that it cannot compete from the social, the psychological, and frequently even the economic standpoint with the two other types described above. Any reform of the medium-rise would therefore represent a welcome advance for architecture. As a possible alternative to the conventional medium-rise, Gropius recommends high-rise housing slabs, placed in parallel rows at a considerable distance from each other. He claims that the distances between the rows of his ten-story houses can be made eight times larger than the distances between conventional rows of single-story houses while maintaining the same population density and providing full sun access to all facades at any solar angle. As a result, even those living on the lower floors of a high-rise will be able to see the sky from all of their windows. The green areas between the houses and the plantings in the roof gardens will have the psychological effect of eliminating the former difference between city and country. (Gropius's own comment on this is: "The difference between city and country is dissolved." Our comment is that city parks, greenbelts, and green spaces have nothing in common with the contradictions between the city and the country discussed in theories advanced by Marx, Engels, and Lenin on this subject.) Nature should never be offered to the population as a vicarious Sunday or weekend experience.

According to Gropius, only the high-rise type responds to the actual needs of inner-city populations, while low-rise development should be assigned to the periphery. Moreover, he considers urban medium-rise housing an anachronism. Furthermore, he demands that state authorities, municipalities, and trade unions should underwrite the building of high-rise houses and support them financially, though he admits that in the beginning they will certainly be more costly to build than conventional housing types. That cost is also why Gropius believes that high-rise housing is at the moment best suited to the dwelling needs of wealthy, young, childless couples.

Le Corbusier's report: According to Le Corbusier, the problem of low-, high-, or medium-rise buildings can be viewed only globally, that is, as part of the totality of the modern city. Within urban planning, it needs to be posed as an issue of population density. The questions to be asked are the following: Is it necessary to increase or decrease population densities in large



Jan Duiker & Wiebenga
Amsterdam 1930

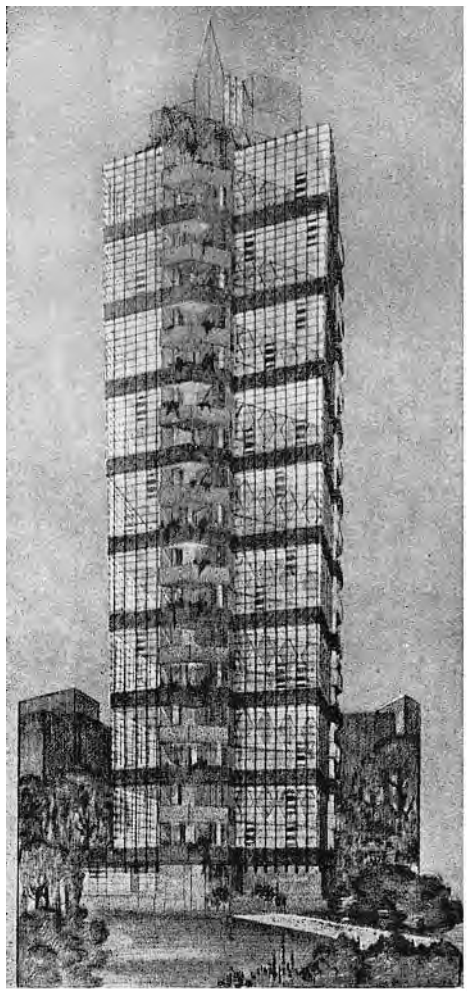


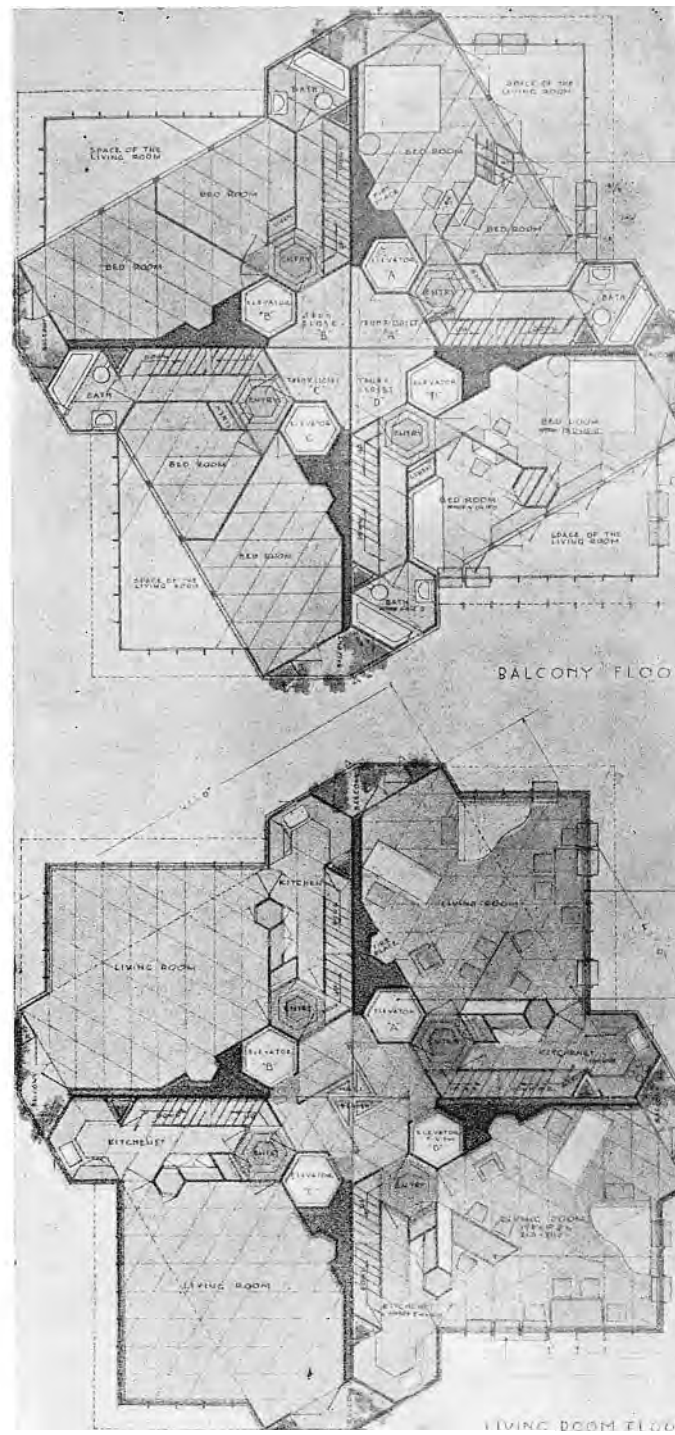
Twelve-story residential skyscraper of the half-star-type.

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cities? Should the area occupied by a large city be increased or decreased? By building high-rise office, commercial, and residential buildings, one could significantly reduce the area of the city. In turn, this reduction would make possible positive changes to solve critical traffic problems.

According to Le Corbusier's calculations, high-rise houses (skyscrapers) would cover approximately 12 percent of the overall area of the city, streets about 8 percent, and the rest—about 80 percent of the area—would be covered with trees and greenery. This area would be turned into a giant park with areas reserved for sports and recreation facilities, all close to the dwellings. Every window would open onto a spacious green space. It goes without saying that there would be no inner courtyards. During his presentation, Le Corbusier referred to his proposal for reconstructing the center of Paris, the Plan Voisin de Paris of 1925. He claimed that





F. L. Wright: Flat.

Residential skyscraper with apartments.



Chicago

Fifteen-story residential skyscraper (apartment house) placed in green area.

it has remained a "paper utopia" only because it has not been attempted so far. Another project was his Ville verte proposal for a new housing district in Moscow, which he designed in response to a questionnaire of the Soviet government concerning the future of the urban planning of the capital. It consists of open blocks, designed in a zigzag fashion as a kind of architectural meander, and consists of ten- to twelve-story-high collective houses (*dom-komuna?*). Each floor contains about 200 dwelling cells. Four elevators serve 2,400 tenants. The corridors of these houses are much wider and longer than those found in comparable conventional solutions (and yet, from the point of view of economy, the main advantage of the gallery type is that a single staircase is adequate to serve a relatively large number of apartments, which therefore allows relatively long frontages). This means that these corridors leading from the elevators to the apartments are in effect surrogate pedestrian streets; they thus should significantly relieve pedestrian congestion on outside roads (see reproductions on pages 143, 146–149).

On the assumption that the choice of high- versus low-rise houses involves an increase or decrease of **population densities** in urban situations, Le Corbusier finds it necessary to increase population densities in the residential districts of a modern city to an average of 1,000 inhabitants per hectare. He supports his argument by pointing out that international statistics report low mortality in densely settled places, and that mortality rates actually tend to decline in proportion to population concentration. Regarding this statistical contention, a point of caution needs to be added: Le Corbusier probably forgot that his remedy of concentrating hundreds of millions of country folk in new big cities is essentially of no use if they are taken from backward villages and other places in the poorest areas with low densities that are cur-

rently dilapidated and that civilization has as yet not penetrated, where there are no doctors, no health consciousness, and practically no educational opportunities. The only effective remedy would be to raise the material and cultural standards of the population in these dismal places, a remedy that ultimately is the only effective way to eliminate the differences now existing between city and country.

In the conclusion of his speech, Le Corbusier declared that the first precondition for a rational urban policy is land reform and the restructuring of all urban land holdings: only then will it be possible to implement his proposed urban schemes. The question is, which government and what political system would be willing to sanction the realization of his ideas under those conditions?

Neutra approached the subject of high- versus low-rise housing primarily from the American commercial point of view. He came to a similar conclusion as that advanced by W. Gropius. He also reminded the participants of the congress that the problem of the skyscraper has long since ceased to be a matter of technical difficulty in the United States. Everything that is still considered as problematic in Europe is already commonplace in America: elevators, plumbing, ventilation, fire protection, protection against infectious diseases, and so on, and so on—all are taken for granted and widely used. Everyday practical experience, now decades old, has resulted in great technical improvements of skyscraper technology and has provided ample proof that high-rise housing is feasible and not without economic merit.

Both categories, the low- as well as the high-rise house, are used for different purposes in the United States. The low-rise house is definitely favored by families with children. Neutra also pointed out that in the United States there is no evidence that private ownership of a family home ties people to a single place, since these houses are relatively cheap in relation to the generally high living standard of American workers: a worker who changes his job simply buys or rents another house somewhere else. According to Neutra, the skyscraper was not developed in the United States for the purpose of concentrating the city or reducing its area. To his mind, Le Corbusier's argument does not conform to American reality. Nor do skyscrapers shorten transportation distances if spaced very widely apart, as claimed by Gropius. For the control of traffic, neither distance, frequency, nor intensity are decisive; all depends on a reasonable urban plan, which will make it possible for automobiles to develop sufficient speed to compensate for the longer distances covered and will eliminate the time spent waiting at intersections. To emphasize his points, Neutra referred to his proposal for elevated traffic overpasses (reproduced in *Stavba* 9, no. 1 [1930]: ill. 11).

The most widely used housing type in the United States is not the high-rise but the low-rise house: America is the classic country of detached family homes. Nevertheless, the country has lately experienced an increase in the number of high-rise dwellings as a percentage of overall construction starts. This statistic proves that the low-rise house has no fundamental advantages over the high-rise as a suitable type for small apartments. The less affluent increasingly see it as a viable alternative to low-rise living. Of course, for families with children, the family house still remains the most advantageous option, and it is therefore essential for architects to work on its improvement.

The development of light and cheap materials in the United States has led to considerable savings in both high-rise and low-rise construction practice. Evidently medium-rise houses, if built with fire-resistant materials and equipped with all comforts, are economically less viable than the above-mentioned types. Unlike in Europe, a three- to five-story house without an elevator would be unacceptable in America, since people there are used to viewing the elevator as a necessity rather than a luxury, and consider a house without it a jail and not a dwelling.

By and large, the discussions that followed these presentations accepted the idea of a high-rise dwelling house as the most amenable type for further development. This proves again that modern architects are habitually fascinated by novelty rather than utility. They are fascinated by the high-rise not because of its economic or sociological advantages over other types, but simply because it offers them new challenges for experimentation with an untested type and the prospect of new design ideas. Taking an opposite view, **Hugo Häring** was one of the few discussants who continues to defend the position that the architectural ideal for the working class should be the detached low-rise single-family house with a garden (which can be extended for a growing family by adding additional small bedrooms, and which he calls the growing house, "die wachsende Wohnung"). He was obliged to admit, however, that under present conditions of rent speculation, the medium-rise rental house is still the most economical and most profitable housing type, even though it is essentially nothing more than an improved version of old rental barrack-type block housing.[5]

Though his position was not defended by anyone else, it is unfortunate that this issue was not dealt with at greater length during subsequent discussions. The spokesman of the Belgian group, Verwilghen, maintained that all the three height categories are in need of further evolution. The Swiss delegate W. M. Moser used the example of his country's mountainous terrain to urge the delegates to pay attention to the subject of special topographical features in the choice of this or that height for housing. He also pointed out that even though current practice in Switzerland favors low-rise buildings (a bias to a large degree well justified), architects should demand that building regulations should not restrict high-rise solutions as a matter of principle, since in many cases high-rise housing could be introduced to great advantage even in Swiss conditions. The Dutch group (Duiker) accepted without reservations the use of high-rise houses. They justified their position by claiming that in countries with low wages and below-average living standards, the high-rise house represents the only possibility of providing the poor with at least a marginal minimum dwelling.

The Danish delegate **E. Heiberg** emphasized that the question of high versus low dwellings is above all a matter of differing lifestyles, social organization, and ideology and opposing worldviews. Disregarding rent exploitation, the cheapest housing type in Denmark is still the low-rise house, because of its low cost of construction. Collectivization of dwelling must be considered as a consequence of political development and the evolution of social consciousness, and it is therefore a constituent part of cultural revolution rather than a matter of architectural form. Since high-rise dwellings of the hotel type exclude children from their apartments, the young need to be accommodated in children's homes. In turn, this will lead to a further disintegration of traditional family structures and eventually toward a socialist way of life, which needs to be promoted as well by intensive cultural and political propaganda.

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[5]) Note: The "growing house" (*wachsende Wohnung*) and "starter house" for people starting life (this catch phrase was also used in the competitions of the Svaz Českého Díla) are typical petit bourgeois slogans and reflect bourgeois lifestyles. They are intended primarily for the little people, clerks or tradesmen, and all those who will need an apartment only when they get married: subsequently, as the number of family members increases, the children grow, and income increases with time as well, they will want and need a larger apartment. In contrast, the income of a laborer tends to remains approximately the same during his whole life and actually declines with old age. Thus, a working-class family at present lacks the financial means to add more rooms to their house, or to move into a larger apartment.

The delegates of the **Czechoslovak group,** in consultation with E. Heiberg, and the author of this volume tried to demonstrate that the various architectural and technical issues discussed during the congress revealed the hidden agendas of various social and ideological positions; thus none of the questions discussed can be decided without taking into account their social content, and without considering social class as a determining factor in the choice of this or that housing type. Since this chapter is intended as an interpretation of the various opinions articulated during the Brussels Congress, it may be legitimate to introduce at this point the stenographic transcription of my own impromptu lecture as contained in its protocol: "The problem of high- versus low-rise dwelling houses for the strata of the subsistence minimum cannot be viewed as an isolated phenomenon, regardless of whether it is posed from the standpoint of construction, operating costs, rental payments, or technical, social, or cultural aspects: more than ever it behooves us to deal with the housing question in all its facets and its proper context. As documented by the proceedings, even Le Corbusier has made the point that one cannot look at the problem of housing without taking into account issues of urban planning. In other instances we heard appeals urging architects to include the subject of sociology in their proposals. Indeed, if we wish to correctly understand the problem of the minimum dwelling, which we define as the dwelling of the working class, it will be necessary not to overlook the fact that the family structure of this social class has developed along different lines than that of the bourgeoisie, taking a contrary direction: this class is boldly and consciously struggling toward more collective forms of life. Any sociology that sees the solution of housing for workers in garden colonies or single-family houses is reactionary, bourgeois, and prescientific.

The high-rise dwelling is not compatible with past forms of household organization and conventional family life, and thus it is not likely to be accepted with sympathy by those who themselves live a bourgeois or even a semibourgeois life. It would be difficult, if not impossible, to argue in favor of housing children and old people on high floors. But it is illogical to limit high-rise housing of the hotel type exclusively to well-situated childless couples, just because the well-to-do with children will refuse to give up their longing for their own villa, which evidently satisfies their lifestyle best. High-rise housing is not suitable for family living; instead, the family-based housekeeping type of housing requires a low-rise or at least a medium-rise house. On the other hand, collectivized housing is possible only in high, or more precisely **large,** houses. It is, however, a specifically proletarian, class-determined form. Only in this sense is it possible to declare oneself in favor of a high-rise housing. According to Le Corbusier's principles, the residential skyscraper will enable higher densities per hectare, provided that children live not in his large buildings but in separate child care centers or boardinghouses.

The collective dwelling, as defined in the preceding, is not the same as a hotel or a caravansary: by definition, it is not intended to satisfy the conventional dwelling needs of a family-based dwelling type. Its basic unit is the individual dwelling cell of a large-scale beehive. It is complemented by its collective extensions, such as clubs, cultural centers, child care centers, crèches—in short, by all the necessary communal facilities as an integral part of a residential district of the city. Given the current situation, it is necessary to keep in mind that the housing shortage cannot be cured by the makeshift mechanisms of social welfare and charity, and that architecture is not their humble servant but a productive technical force in its own right. And while it currently is encountering many obstacles in its development, we should keep in mind that this is merely a reflection of the larger conflict between the potential capacity of modern productive forces and actual conditions of production. Let us assume, for the sake of argument, that large-scale collective dwelling is a valid proposition; it will still require

an intensive educational campaign to counter the current propaganda promoting the charms of the romantic-sentimental *Flachbau* and spreading the cave dweller ideology of homely cottage settlements."
The discussions concerning the respective merits or demerits of high- versus low-rise dwellings held during the Brussels Congress were summarized by the following provisional resolution:

The Congress notes that for low- and medium-rise four- to five-story houses, sufficient experience exists to date to judge their utility. Even though considered uneconomical in the beginning, low-rise houses have now come into wider use, owing to their support and promotion by the executive branches of the public sector. The medium-rise house was developed during times of intensive city growth, primarily on the incentive of private speculation, and—in contrast to low-rise housing—offers in all respects greater opportunities for rent exploitation. The high-rise house is well documented by the American experience: however, its realization for housing purposes must be considered as too expensive in our conditions.

The Congress further notes that the high-rise as a dwelling type may have the potential to provide the solution to the problem of the minimum dwelling, but should not be considered the only correct or desirable option.

Therefore, it will be necessary to investigate the high-rise further, in order to recognize its possibilities and to examine its merits in built examples, even in cases in which financial, technical, legal, or sentimental obstacles may block its realization.

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Judging from this text, the congress might as well have issued no resolution at all. It does not settle anything. At any rate, it would have been premature to issue a decision on this question, given the varying opinions that emerged during the discussions and the fact that it was virtually impossible to reach any kind of agreement. The subject is both controversial and vast in scope. Apart from its complex technical aspects, an equally important role is played by related social, psychological, and biological factors. And in addition to these difficulties, the question of the minimum dwelling and its appropriate constructed form cannot be posed in all its complexity solely through a utilitarian comparison of high-, medium-, and low-rise houses. Such an approach can lead only into a blind alley. Let me emphasize and repeat these points once more: until it has been established which social class a given housing type is to serve, it will not be possible to provide a correct answer to the "*Flachbau* or *Hochbau*" question posed by the congress. The only positive thing achieved by these discussions is that they confirmed that the various housing types represent fundamentally different functional types in the social sense, and that the low-rise single-family house is unique to the bourgeois or lower-middle-class lifestyle (as a family-based household serving two or three generations), while in our conditions the medium-rise house represents optimal rentability and thus is specific to medium-income and working-class families. Depending on the financial means of the renters, one can naturally always look for a better or worse, larger or smaller apartment; but the high-rise may be considered as ideally suitable for small apartments for adult singles wishing to live in a beehive, unencumbered by traditional household functions.
The proponents of high-rise living in skyscrapers have worked out a number of projects to support and illustrate their theories. In his urban project the Ville Radieuse, **Le Corbusier** transforms the residential section of his proposal into a green city; it is essentially a park,

traversed by freely composed arabesques of high-rise dwellings; the space between these houses is a public park, into which he places children's homes, playgrounds, sports facilities, and schools. Presumably, the orthogonally conceived, irregular arabesques of the site plan are intended to provide a richer architectural effect from the aesthetic point of view. As a result, the houses are arranged like a stage set. Compared to a solution with more uniformly placed rows, Le Corbusier's scheme has a number of disadvantages. The most objectionable is the zigzag siting of the house rows: it does not provide equal light and sun exposure for all windows, opposite buildings fail to be equidistant from each other, and the corners created by the meanders cast a shadow on adjacent walls during certain hours of the day, or are in shade themselves due to incorrect orientation. Le Corbusier places his arabesques with respect to the cardinal points of the compass to obtain the following facade orientations: Category One, north-west, south-east; and category Two, east-west and north-northeast. Buildings of Category One are designed as double-loaded interior corridor types, with windows facing either toward the northwest or southeast, while buildings of Category Two are designed as single-loaded types, with a side corridor having a less favorable north-northeast exposure and all apartments facing toward the south-southwest. The rows are exceedingly long, which means that the central corridor must be considered unacceptable for health reasons.

In effect, because of their length and ample size, Le Corbusier's interior corridors—whether central or peripheral—are fulfilling the function of former open-air access streets: in other words, Le Corbusier eliminates from the plan of the city the **traditional corridor street and transforms the corridors of his houses into actual streets** (on each floor), basically serving as a pedestrian communication route from elevator to apartment. It is by such means that he manages to significantly reduce the number of pedestrians on ground-level passageways. Le Corbusier proposes to build these houses in castellated arabesques on piloti, thus freeing the entire ground level to be used for pedestrian walkways, which meander freely and arbitrarily below and between the houses. Vehicular roads are arranged in an checkerboard-like manner, with intersections located at regular intervals of 400 meters from each other. Principal roadways are elevated to the height of the second-floor level: side roads branch off from the main arteries, and parking lots are located directly adjacent to the entrances and elevators of the houses. The real vertical communication spine of these twelve- to fourteen-story houses is the elevator. Le Corbusier proposes for a house for 2,400 inhabitants a battery of four high-speed elevators, operating around the clock and serviced by professional personnel. The maximum distance of any apartment door from a stair is never more than 100 meters.[6] To give an example: in cases in which the number of apartments (in houses of the conventional stairwell type) would require, say, forty elevators and forty separate house entrances (thus also forty doormen), four elevators with a capacity of thirty persons would do the same job. The use of the corridor as an interior street leading directly to the apartments

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[6]) By concentrating a greater number of people in a single building, the skyscraper imposes at the same time certain conditions on the organization of circulation and cannot be approached independently of both horizontal (street) and vertical (elevator) traffic considerations. The speed and capacity of elevators and escalators common in Europe is currently not adequate to the task proposed by Le Corbusier. European elevators have an average speed of 0.5 m/sec, while American elevators run at speeds of 3.3 m/sec. Raymond Unwin pointed out that a vertical distance (for an elevator) of 30 m translates in terms of time to 1.6 km of travel on a high-speed train. Thus, in the space-time arrangements for high-rise houses it is necessary to take into account the relative low speed of even so-called high speed elevators.

Concerning the cost of elevators, which accounts for 7 to 10 percent of total construction outlays, it is certain that elevators and other movement systems in residential high-rises could be made half as complicated as those provided in commercial or office buildings.

makes possible the reduction of the number and area of city streets to a fifth or even a tenth of today's norm; of course, it would then be necessary to install good soundproofing for the walls separating the apartments from the corridor street.

Such soundproofing is technically feasible even today, as demonstrated in an entirely satisfactory manner by the research results of Gustav Lyon and as used in practice in Pleyel's house in Paris, designed on the basis of Gustav Lyon's principles. It contains not only two superbly sound-insulated concert halls but also a number of music practice rooms with sound insulation so excellent that not even the smallest sound will escape into the corridors from rooms in which virtuosos raise Cain all day, despite the fact that the walls of their rooms are actually relatively thin. Le Corbusier promotes the house of the future, his so-called **hermetic house,** as a building sealed off hermetically from outside temperature changes by double walls made of translucent or opaque materials (the whole facade can be transformed into a glass surface, thus eliminating windows). The hollow space between these double insulated walls would be used to circulate hot air during the winter and cold gases in the summer or all year in hot climates. Inside, there would be no heating; instead, air of constant temperature and humidity would be pumped into the rooms. Bad air would be mechanically exhausted, purified, ozonized, cooled, and returned back into the building (for details of this system, see "Le Corbusier's Lecture on the Hermetic House," *Stavba* 10, no. 2 [1931]: 32–34, and also *Stavba* 9, no. 4 [1930], which contains a response by the author to Le Corbusier's questionnaire on the hermetic house, pp. 65–68).

Le Corbusier is convinced that it is going to be architecturally untenable to design on the basis of isolated household types in the future, and that the centralization of household functions and dwelling services (especially the provision of children's homes) will eventually prevail, even though he himself still continues to design family and connubial-type apartments with small kitchens and even though he still goes along with the current way of differentiating dwelling types by income category, floor area, level of comfort, and so on. For example, his floor area allotment per person varies according to whether he is proposing the design for a small (worker's) house, or a medium-size or luxury (bourgeois) apartment. Thus, Le Corbusier's norm for a small apartment is 14 m^2 per person (which is double the norm established by Loucher's Law), but for a luxury apartment it is as high as 75 to 150 m^2! (See the illustration on page 150.)

Walter Gropius has worked out two different types of high-rise dwellings. The first is a twelve-story residential dwelling house of the open gallery type for the Spandau-Haselhorst colony near Berlin (in the accompanying competition, sponsored by the Reichsforschungsgesellschaft, Gropius's site plan and the design of the residential houses received the first prize; the actual construction of the high-rises was not realized). The second is a ten-story boardinghouse. The gallery house design for the Spandau-Haselhorst project contains two types of apartments of the family household type: the larger, six-bed apartment has a floor area of 70.5 m^2 (rather generous, and hardly affordable by workers) and a small, two-bed apartment. The Spandau-Haselhorst settlement was intended as a workers' district with low-, medium-, and high-rise houses. Even though all retain the private household principle of dwelling, Gropius made an attempt to provide a transitional solution toward collective dwelling by providing a number of common services (heating plant, laundry, children's home, cooperative markets, etc.).

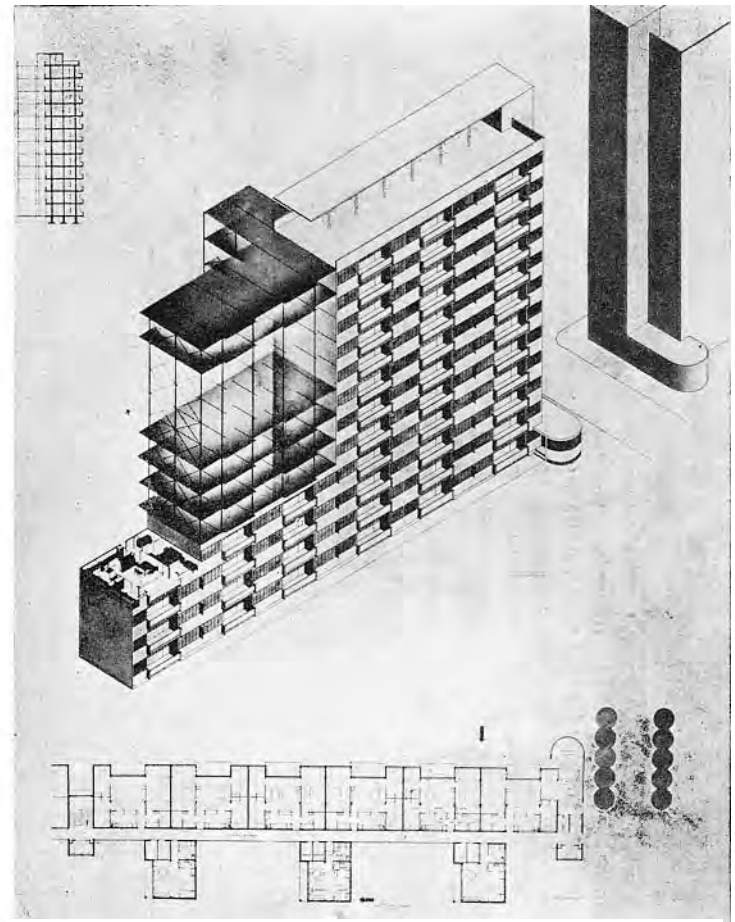
Gropius's boardinghouse project, the *Stahlwohnhochhaus mit centralem Gesellschaftsraum* [steel high-rise dwelling with a central public club room] is a ten-story hotel-type dwelling for permanent residents. This project was first exhibited in the spring of 1930 in the German (Werkbund) section of the exhibition of the Société des Artistes Décorateurs in Paris, and



1929. Berlin. Spandau-Haselhorst (experimental housing settlement)

First prize in a competition for a model housing district: mixed low-, medium-, and high-rise houses. Site area 45,000 m².

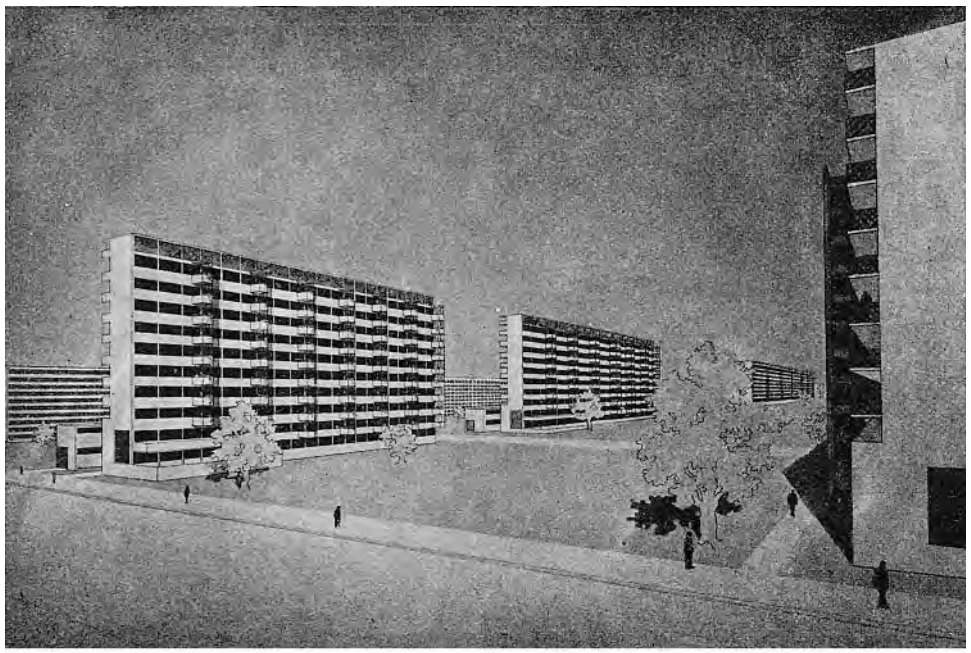
Walter Gropius



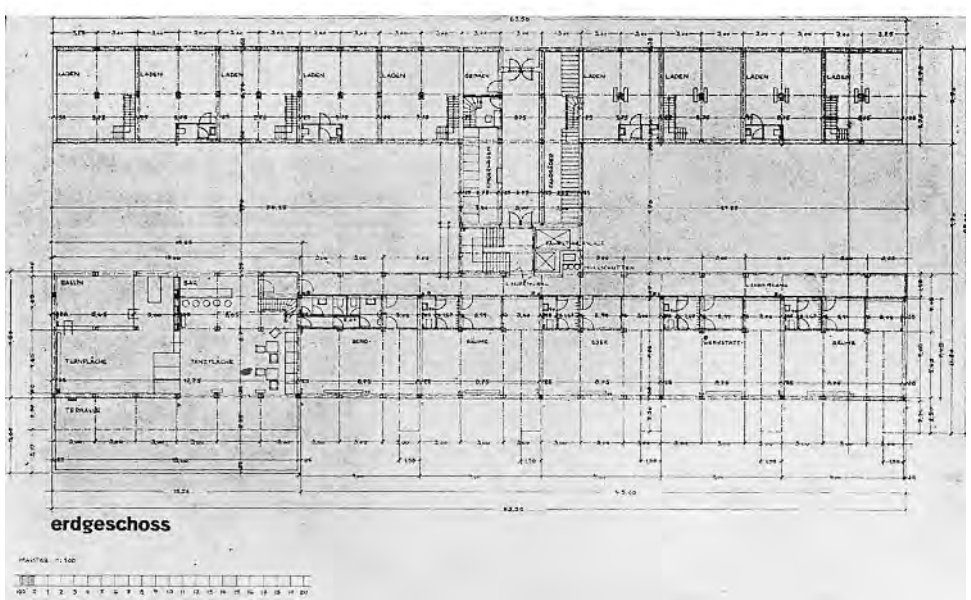
Walter Gropius, 1929: Twelve-story residential housing complex in Spandau-Haselhorst, near Berlin.

Gallery type. Apartment floor area 70.5 m²; 6 beds.

1.

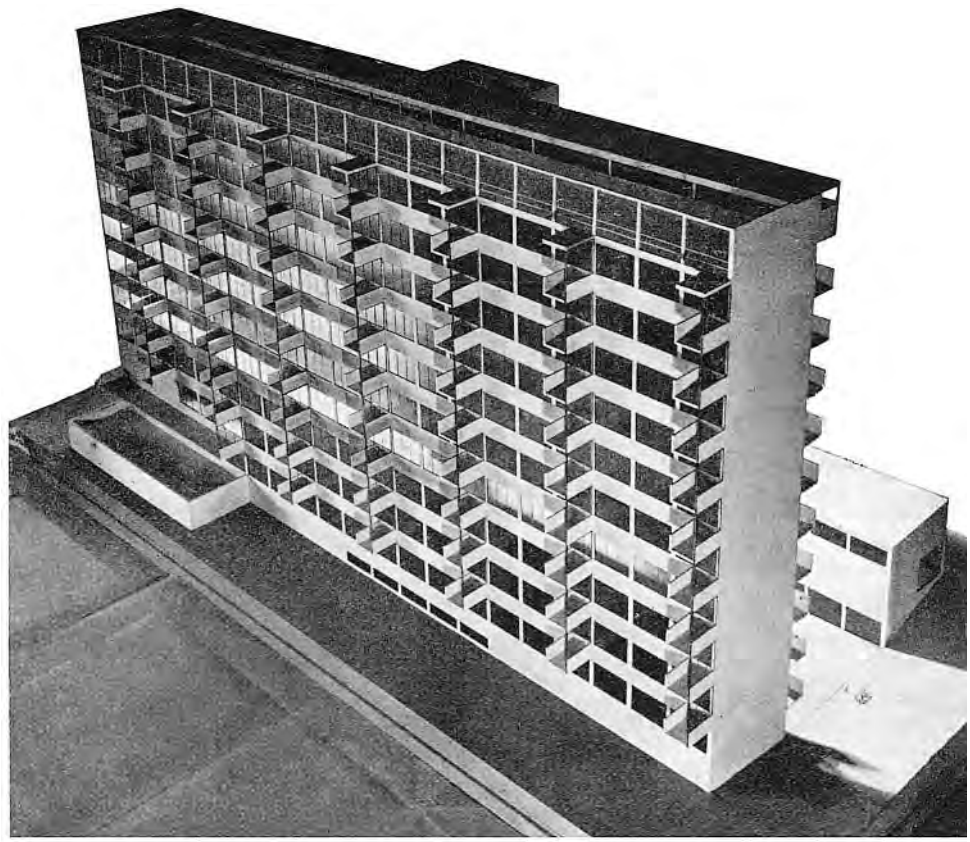


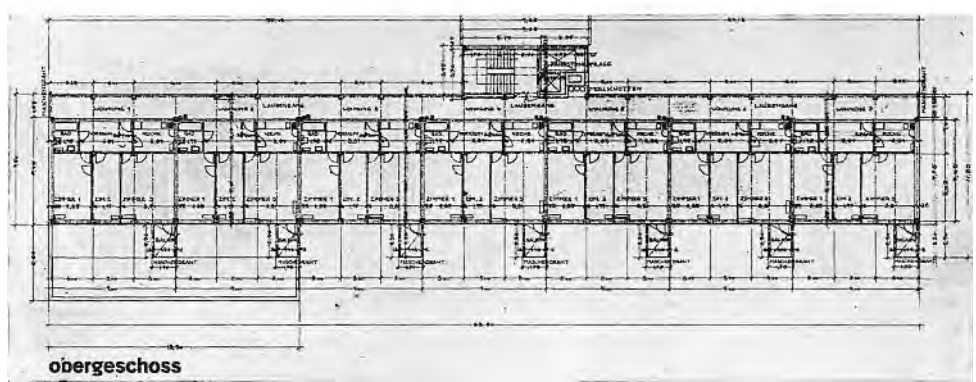
2.



Walter Gropius: ten-story boardinghouse-type housing.
1. View of housing slabs; large green areas in between slabs.
2. Ground-floor plan: shops, offices, workshops, and community hall with snack bar, dance hall, pool, reading room, game room, and open terrace.

1930





Walter Gropius: ten-story boardinghouse-type housing.

1. Model. Steel skeleton construction; open gallery type.

2. Apartment floor plan: 6 apartments per floor. Variable plans for live-in cells. Typical apartment: hall, bath, kitchen, 2–3 independent rooms.

1930

later, in 1931, at the Bauaustellung in Berlin. The merit of Gropius's high-rise houses is that they are conceived as straightforward row houses, which, when compared to Le Corbusier's arabesques or the standard American high-rise tower (*Wohntürme*), allow all apartments uniform access to sunlight. Gropius uses the steel frame as the basic structural system for his gallery-type high-rise designs. Each dwelling unit consists of separate rooms for an adult male and female. These are intended not as bedrooms but as a universal space, designed to serve all private dwelling functions (sleeping, rest, storage of clothes etc., reading and study, intimate life). The two rooms are separated from each other by a joint hall, bathroom, and small kitchenette. The steel skeleton type of construction allows for great variety of floor plans, including the possibility of joining additional rooms to a dwelling unit—for example, a study, children's rooms, or even a salon and so on (!). The apartments are furnished rather sumptuously on the basis of designs by Marcel Breuer.

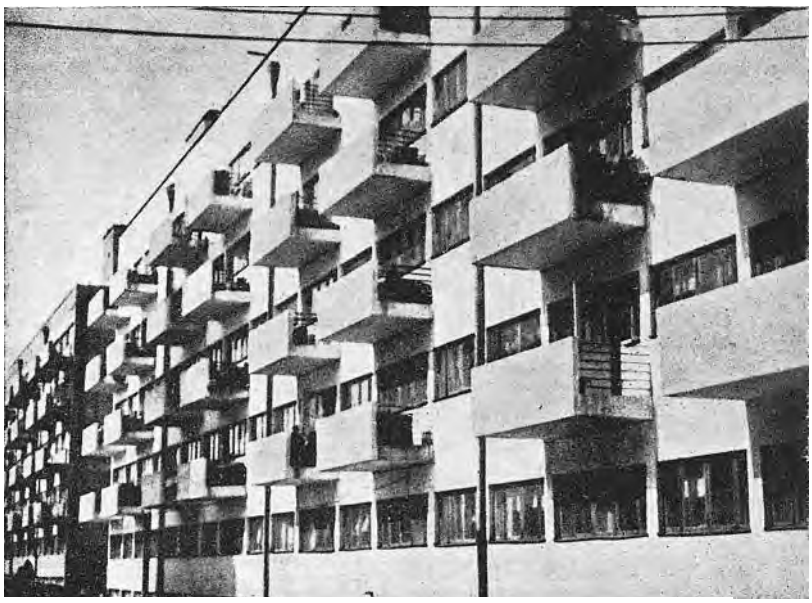
The ten-story-high structure contains sixty such apartments and a common central kitchen and dining room, serving 120 to 150 persons. The latter must also be considered as a more or less private luxury, in view of the fact that it has been calculated that such a facility would have to serve between 200 to 400 customers to be economically viable. The common room of this project certainly does not have anything in common with the ambiance of a workers' club: indeed, it is nothing else but a modern adaptation of a grand salon in the guise of a pretentious, ostentatious café or bar. It is mainly for these reasons that the design cannot be considered a valid example of a socialist, collective house or a solution intended for the classes of the subsistence minimum. Instead, it is a hotel-type house for singles and childless couples, equipped with every modern comfort and luxury. Its flatlets are finished with expensive materials, fostering the lifestyle of the affluent and idle rich. **It merely puts a new form on old content and is nothing but another attempt to produce a special modernized version of the bourgeois dwelling by making a few superficial and trivial changes in its layout, intended to pander to the unraveling of the bourgeois family and the extravagant lifestyles of the idle rich. In short, it is a house where sixty married couples of the bourgeois class can live by pretending to be merry widows and happy-go-lucky bachelors** (quoted from "Sprachrohr der Studierenden," *Bauhaus,* no. 3).

It is a curious paradox that Gropius, who has occupied himself intensely with the problem of housing for the subsistence minimum—and who, in recognizing the disintegration of the family as an economic unit among the working class, has grasped the necessity of eliminating the small family-based-household economy—now arrives at a point where he proposes a boardinghouse for affluent married couples! And what is his excuse? "It may be advisable to start out at first with building high-rise housing for young and well-situated married couples, who may wish to experiment with new forms of dwelling and a different style of living" (Gropius, "Report on Brussels Congress," *Das Neue Frankfurt* 2, 1931). And so, as always, the bourgeoisie comes first. This does not mean that to promote the advantages of new ways is a bad idea; but the solution offered by Gropius is, unfortunately, somewhat too expensive for the proletariat—at least today; in fact, it is considerably more expensive and less accessible than opportunities for trying out new lifestyles in small family apartments, old or modernized rental barracks, or small single-family houses.

In proposing this project, Gropius reduces the idea of the collective dwelling to kitsch. The first and foremost task of the architect consists in proffering an objective **social evaluation of technical progress.** But here too, we are witnesses of how architects distort the achievements of technical and architectural progress in the interests of the ruling class. It sounds splendid when Gropius tells us that political evolution and the establishment of a new worldview will be decisive in the choice of future housing types. Unfortunately, he does not base

USSR-CCCP
1930

Starting with the year 1932, all residential complexes with more than 20 apartments will be required to include collective social and cultural facilities, such as communal dining rooms, laundries, children's crèches, baths, and eventually clubs. The most common housing type in large Soviet cities is the five-story-high apartment house. Site planning favors the open-block solutionand—more recently—row housing designed as fully integrated communiyies, districts, and zones.



Socialist housing.
Soviet large collective housing block

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the practical consequences of his actual work on this statement, and instead is content to take the easy way out and escape into the future through a diplomatic back door.

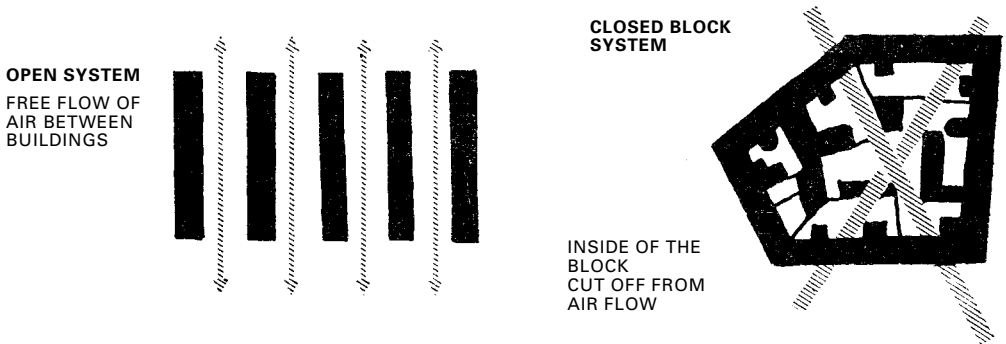
The idea of the collective dwelling, which currently occupies a prominent place in the deliberations of the architectural avant-garde, is actually not new. Embryonic forms of collective houses can be detected already in English boardinghouses, Dutch "flats," American apartment hotels, student hostels, and transatlantic cruise ships, as well as convalescent homes and sanatoria. Le Corbusier was one of the first architects to grasp the architectural significance of this type, and he has developed it further in his Immeuble-villas. Others to be mentioned in this connection are Hans Scharoun with his Wohnheim in Breslau and Walter Gropius with his boardinghouse project. Of course, the improvement of this specific dwelling type owes much to modern architectural and technical progress and thus is characteristic of the next stage in the rationalization of housing. At that point, technical progress will create the instrumental conditions for the practical implementation of a socialist way of dwelling. However, this does not mean that we will arrive at a socialist type of dwelling by way of technical achievements alone. That assumption would be a big mistake, since the most difficult obstacle to the full exploration of all the new technical possibilities is their current abuse and perversion in the service of the interests of the bourgeois order. In that sense alone, any improvement that is contrary to the interests and the ideology of the bourgeoisie tends to be prevented from being put to use, and any progressive architectural form filled with genuine revolutionary, socialist content will invariably either be rejected or be condemned to remain on paper only. The solution of the collective dwelling as a singular cultural expression of proletarian dwelling will become possible only as a sovereign act of proletarian culture and as a genuine product of the creative forces of a self-assured and organized proletariat: **it will represent a new architectural type, responding to a new social and cultural content.**

In our discussion concerning the issue of "*Flachbau* versus *Hochbau,*" we have emphasized the social content of these housing types, and it has become obvious to us that fundamental objections must be raised against accepting the low-rise, detached single-family house as the preferred option for minimum dwellings. The reason for rejecting this type is that its sparse settlement densities make it difficult, if not impossible, to provide the necessary communal service facilities that represent the nerve center of the collective way of dwelling. The question of what height and what number of floors is most suitable for collective houses cannot be answered globally: to assume that the skyscraper is the only possible form of collective dwelling would be to fall prey to naive American simplemindedness. It is impossible to say with any certainty whether future collective houses will be high (even though it is very likely, because they will certainly have a greater number of floors than conventional rental houses); but it can be safely said that they will be **mega-houses,** that is, building complexes that will probably be considerably larger than present rental houses, for the simple reason that their collective facilities will be economically viable only if they are designed to serve a relatively high number of people living in these collectives.

Therefore, the main question is not the number of floors but the the most appropriate number of inhabitants to justify the provision of collective facilities. In other words, what is their upper and lower limit? Since the collective dwelling is a dwelling form specific to the needs of the proletariat, maximum economy in calculating construction costs and operational expenses is imperative. This means that it will be necessary to choose the most economical construction system and materials, which—in turn—will largely help determine the height of these houses. All this can be achieved only by rallying all progressive forces to raise the general standard of living for all members of society and to approach the problem of the collective dwelling unencumbered by the detritus of the past. Only then will it be possible to answer the question of whether the ideal dwelling should be a horizontal or vertical type.

modern site-planning methods 12.

from closed block to linear block ● orientation of housing rows ● green areas ● house and garden ● linear cities



In the previous chapter, we explained why the problem of the minimum dwelling (and housing) cannot be separated from the larger question of the city, the organization of the physical pattern of settlements, and their combined transportation-traffic systems, which connect housing with places of work. The problem of a rational choice of a correct pattern for new settlements is intimately bound up with the problem of whether to choose high-rise or low-rise housing. All of these considerations have to take into account how specific economic conditions identify with certain forms of the city (as opposed to the village) and—ultimately—with the social content of dwelling. To promote this or that form of settlement as the most rational is not possible until the fundamental question of the social evolution that will influence the structure of new forms of settlement can be answered decisively.

For those who know how to read their graphic conventions and understand their technical language, site plans can reveal more about the social and cultural evolution of a city and its housing patterns than the stylistic features of their architecture ever can. By tracing the changes in site planning that took place during the last half century, we observe that their span is defined by two basic models, as shown in the preceding illustration: they range **from a closed, densely built-up, irregularly shaped block to open rows of housing.**

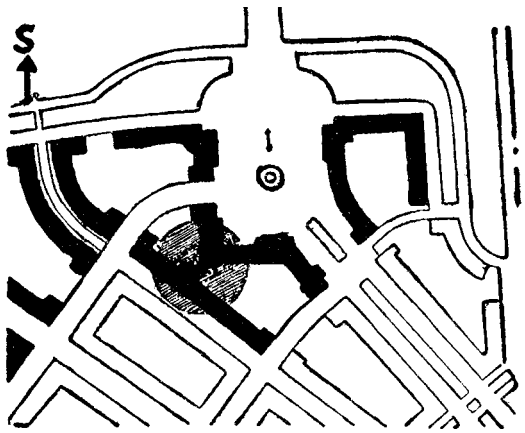
The closed, irregular block with its inner courtyards can basically be traced back to the Middle Ages; it has in essence survived right into our own machine age. It is the result of the need to make maximum use of small sites crowded into relatively small areas within the fortified walls of medieval cities, and of the limited ability of medieval construction technology to exploit the small sites vertically. Add to this the absence of any wheeled traffic to speak of (vehicular traffic of any significance appeared in Paris only in 1630), which warranted narrow streets and thus made it possible to build right up against the edge of a parcel, without regard for air, sun, and light. During the nineteenth century, the exigencies of traffic forced the widening and straightening of the crooked and narrow medieval streets. This resulted in the creation of more or less linear traffic corridors, lined with new blocks of houses of a more or less rectangular shape. The widening of streets should not be seen as a sacrifice on the part of private land speculators, intended to contribute to the improvement of public transport; on the contrary, it proved to be of great benefit to real estate interests by creating many new and often

superfluous connecting streets with numerous intersections. Thus this "sacrifice" became highly profitable as land prices along these streets ratcheted up and it became possible to exploit the new shallow blocks more efficiently than the deep older ones (of course, municipal sewage and water infrastructure costs rose accordingly). The remaining sites with their closed blocks and their small inner courtyards were left as is, except that there was now the possibility of redeveloping them in a vertical direction.

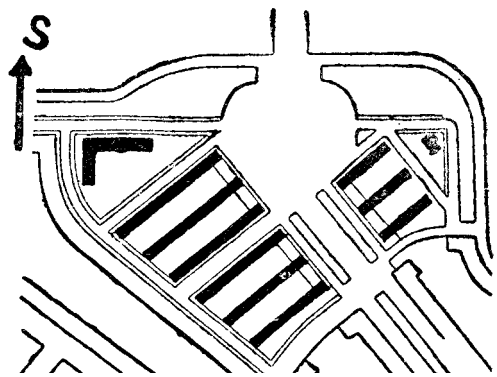
The outcome of these changes was a general decline of hygienic standards in housing. The closed blocks with their dark backyards and interior courtyards, along with the rental barracks of the last third of the nineteenth century, the so-called *Gründerjahre* [founding years], were the result of this unbridled land and rent speculation, unplanned traffic conditions, and generally ineffective urban planning interventions (a good example is Prague's Žižkov district). This period represents one of the worst examples of the cultural decline of housing development in our country. As may be expected, such a barbaric approach to site development had a devastating effect on small popular apartments, as the high occupancy rate of the barrack-like houses deprived of sun, ventilation, and access to daylight created excessively high population densities in these districts. Any improvements in the quality of these apartments were primarily driven by market competition and were therefore of only secondary interest to developers, whose main concern was maximum exploitation of the site; they were checked only by the minimal constraints imposed by weak building regulations, which in any case generally tended to favor the interests of the owners. And, since these new site-planning regulations made no distinction between main traffic streets and local residential streets, apartments facing any street were condemned to suffer from constant noise and dust.

Progress and improvement in housing conditions were accompanied by the necessity to regulate population densities. However, the **closed, peripherally built-up block with an open space inside** is still the prevalent site development type in many cities today, even in new districts. Ruthless land speculation (and the frequent violations of public health provisions) has been controlled to some extent by new building laws. Unfortunately, most of these new regulations are merely a compromise between the interests of real estate speculation and minimum provisions to protect the health and safety of the public. Partially opening the formerly closed block was the result of such a compromise and an attempt to eliminate its worst features—that is, the building over of its formerly open interior tracts and the dirty, narrow, small, and exceedingly unhealthy courtyards. What remained unchanged was irregular access to daylight, poor ventilation of corner apartments, and insufficient movement of air in blocks with high buildings. In many cases, it proved difficult to implement even these limited improvements, especially in the inner city, since opening up the closed old blocks would result in serious financial losses to the owners of these properties, given the high value of land and the fixed water and sewage systems of the existing street layout. Only in cases where it was possible to develop a whole block as a unified complex could the large inner courtyard be transformed into a garden, with the windows of the living spaces of the apartments facing the interior garden. This improved site disposition allowed the placing of living areas to face the airy and more spacious courtyards rather than narrow and noisy streets, as before. Most Vienna public housing projects were developed on the principle of the half-open courtyard type: hence their designation as "courtyard [*Hof*] housing" in names such as Reumannhof and Karl Marx Hof. Today's building codes regulate housing districts by uniformly limiting height, thereby fixing the number of floors; but in the case of the closed block, they tend to ignore population density and access to sunlight for all apartments. Instead, they insist on strict rules governing how to dress up the facades according to more or less arbitrary bureaucratic notions of style and beauty. In fact, approval is frequently denied to designs that provide proper orientation toward the sun or have living areas facing the inside of a garden-courtyard, simply because such orientations

Regulatory plan for the Pankrac Plain in Prague



Official regulatory plan. Blocks adapted to deformations of baroque plan; monumentality and irrationality.



F. A. Libra 1930
Proposal for a regulatory plan for the Pankrac Plain; row houses with small apartments.

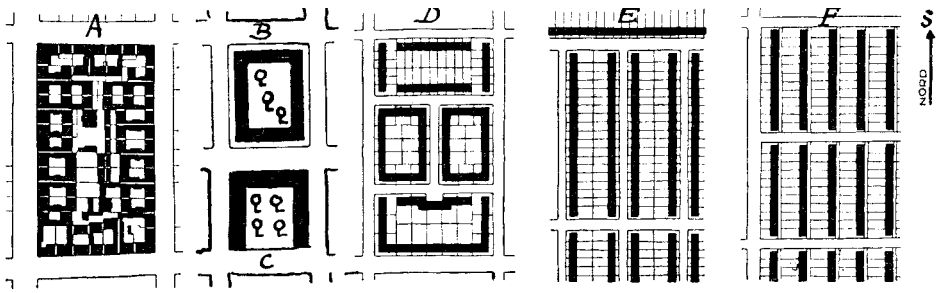
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make it necessary to place subsidiary service functions along the street facades, something that would run counter to prevailing municipal notions of proper facade aesthetics.

The next advance in regulatory policy was achieved by a further opening up of the closed block, thus ensuring proper cross ventilation. This led to the development of the **half-open block** by providing gaps on opposite sides at certain intervals, in the direction of prevailing winds, if possible. To date, this has been implemented by opening an arbitrary gap (possibly even at the corner of a block) in a row of houses, a method that has led to largely unsatisfactory results.

In taking a further step, we arrive at the **open block** by eliminating an entire row on one side of the formerly closed square, leading to a block resembling the letter U. This enables the block to be opened to light and air along its most favorable side, thereby making it possible to orient all living spaces toward the open garden space inside. This means that all living space now can have windows facing the sunny side, since the northern courtyard facade has been eliminated. However, the problem of corner apartments and the unequal access to sunlight of apartments (oriented toward the three remaining cardinal points) still remains unresolved. The main disadvantage of both closed and half-open blocks placed on sites with uneven terrain is the need for expensive cut-and-fill earth operations to provide a level surface for the foundations, as well as the need to provide unnecessarily wide street cuts on the sloping ground.

As an example of the slow progress in the adoption of modern site-planning methods, we cite the newly proposed regulatory plan for Greater Prague, which accepted only the solution of the closed block with an open courtyard in the center of the city, and half-open blocks on the periphery. Even here, academic formalistic aims, which call for imposing facades, architectural focal elements, grand perspectives, and similar devices, have forced the establishment of regulating lines in such a manner as to confound a rational approach to health, besides being totally unsuitable to the exigencies of modern traffic. The new regulations tend to break up the half-open blocks into incongruous meanders and curves, without paying attention to proper orientation. In their striving for ostentation and pretentious monumentality, they produce a



Schematic of site plan development
(DasNeue Frankfurt)

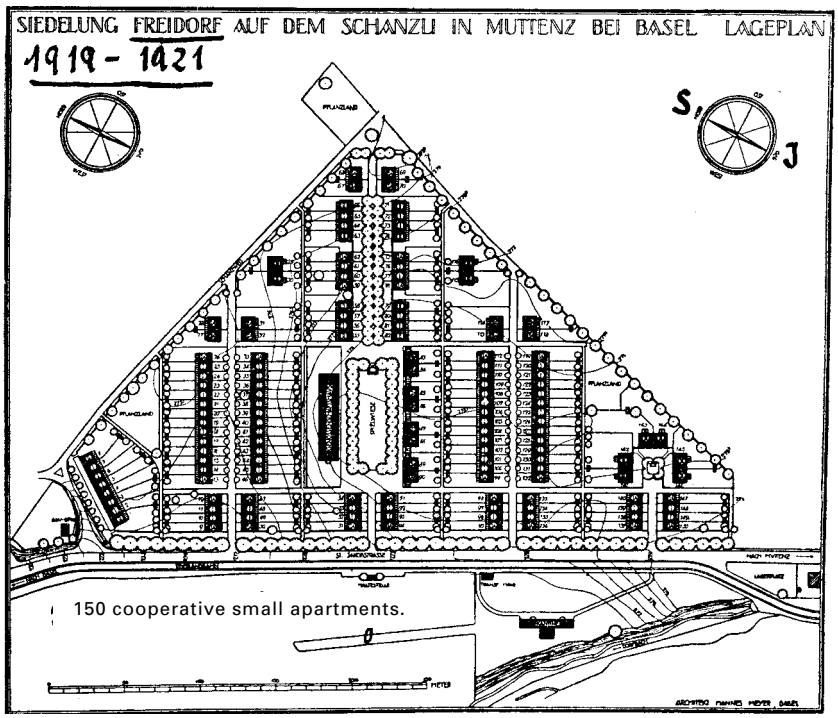
A) 19th-century closed block with interior open plots. Intensive coverage of site.
B) End of 19th century and beginning of 20th century. Peripherally built-up block with open interior.
C) Beginning of 20th century: open block. Better sunlight and access to air.
D) Beginning of 20th century: half-open blocks and peripherally built-up blocks, but with open interiors.
E) After the war: double-row development along streets. No more block development.
F) After the war: single-row development. Rows at right angle to streets.

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surfeit of fussy corners and other romantic embellishments, all of which violate the floor plans more or less arbitrarily, creating dark corners and badly ventilated rooms; in addition, they unnecessarily increase the cost of construction even in places where small, low-cost apartments are to be built. No attention is paid to proper setbacks between opposing housing rows.

One of the worst examples of such regulatory absurdities is the site plan of the Pankrác plain (whose speciousness is demonstrated by two competitions for the construction of houses with small apartments in that area in 1930). Its only distinction is the picturesque allure of its house rows, richly embellished with pseudo-Gothic arches and sundry baroque ornaments. In comparison, Le Corbusier's arabesques are pinnacles of functionality. All these aesthetic embellishments make it impossible to standardize and rationalize their floor plans; and the situation is made worse by the bizarre, irregular forms of the parcels, which in turn produce a surfeit of oblique and otherwise distorted corners. It is a perfect example of today's mindless decorative regulations: they pretend they can satisfy the demands of our time by rejecting the peripherally built-up closed block and mandating instead highly irregular so-called open blocks, which in many respects end up creating much worse hygienic conditions than the old orthogonally aligned closed blocks.

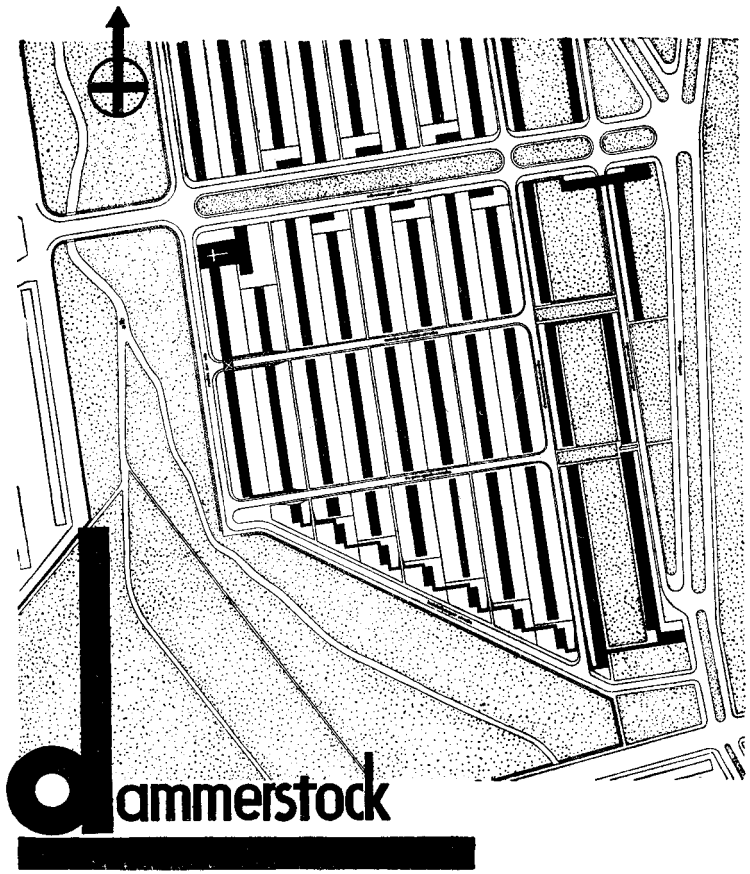
Another example of this folly is the pretentious and entirely superfluous square with its imposing facade ensemble facing north, opposite the head of the proposed bridge across the Nuselské údolí. Assuming that the apartments are to face the square, all their living areas will face north, while pantries, stairs, and toilets will be splendidly filled with the rays of the southern sun. Alternatively, if we orient the pantries, toilets, staircases, and balconies toward this grandiose square, the formal aesthetic splendor of its facade front will be ruined. The open block in the shape of the letter K in the proposed project is the most asinine brainchild of our state regulatory commission's perverse aesthetics and mania for phony monumentality. It produces a shady nook at the front facing the square and leaves the rooms along the rear facades almost always dark and unventilated. It is beyond the scope of this brief review to recite in detail all its other defects, of which the most glaring are the incorporation of entirely useless streets in the plan, the opening of the blocks in the most inopportune places (e.g., if we assume that the windows of the apartments will be placed along the street fronts, long northern facades will be created as a result, while the blocks have been opened up on the sunny side), high infrastructure costs, and so on, and so on.



Hannes Meyer: cooperative settlement Freidorf near Basel.
An early example of (double-) row site development.

Other fundamental idiocies and blunders of the Prague regulatory plan are the decision of the authorities to situate the state ministries along the city's river banks and to create a problematic greenbelt around the city, while at the same time planning to ruin the Petřín and the Seminářská public gardens by cutting a completely unnecessary winding road through them. If this scheme is implemented, it will effectively sanction the building over of the remaining few large park areas left in the center of the city with both public and private construction projects (e.g., the planned Sokol center in Riegl's Park and luxury villas in Strahov Park). Another harebrained idea is to impose the historical city site patterns on newly emerging districts along the periphery of the city and to play formal games with the front facades and contours of whole street blocks by following antiquated Renaissance schemes in these new districts (e.g., Dejvice, na Růžku). One could go on and on. Given that official regulating plans are protected against any change by strict laws granting the regulatory commission absolute authority, modern and more rational site planning can be applied only on virgin territories outside the Prague city limits, which have not as yet been placed under the authority of the state regulatory commission. The definitive abandonment of the block type was accomplished by the **double-row type** (*Doppelreihenbebauung*). It does away with most of the disadvantages associated with solutions for the floor plans of corner apartments, simply because in the double-row site development model there are no more corner apartments and no more enclosed courtyards. Instead of closed or half-open blocks, we now have rows of houses set back from the edge of

1929, Karlsruhe

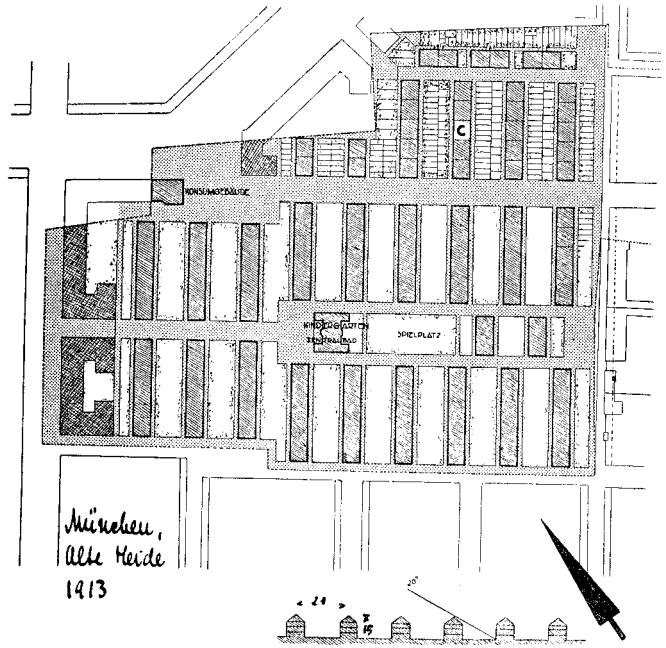


Walter Gropius—Dammerstock-Karlsruhe

Small apartment colony near Karlsruhe. Single-story row houses. At west side, multistory gallery-type houses.

The first systematic realization of row housing development: rows north-south, vehicular traffic at right angles to housing rows.

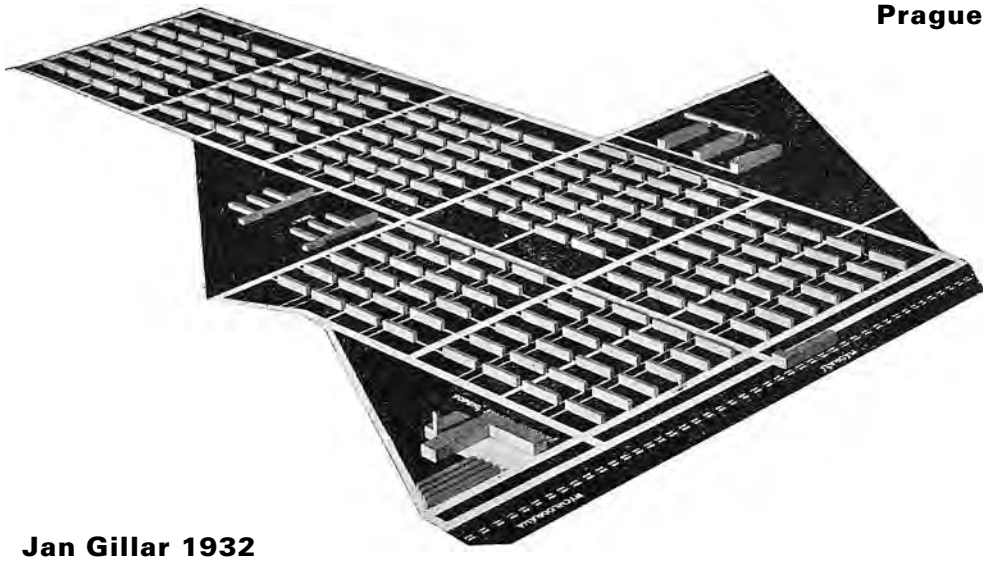
1913, Munich



Colony Alte Heide in Munich

A very early example of single-row housing. Vehicular roads at right angles to house rows. Two-story high houses; central corridor staircase type. Apartments have 2 rooms and kitchen. In center, children's playground and day care center.

At approximately the same time, another example of single-row housing in Belgium, Quartier de la rue Haute in Brussels, designed by the architect Hellemans; here, the rows are too dense, at the expense of proper sun access and air movement.



Jan Gillar 1932

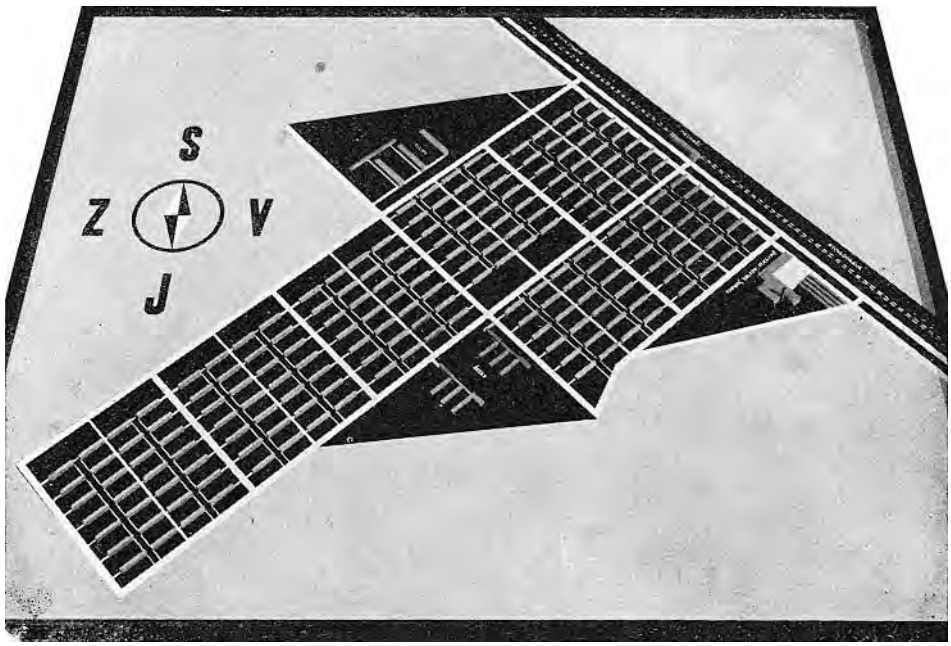
Site development proposal for small apartment district in Prague-Ruzyn.
Consistent single-row housing site development.

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the street, thus gaining space for a garden, which helps protect the windows of the ground-floor apartments from the dust and noise of the street. However, this is effective only with relatively large plots; the design becomes impossible with overly small plots, as the front and back garden areas are divided into two unequal and more or less useless small fragments of open space. So far as it is possible, the house rows should be planned in a north-south or northeasterly-southwesterly direction. Double-row development along parallel streets still preserves the disadvantages of different street and courtyard facades and thus requires different floor plan solutions for front and back apartments. In cases where it may be possible to orient the living spaces toward the rear garden, the windows of one row will be oriented toward the east, while the opposite row will face west. Where the rows must run in an east-west direction, it will be necessary to orient the living spaces toward the street (i.e., the south) and the service spaces toward the shaded garden on the north side. Where the street is narrow, the southern facade may end up in the shadow cast by the house row on the opposite side of that street. In short, these and similar examples demonstrate that by definition, parallel row–siting produces unequal apartment layouts.

The **single-row type** (*Einzelreihenbebauung*) must be considered the most advanced site-planning method of today. It offers many advantages in economy, traffic, and healthy living. In the *Einzelreihenbau* [single-row development], the differences between street and rear facades are eliminated. All floor plans can be thoroughly rationalized and standardized, and all apartments have equal access to light, air, and cross ventilation. All apartments are surrounded by a reservoir of open air. Moreover, single-row housing works equally well on both level and sloped sites; only vehicular roads require adjustments in an uneven terrain, but they need not be placed parallel to the housing rows—they can run at right angles to them and can therefore be shorter. Single-row development will adjust easily to the natural topographic features of a site; street drainage ditches, natural streams, and surplus excavated earth can be used to en-

Prague



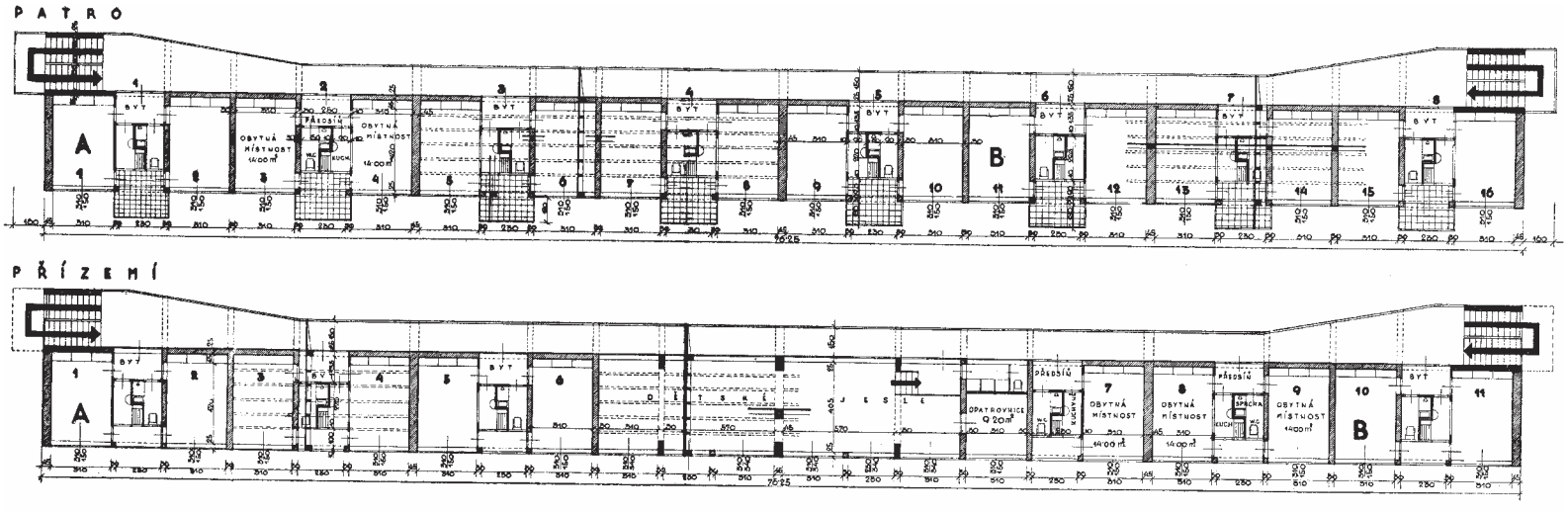
Jan Gillar
Site development proposal for small apartment district in Prague-Ruzyn.

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hance surface drainage of rainwater, meaning that cut-and-fill operations can be reduced to a minimum. Compared to the irregular open and picturesquely arranged blocks with their fancy arabesques, schematized artifice, and graceless simplism, which are designed following arbitrary and rigid aesthetic formulas, single-row development permits the creation of settlement site plans that grow out of the landscape and fit into it by retaining the terrain's natural irregularities. The cost of site modifications and roadways is reduced by placing vehicular roads at a right angle to the house rows, while pedestrian paths run parallel, along their fronts and backs. Such an arrangement results in shorter and fewer roads, making it possible to use the savings gained by this arrangement for upgrading and improving site service systems.

Row house development is not a new invention. It appeared sporadically way back in the past, but has been scientifically studied only recently. Its advantages are not lost on modern architecture, which therefore has generally accepted and applied it in practice. It may be of some interest that one of the earliest workers' colonies—the Alte Heide in Munich, built in 1913, which consists of two-story houses and children's crèches, a playground, and public baths—was planned as a single-row development. The most exemplary systematic application of contemporary single-row development was demonstrated for the first time in 1929 by Walter Gropius in his Dammerstock-Karlsruhe project.

Another prewar example of single-row development can be found in Belgium: the Quartier de la rue Haute in Brussels, designed by the architect Hellemans. Unfortunately, the rows of the houses here are too dense to be able to benefit from the full advantages of the system.



Four-story open gallery–type houses. On ground floor, apartments, children's home, common rooms, etc. Upper floor with apartments of two types. Apartments have two rooms with toilet and kitchen, or are divided by two dwelling cabins into separate bachelor apartments.

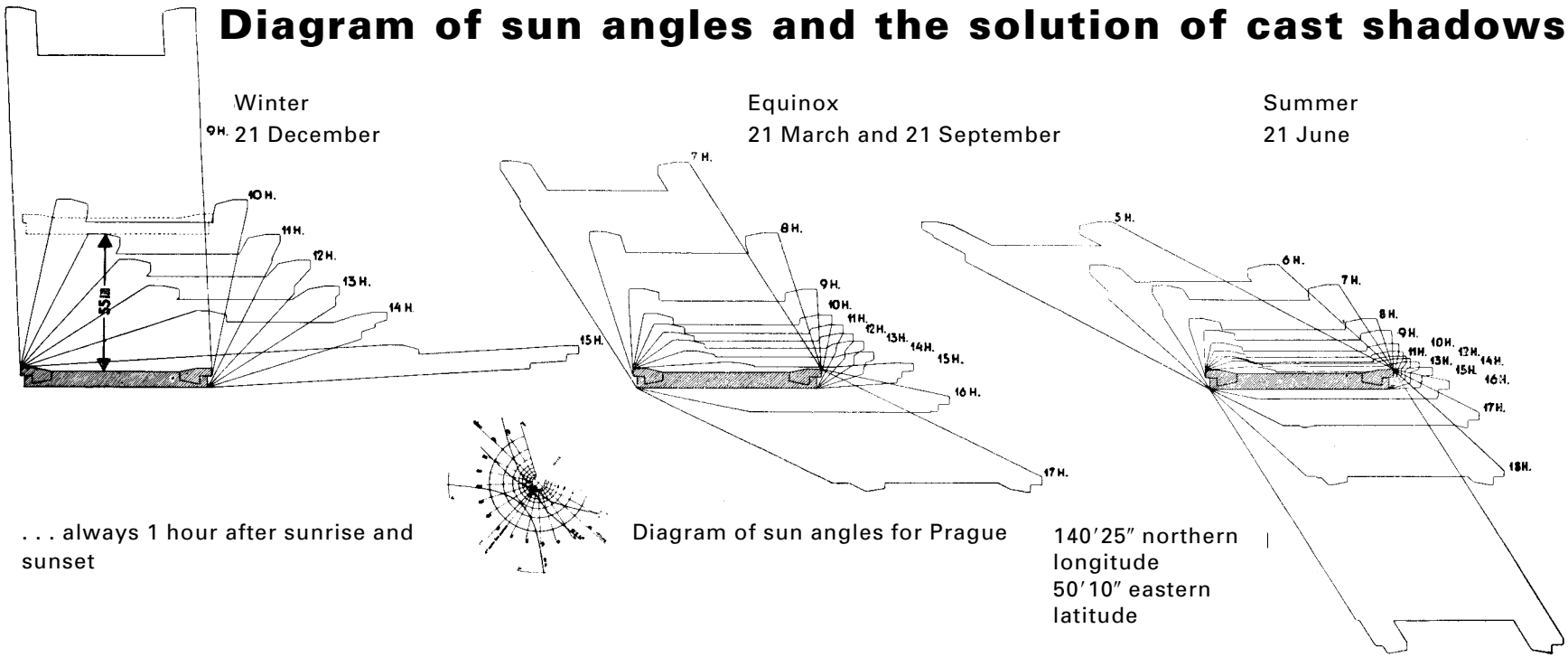
Floor plan of the dwelling cells on page **251.**



Jan Gillar 1932

A small apartment district in Prague-Ruzyn.

Diagram of sun angles and the solution of cast shadows

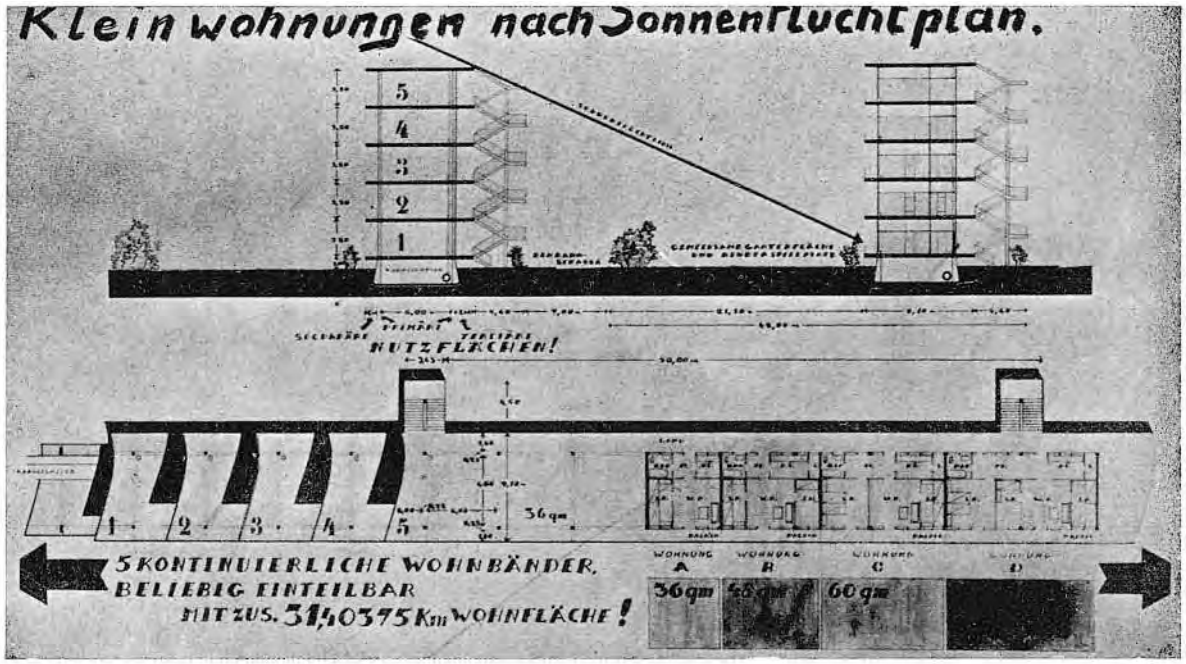


. . . always 1 hour after sunrise and sunset

Diagram of sun angles for Prague

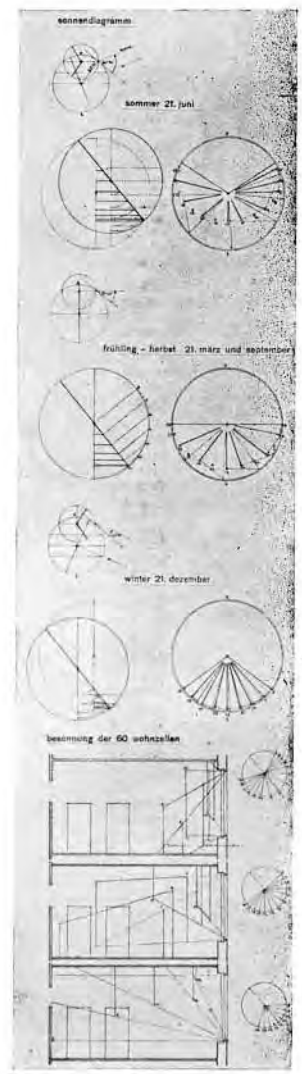
140′25″ northern longitude
50′10″ eastern latitude

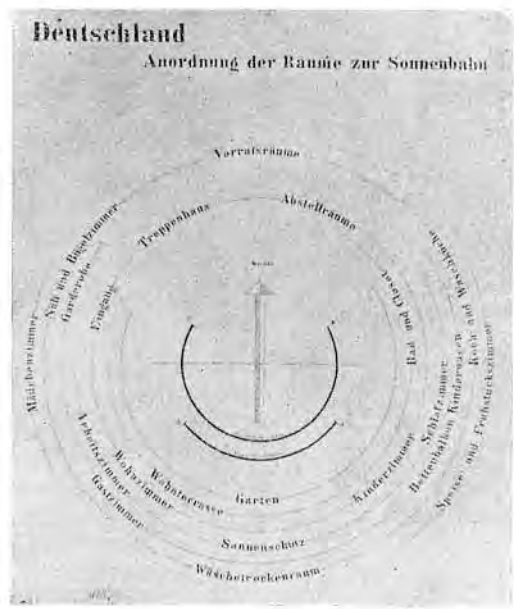
Sun and shadow angle diagrams developed for the site plan of the housing district in Prague-Ruzyn



Franz Krause 1929: Gallery-type housing with small apartments in single-row development.

Skeleton construction. One facade has balconies, the other stairs and access gallery, which is cantilevered on brackets. Apartments 36, 48, 60, 80 m².





Walter Schwangenscheidt: Diagram showing orientation of room toward sun angles.

Hannes Meyer

Sun angle diagrams for a trade school in Bernau near Berlin

From the point of view of traffic, another advantage of the single-row type—besides the lower costs associated with fewer streets—is the clear and purposeful differentiation between vehicular traffic roads, at right angles to the housing rows, and the residential streets and pathways running parallel to the houses. Moreover, the tendency toward extending the length of the housing rows also helps shorten traffic roads and travel distances in general. The width of the roads is dimensioned according to traffic volume: that is, it is a multiple of two, four, or six widths of a standard-size vehicle (parking places for automobiles are provided at regular intervals on both sides, separate from the roadways). The roadways are not corridor streets, and therefore they are not framed by ornamented representational facades. They look more like a railroad right-of-way than a majestic avenue. There will be a minimum number of intersections, and those that are necessary will be designed to keep traffic moving without interruptions along one-way roads (for vehicles moving at slower speeds, intersections should be designed to allow drivers approaching from different directions to see each other in time to brake safely before reaching the crossing).

Placing the housing rows at right angles to the traffic roads also enhances the environmental quality and habitability of the dwellings by keeping them at some distance from the dust and noise of traffic. Single-row development is also a good regulator of population density, thereby both improving health conditions and the quality of life in housing, apart from helping to control traffic congestion. According to Gropius, building development should be limited by an officially set population density of so many persons per hectare (to be enforced equally for high- or low-rise housing) rather than by stereotyped, unsubstantiated, and inefficient restrictions on height (cornice height and similar rules) imposed by current regulations. Limits on the height of housing rows (normally derived from a desired angle of the sun's rays, measured at a maximum of 40 degrees of the distance between facing housing rows) may be justified only in the case of a steep or irregularly shaped terrain.

One **question that has not yet been satisfactorily answered** with respect to single-row planning is the **orientation of the house rows.** (W. Schwangenscheidt has dealt with the question of orientation in detail in the journal *Stein-Holz-Eisen,* no. 8, 1930.) In order to provide southern exposure for all apartments—and assuming that bedrooms and their subsidiary spaces should enjoy early- or late-morning sun, while living spaces should have afternoon sun exposure—house rows should be planned in a north-south direction, with windows facing both east and west. Such an arrangement would also allow for a more densely built-up development and thus greater utilization of the site, since the shadows cast by the house rows would be shorter. The desirable distance between building rows with respect to their height and based on the incident angle of the sun's rays (*Lichteinfallswinkel*) has not yet been established on an exact scientific basis, and therefore one has to rely on approximate estimates and rules of thumb. These have been established by Heiligenthal as follows:

For north-south rows:
h (= height of houses):d (= distance between rows) = 1:1.5
For west-east rows:
h:d = 1:2.5
For a diagonal orientation of the rows:
h:d = 1:2

Given this ratio of height of houses to distance between rows, each apartment will be assured a minimum of two hours of sunlight daily, even on the shortest day of the year (21 December). Thus, if the northeast rows with windows facing west and east offer the best sun access for both sides, as well as favoring the development of good floor plans for both staircase and

gallery types, then such an orientation may be considered the most appropriate in both cases. Certain local, climatic, topographical, traffic, and meteorological (i.e., the prevailing wind direction) conditions may in some cases require a certain adjustment of the orientation of the house rows, that is, a greater or lesser deviation toward the northeast or southeast. In general, air movement between the house rows will be much freer than in the open block type: the objection that unpleasant drafts may occur in the open corridors between the house rows has so far remained unsubstantiated. Of course, **one can hardly assume that in the expansion of a given city it will be possible to consistently maintain a single direction in the orientation of every new settlement.** For example, the Frankfurt architect Herbert Boehm has demonstrated that east-west rows with windows facing south are perfectly well suited to truly small apartments, while rows running from the north-northwest toward south-southeast allow for more variable floor plans. Often local conditions will call for the orientation of the floor plan to be adjusted by a few degrees. This means that the position of the various functional spaces within the overall layout of the apartments will largely dictate what their best orientation toward the sun should be and thus will suggest the correct direction of the house rows. Particularly in small apartments, whose space is handicapped the most by having to accommodate the same number of sanitary and other service functions as larger apartments provide, service functions should be given maximum exposure to the sun as a matter of priority.

Single-row development offers the greatest economic advantages and cost savings if the rows are made relatively long, resulting in a shortening of lateral streets. To avoiding increased outlays for underground water and sewer installations as well as other site service systems that can swallow up the savings gained by the street shortening, the number of apartments incorporated in a house row of a certain length should be maximized. Naturally, this will lead to a narrowing of individual facade segments, and will make narrow and deep floor plans necessary for the individual dwelling units. In terms of cost, such floor plans are well suited for this type of long row housing, and they also well if used in the gallery type.

The advantages of single-row development become even more apparent if we consider rows of multistory houses. Given the correct distance between rows, following Heiligenthal's formula, each apartment—even in high-rise houses—is ensured a view toward an open green space, good orientation toward the sun, and access to sufficient air and light. Walter Gropius studied in detail the application of north-south rows for siting high houses and arrived at the following conclusions: on sites of comparable size, it is possible to increase settlement densities in direct proportion to the increase in the number of stories by maintaining the same sun angle (30°); by retaining the same population density (number of beds), it is possible to increase the distance between the housing rows, thus achieving an even more favorable sun exposure. The distance between ten-story houses with comparable population densities will thus be eight times greater that between single-story house rows. Under such circumstances, the high house makes it possible to provide larger open spaces, and the entire housing neighborhood thus gains the luxury of air, sky, and greenery at no extra cost. In such a scenario, living in a minimum apartment will not evoke feelings of claustrophobia and crowding, for all windows will open onto a green, open space. The tenants on the lower floors can look up toward the sky, while those on the upper floors can look down at the green of the lawn, trees, and bushes. In contrast, tenants in low-rise house rows look into the windows of each other's apartments (see p. 285).

The above observations suggest that it is imperative to coordinate site planning with regulation—the classification of functions, the separation and differentiation of pedestrian from vehicular roads, cost factors based on functional choices, the differentiation of vehicular arteries by speed and volume of traffic, access and feed roads, and so on, and so on—as opposed to

the undifferentiated and unplanned mixing of everything, anywhere. Regardless of height, single-row development makes it possible to control population densities in housing at desirable levels.

This brings up the question of what the desirable density of number of people per hectare should be. For example, if we increase the number of floors while maintaining the same sun angle, we increase population density. In the past, this increase was the main objection against row house development, which was claimed to lead to unacceptably high population densities. Note that in chapter 5 the notion that high settlement densities are the sole cause of health problems in cities was refuted as erroneous. With good sun exposure and good ventilation of all apartments, coupled with the assurance of a humanly decent standard of living for all (good nutrition, physical fitness, sound medical care, appropriate sanitary facilities, and children's quarters separate from those of adults), an increase in the density of reduced settlement areas above current levels may actually have certain advantages in terms of community health and social relations.

Increasing the density of settlements and the number of stories makes it possible to organize collective and centralized dwelling services better and more economically, to locate children's crèches more advantageously, and to provide child care centers, public schools, clubs, pharmacies, playgrounds, and common dining facilities separate from the houses yet close to them. (Since public schools will be located inside the settlement, students will not have to cross dangerous intersections.) The increased height of the houses will decrease sprawl. The remaining open spaces will be covered by lawns or otherwise planted. It is by such means that we arrive at a **new conception of the green garden city: a garden city developed in height.** In such a vertical garden city, the term "*house and garden*" is interpreted in a new way, differently than envisioned by the Romantics of the English garden city movement. Here, the green open areas between the rows of high houses are not ornate show gardens; nor should they be confused with English-type parks. To sum up: we are not dealing here with pretentious, formal gardens, or even with replicas of public city parks, but simply with green areas put at the disposal of people living in the houses nearby, with lawns for their own enjoyment and without formally laid-out gravel paths. Instead, the cool shade of shrubs and clumps of trees, quiet meadows and woods, pools, and sand boxes for children to play in—in short, reservoirs of sunshine and air. As for the flower gardens that surround the private villas: let them become an integral part of the homes themselves—flowers in window boxes, on balconies and terraces; flowers in winter gardens, clubs, and children's homes. The primary function of the garden is to extend the interior space visually into outside, natural space: well then, let it now physically enter into our houses and merge with their interiors, which in turn extend their space into nature outside. Let us integrate our dwellings with flowers, grass, and trees by uniting nature with human-built form.

The house should be considered not merely a machine for living but even more a biological instrument, serving the spiritual and physical needs of the people. If it is true that, as Jennings states, in modern biology an animal may be defined as process and event, then the settlement and the city are process and event as well, emanating from the way we live and work and expressing all the other life processes of society, all of which take place in space and time. They provide the organic linkage between the processes of dwelling and the dynamic processes of animal and vegetable life in general. Modern architecture must foster and nourish this union of life and nature, while construction technology must recognize and make use of the vast potential of the vital forces of energy stored in matter and must subsequently try to harmonize the relationship between matter and the dispositions of the human organism, by such means as activating the influence of shade and light on body and soul. In the past, like layers of heavy

clothes, the heavy walls of the house separated us from nature. We are now in a position where the wall can be transformed into a breathing membrane, separating and—at the same time—connecting our body with the protoplasmic as well as biomechanical energies of the surrounding world. Our houses will now be able to react to the gentle vibrations and movements of the breathing earth: rooms will open themselves to the potency of solar energy; the walls surrounding our dwelling not only will fulfill the negative function of insulating us from the vicissitudes of the four seasons but will actively react to the tone and rhythm of our lives as well. Communities will cease to be deserts of stone, becoming places where the ebb and flow of human life will draw its vitality from nature in a new symbiosis between human, animal, and vegetable life processes. Civilization will be powered not solely by steam and electricity but also by the energies of the sun and the tidal power of the phases of the moon; it will be in harmony with the life of nature, the diurnal rhythms of day and night, the ebb and flow of the oceans—one could go on and on. As a vital design determinant in housing, the sun is a very recent discovery, and typically a socialist one.

The processes of dwelling and recreation in the green city can be brought together only under the condition that it be a **quiet city.** When streets are placed lateral to and pedestrian pathways parallel with the house rows, the resulting separation of vehicular from pedestrian traffic will act as a first line of defense against noise in residential districts. Assuming that at some point our regulations will cease to be the present pitiful compromise between so-called public and private interests, it should be possible to do away with private automobile traffic in residential districts altogether. This is especially desirable in the inner city, where in any case the automobile as a personal means of transportation eventually has to disappear. As a means of transportation it is a wasteful personal luxury (not excluding the so-called popular car, preposterously advertised by the *Das Neue Frankfurt* as "the automobile for the subsistence minimum"!!!), not only because of its current high price but also because it is essentially a wasteful means of getting from one place to another: it employs excessive horsepower to transport a small number of people, it takes up too much space on the road, and it requires large areas for parking.

The ideal alternative would be to put all high-intensity transportation, whether personal, freight, or express, underground at a sufficient distance to avoid disturbing nearby residential quarters. A network of moving sidewalks could be provided to connect the houses to individual stations of (underground) rapid transit, spaced at 400- to 500-meter intervals. Roads for aboveground traffic should always be placed at right angles to the house rows, and the underground transport network should be laid out on a checkerboard pattern, with diagonals connecting all points in the city. If organized on planning principles—in contrast to the anarchic circulation schemes of old cities, where rail-bound vehicles were the main cause of constant traffic breakdowns, while buses had the advantage of maneuverability and freedom to change routes if accidents occurred—aboveground transportation will favor the streetcar on rails over buses. In a properly planned traffic system, where all high-volume traffic is moved underground, the city will lose much of its present intolerable, nerve-racking street noise and be free of the chaos of uncontrolled traffic.

The green city will be a **clean city:** it will be rid of the dust of traffic and the smoke from the innumerable house chimneys that sprout from the roofs of our old cities, causing dust and dirt to descend on our streets like black snow. Smoke-free settlements will be separated from the industrial zone by a greenbelt and will be heated by new, clean energy sources. No more smoky kitchen stoves, since food will be industrially prepared in central kitchens situated outside the residential zone. Incidentally, the time is not far away when the grimy age of coal will be replaced by an era of brilliant electricity and the utilization of new sources of energy (solar energy and latent atomic energy); coal will be processed entirely underground.

Single-row development originally evolved from the old closed block, has effectively superseded it. It is without doubt a higher and more advanced system than the transitory types of open-block or parallel-row developments, which were merely intermediate stages toward its present acceptance. Single-row development can be applied both to single- or multistory houses and, yes, even to high-rises: it is therefore possible to state with some assurance that for (approximately) two- to ten-story houses it too may turn out to be the most advantageous site-planning method. Incidentally, *Einzelreihenbebauung* is also well suited for gallery-type housing and housing with a single side corridor, both of which are essentially slablike, single-bay, single row, corridor-type houses. In contrast, site-planning schemes of low-rise villa settlements with skyscrapers on one side and relatively high houses on the other side exclude the possibility of incorporating single-row development; they usually end up as **amorphous site plans** (Bruno Taut labels them "peremptory"). Typical villa districts built over entirely with *Flachbau* houses [low-rise detached housing], which hark back to the ideas of the English Romantic movement, try to demonstrate their opposition to urban mass housing by fashioning their regulating plans on the model of idealized medieval villages: orientation toward the sun is arbitrary, and pathways are designed in arbitrary, irregular patterns. The sentimental relationship of the petit bourgeois residents—generally clerks and small shopkeepers—who seek relaxation in growing vegetables and cultivating roses next to their little toy villas, christened with cute, endearing names, prevents their inhabitants from recognizing all the shortcomings and absurdities of their situation in these conventional villa settlements in the suburbs and summer country resorts.

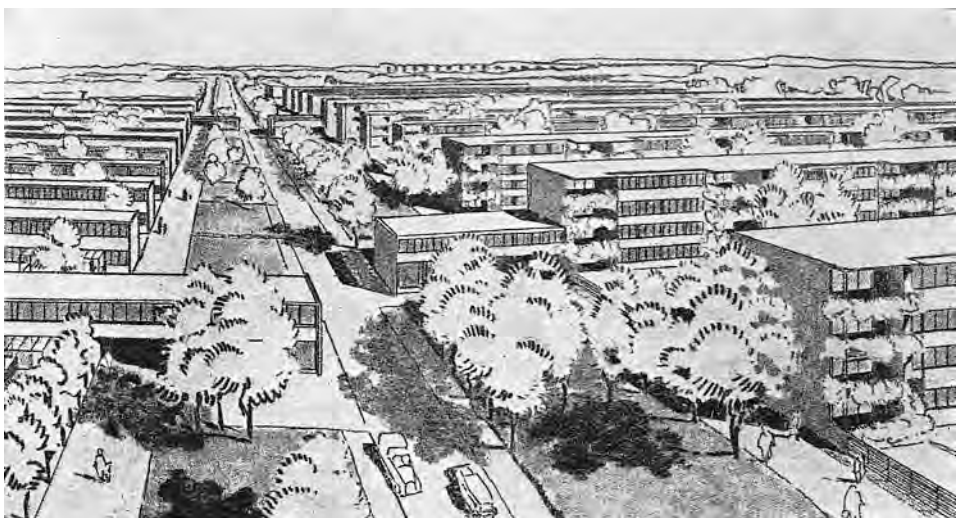
In their architectural values, these colonies of middle-class villas generally have nothing in common with good design; real architectural distinction is reserved exclusively for the villas of the rich. Run-of-the-mill villa colonies are usually designed and built by commercial developers, who produce house designs of astonishing banality: all one has to do is to compare contemporary suburban cottages and villas with the creations of authentic vernacular housing to see the difference (see the Spanish small cottages illustrated on page 190 of this book). In a perverse way, the comparison actually confirms that the attractive features of these vernacular building forms have survived even in their imitations, now used to sell their debased offspring. In one of his writings, Le Corbusier sings the praise of vernacular dwellings and makes the point that they are the product of an indigenous popular culture, built with love and expressing the deep moral and ethical principles of a whole community, rather than being solo creations of a single architectural mind. Their floor plan resembles a beautifully set table; its dimensions are derived from the scale of the human body and human acts; everything is careful measure and pure harmony. The result is a sensible house, where all wants and needs are wisely held in check by genuine biological predispositions. These were the true dwellings of the people. Instead, what we have today are chicken coops and cute snail houses of garden colonies and vacation homes! In fact, the weekend cottage of a hobo or an emergency shelter for the homeless built with found materials on the periphery of the city is much closer to architectural truth than are these pretentious little villas in the suburbs of our cities!

It is the thesis of this book that the freestanding villa, the favored dwelling type of the propertied classes, is utterly inconceivable as a solution for the minimum dwelling; such a "villa" for the poor would surely end up as a miserable shanty, provided at best with a tiny garden with pansies and an even tinier courtyard. These cramped garden colonies with their postage stamp–size lots completely cancel out all the supposed advantages and homeliness of the independent, freestanding family house and are further proof of the irrationality of petit bourgeois ideology and the sentimental illusion of their highly touted cottage dreams.

Garden and villa colonies make it difficult to apply rationalized modern construction technologies and cost-efficient mechanical service installations, which require quantity and stan-

dardization to keep expenses down. With respect to traffic, much time is lost in commuting. People become isolated from each other and are encouraged to cultivate the manners of petty individualism. The separation of individual houses from each other fosters the psychosis of the loner and hermit, fragmenting collective social life. And yet, despite all these reasons marshaled against low-rise villa development with detached single-family houses, their popularity and acceptance in bourgeois circles and among middle-class families with children continues to grow. One of the main reasons for the success of the detached single-family house is that the rental multistory house has very little to offer toward satisfying children's needs. The situation may be summed up as follows: since the family home is seen as the most suitable form for family living in its current bourgeois form (two to three generations living together), and since the multistory house is better suited to the needs of single, unattached individuals, students, and childless couples, who are currently mostly dependent on renting, **mixed settlements** were developed to accommodate the needs of both these categories. These included a few multistory efficiency flatlets with common kitchens and dining rooms, usually scattered among the single-family houses, so that the tenants of the multistory houses would be able to enjoy the garden areas and the inhabitants of the family homes could take advantage of the common services of the efficiency apartments. A good example of such mixed-site planning is the latest project for an addition to the Törten colony in Dessau, designed by the architectural division of the Bauhaus under the leadership of Hannes Mayer (1930): it contains three types of family row houses, interspersed with a few three-story gallery-type houses. In the end, only the gallery-type houses were realized.

As far as site plans with **residential skyscrapers** are concerned, it is important to point out that in Europe the question of real skyscrapers for residential purposes has been dealt with only perfunctorily and in a piecemeal fashion, mainly because there are as yet no real economic incentives for their application. Instead, there is an abundance of so-called high-rise



Walter Gropius 1929–1930

View of a housing district with single-row site development.

Vehicular road is positioned at right angles to the house rows, and separated from the houses by a greenbelt.

residential houses, which were discussed in some detail above. Some of these are actually row houses (single-loaded with a side corridor) with a greater number of floors (ten to fifteen), such as those proposed by Walter Gropius. In their site planning, both the residential and the commercial skyscraper call for open sites. As for floor plan solutions for skyscrapers types (excluding the now-abandoned oldest type with an internal court), the following solutions have emerged: (1) The **tower type,** covering the entire surface area of the site: the building has a rectangular shape, with terracelike recessions at the top. Windows are oriented without regard to sun orientation. (2) The **cruciform type,** best exemplified by Le Corbusier's skyscrapers (intended mainly as commercial and office buildings, even though in his early urban planning studies laid out in his *L'esprit nouveau* of 1920–1921, Le Corbusier did consider residential skyscrapers in the design of his Contemporary City). Another example is the 250-meter-high residential skyscrapers designed by Auguste Perret, with floors 1 to 12 dedicated to offices, and 13 to 75 reserved for apartments. The cross form is the most stable system structurally, and it lacks an interior court. Instead, vertical communication systems and other service functions are accommodated in a central core, but a correct orientation of the apartments toward the sun is not possible here either. (3) The **star-shaped type,** like the cruciform type, is a skyscraper designed from the core outward, toward the facade. Better orientation toward the sun is possible if a half star–shaped variation is used, as implemented in the example of the residential skyscrapers designed by Jan Duiker and Wiebenga.

Skyscraper site planning requires very loosely built-up schemes, with considerable setbacks for individual buildings, which cast long shadows. The sizable open spaces surrounding a skyscraper can be used either to accommodate traffic or to provide green spaces. In the United States and countries under its influence, such as Canada and Japan, residential skyscrapers are being built in increasing numbers. This proves beyond any doubt that they are cost-effective from the standpoint of construction. The same goes for Shanghai, where land speculation in the limited territories of the foreign concessions has driven up land prices, thus leading to the introduction of skyscrapers. All these cases are representative of residential-type buildings.

Just as in the question of high- versus low-rise houses, so in the question of what method of site planning to choose it is not possible to give a universally valid answer, since any decision in these matters is contingent on the important issue of social organization—that is, on the **social content** of this or that **form of settlement.** Progressive architectural research has come to the conclusion that the most advanced type is single-row housing. But given the severe constraints of existing property and social conditions, that type is difficult to implement, even though—unlike the closed block—it tends to put public health and welfare ahead of the interests of land and rent exploitation. It is a solution that is ahead of its time in both its architectural and technical features. Its large-scale application is difficult if not impossible within the bourgeois, capitalist framework of scatter-site land ownership. For these reasons, it has been applied only in fragmentary fashion, which has made it impossible to benefit from its many advantages. As mentioned above, the systematic application of the single-row development is facing the obstacle of fragmented site ownership, which prevents any systematic standardization of the units that make up the unified housing rows which—for the same reason—should be as long as possible to realize the advantages of industrialized housing. Such length can be achieved only on sites that are sufficiently large and not interrupted by irregular and small-scale property holdings. To sum up: private land ownership and scatter-site development based on land speculation prevent the planning of long housing rows. The only alternative is to exploit the site to the maximum with **narrow and deep plots,** in order to achieve the benefits of standardization and other efficiencies of single-row housing (gallery type).

As a result of the factors mentioned above, in place of today's houses with a front facade length of 3, 15, 20, or 30 or more meters—given the principle requiring deep lots with narrow

frontages—the front facades of row- and gallery-type houses (or houses with a single side corridor), now multiples of **ten** meters, will have to become **hundreds** of meters long.[1] Such **kilometer-long houses** are the by-product of the gallery-type system, with its contiguous internal communication system (i.e., a corridor essentially acting as a sidewalk, and the efficient use of elevators and other mechanical movement systems). Long housing rows tend to require dimensions that exceed current property sizes and other site limitations. In effect, they turn into a long **single house.** In general, kilometer-long rows of houses are not possible under existing site ownership conditions with the geometry of sites currently available for concentric and centripetal city development.

However, such rows of houses are fully compatible with the concept of the **linear city,** which has no center and no central business district. The linear city supersedes the concentric form of the capitalist city. It represents a new, higher type of city, best exemplified by the Soviet example of the *sotsgorod.*[2]

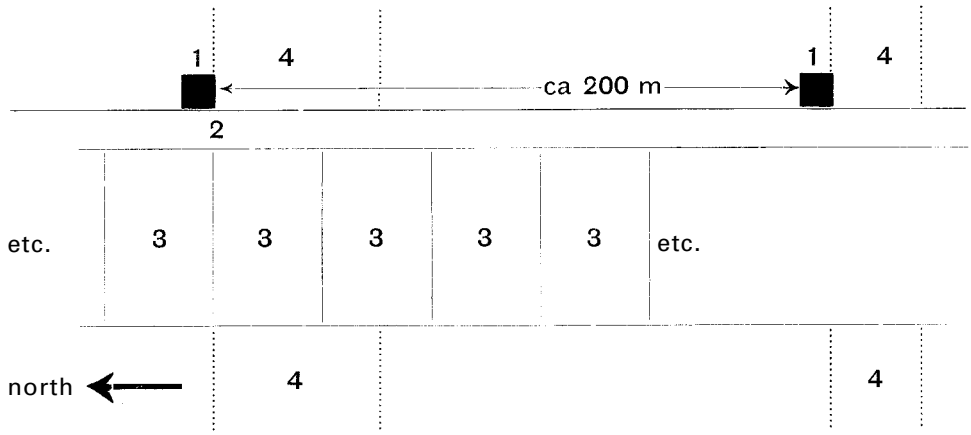
From the above it is evident that there exists an inseparable **relationship in housing between floor plan, height, and site plan,** and it is impossible to address any one of these categories independently from the others. The floor plan of an apartment and its functional arrangements, height, and geometry, as well as the impact of building regulations, are all components of their social content, which ultimately determines both their form and their organization in a decisive way. Without a new organization of society, there will not be no **real new housing** and no new types of settlements. The structure of a class society determines settlement form just as much as it affects dwelling style. Questions such as what should be the ideal floor plan of an apartment, or the most appropriate height of housing, or the most livable site plan for a residential district, cannot be isolated from the question of the structure of a city: the answer to these questions can be found only in a search for new ways of dwelling, work, and recreation as culturally integrated community processes. The architectural expression of such a new organization of communal life organization is the socialist settlement, which will eliminate the current disparities between the city and the village in the form of agro-industrial conglomerates, and which will be capable of providing an environment on a higher cultural and social level.

Finally, any discussion on the subject of site planning must include the provision that row housing, which unquestionably represents the most mature and functionally most efficient site planning method, should never be applied in a stereotyped and mechanical manner. It is intrinsically best suited for the planning of socialist cities, because apart from its practical benefits (sun exposure, air movement, traffic, etc.), it allows the architect and planner to take into consideration comprehensively and holistically the organization of all aspects of social and cultural life, including the support of a collective lifestyle. To achieve this new lifestyle, it will be necessary to subdivide the socialist settlement into a number of functionally differentiated zones: residential districts for employees of a single plant, which will provide their inhabitants with a feeling of collective solidarity, created by the bond of their mutual work interests. Such a community will become a true home for its inhabitants, rather than just being a place to lodge. Following the subdivision of the residential zone into distinct districts and quarters, different housing types will develop organically and thus provide the rationale for the proper **spatial articulation of the settlement** as a whole.

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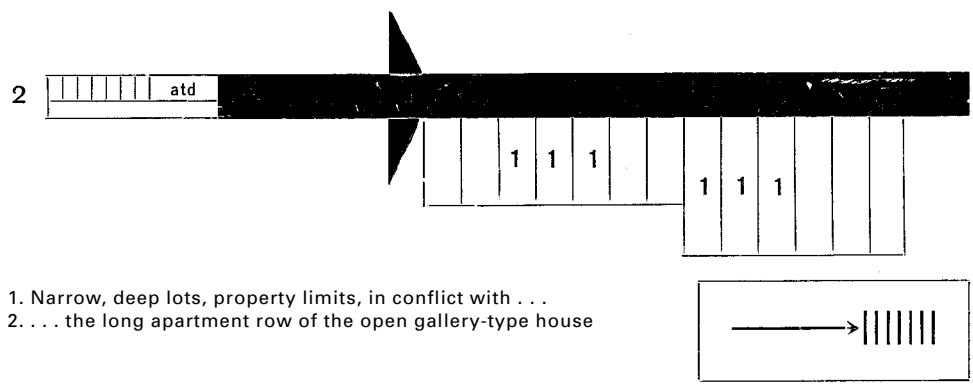
[1]) As discussed above, the inherent tendency of the gallery type and houses with side corridors is toward long frontage, while the facade length of the stairwell single-loaded corridor type is limited. A similar situation can be observed in railroad cars: cars with side corridors, especially sleeping cars and cars of international express trains, Pullman cars, and similar types, are considerably longer than cars of the older type.

[2]) Cf. N. A. Miliutin, *Sotsgorod: The Construction of Socialist Cities in the Soviet Union* [1930].

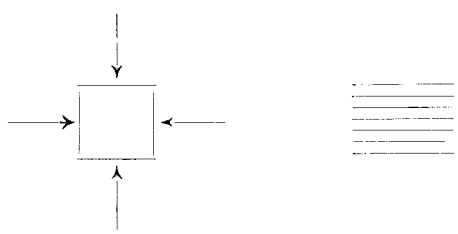


Schematic of an open gallery long house with narrow dwelling cells and single-row site development.

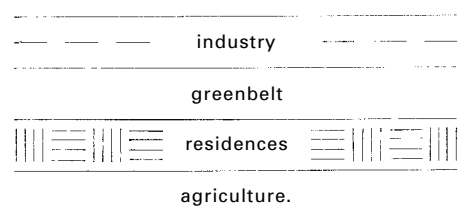
1. Elevators and stairs. 2. Open gallery or a continuous side corridor. 3. Dwelling cells. 4. Street at right angle to house rows and passing below the building.



1. Narrow, deep lots, property limits, in conflict with . . .
2. . . . the long apartment row of the open gallery-type house



Conflict of row house site development with a concentric urban plan.



Corresponding row house development in linear city.

USSR-CCCP



A settlement of the Dnieprostroi combine: housing, clubs, theaters, cinema, baths. Row housing system.

1930–1932

Dniepropetrovsk



Moscow-Mockba 1928
A new housing district near Usakhovka. Open blocks.

toward new forms of dwelling 13.

the demise of the kitchen ● hotel organization of dwelling services ● the boardinghouse ● collective dwelling in western modern architecture ● collective houses and communal housing in the ussr ● sotsgorod ● linear cities ● soviet city development ● urbanization or de-urbanization? ● dispersed settlement ● collectivization of housing in the context of capitalist cities

In chapter 1 we dealt with the dialectics of the evolutionary progression and changes in dwelling form, tracing the development of the internal contradictions between housekeeping and leisure-related aspects of dwelling as related to the conditions and incongruities of the institution of the nuclear family and as embodied in today's marriage- and family-based household (i.e., its social contents, whose function is reflected in the architectural form of the dwelling). Special attention was paid to cases in which the dwelling situation is determined by class and by the status of women: that is, housing where women are still not integrated into production, or apartments of workers' families where both husband and wife earn their living outside the home. We have further shown that as the old family-based household has broken down, the **importance of the kitchen has progressively decreased.** Finally, we have touched on the paradoxical situation existing in the field of housing construction and expressed our conviction that it is difficult, if not impossible, to find a solution to the housing question within the context of capitalism, given the undeniable fact that the dominant dwelling type (i.e., the family-based household) is determined exclusively by the requirements of the dominant class: this means that the proletarian dwelling has actually become a *contradictio in adiecto,* particularly since the typical housing type assigned to the proletariat is not a regular apartment, but a more or less temporary lodging. We have also indicated that efforts to force the family-based-household-type dwelling on the working class is in conflict with its proletarian content, for the conventions and habits of bourgeois family life have not yet taken root in the lifestyle of the working class and are totally incompatible with the status of working women, for whom the bourgeois apartment with all its housekeeping chores becomes an impediment to both their economic and their cultural emancipation. With the progressive pauperization of the proletariat, the increasing discrepancy between high rents and low wages becomes ever more glaring, thus making the housing shortage even more critical. In the final analysis, the solution to the housing problem cannot be sought within the context of an economic system in which the accumulation of wealth by a few creates an accumulation of poverty by the many. The elimination of the housing shortage and poverty and the formulation of any solution for a minimum proletarian dwelling on the model of old housing types

(i.e., the single-family house or rental apartment) are equally impossible within the framework of the existing economic and social system.

The catchphrase "minimum dwelling," trumpeted by the architectural avant-garde, must not be allowed to become the captive of petit bourgeois interpretations, usually construed as a dwelling for the "little man." Neither should one fall prey to one of those conventional hypocrisies by which—according to Engels—the ruling class exacts a high price for every one of its "Danaidean" gifts to civilization. As far as the housing question is concerned, at a time when our cities are growing by leaps and bounds and when new construction technology is capable of making great improvements in the architectural quality of our houses, poor families are still being forced out of their dwellings, while officials keep deceiving the people with laws for the protection of tenants that are in effect worthless. Loucher's Law in France and the promises of the Prague city administration to build 10,000 low-rent apartments (which were and will never be built) are perfect examples of this political hypocrisy. Another deception is the promotion of the concept of the "minimum dwelling" as a reduced version of the patrician or petit bourgeois apartment (see Janák's designs in the journal *Styl*) for three- to six-member families, with a floor area of 3.3 m^2—that is, 8 m^3 per person, far below official minimum health and safety standards (20 m^3 per adult, 10 m^3 for a child). It is preposterous to call such apartments habitable, but it is part and parcel of the conventional architectural hypocrisy of our time.

In our view, the "minimum dwelling" should be seen as a new dwelling type, with its social content to be determined by its being designed for people living on the level of the subsistence minimum, people who are represented mainly by the proletariat and the working intelligentsia. As we try to find a solution to the problem of the minimum dwelling, the only correct approach is to start with analyzing its social content. To do otherwise means that the problem has been incorrectly posed, an error that leads to the most absurd proposals—such as designing tiny apartments with a floor area of 20 m^2, conceived as self-contained family household units, and insisting on retaining the live-in kitchen as part of this most backward apartment layout.

The International Congresses of Modern Architecture [CIAM] came to the conclusion that to promote innovation, modern architecture should be allowed to approach the problem of the minimum dwelling without paying attention to existing laws and building regulations, and ultimately without paying heed to the constraints imposed by today's economic and social conditions as well. This position must be considered correct, for to be able to pose the problem of a new type of dwelling elementally and cleanly, disregarding anything not specifically and technically relevant to the eventual implementation of its solution, it will be necessary to set aside all legal, financial, and social obstacles that arise from current forms of social and economic organization and their internal contradictions. In other words, the problem must be investigated and solved with the precision and rigor of modern laboratory methods. The only danger in conducting laboratory research in such isolation is that it may suggest solutions that ultimately are technically and architecturally utopian, without any progressive or revolutionary significance, thereby actually producing a reactionary effect. By obscuring issues concerning the social function of dwelling, issues that need to be clarified first in any research, these results may act as a brake on progress. Just like any other scientific work, architectural reasoning is surely not obliged to concentrate exclusively on current problems alone, or to study problems only with an eye to the demands of the present, or to accommodate merely momentary needs. Such an approach to research would never be able to recognize those elements that would point practice and technology in new directions, lead to new discoveries, and open new horizons.

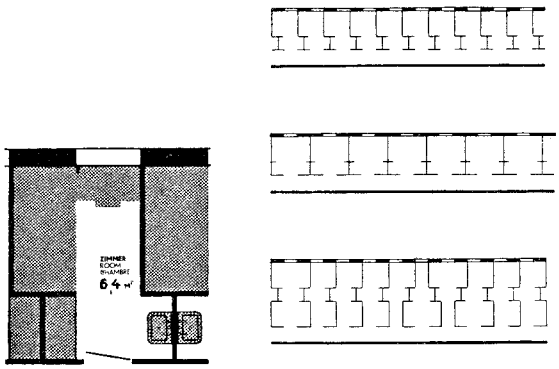
That said, it is essential not to forget that no architectural problem can be separated from its socioeconomic relations, and therefore any new hypothesis about the future of architecture must also be supported by a scientific prognosis of social development; there is no way to imagine the future in a void. This means that any understanding of future development must take cognizance of those elements that are already contained in embryonic form in today's conditions. The future can only be prognosticated in its dialectical development out of the present. If the work on new—or, if you wish, "future"—forms of the dwelling and the city is not to become a search for a fictional, romantic utopia, it will be necessary to give up the idea that new forms and combinations can be arbitrarily fabricated *ex nihilo* by some capricious leap of the imagination. Instead, the only correct way to proceed is to concentrate on sustained progressive development, carefully evaluating and retaining those embryonic elements that have emerged in a rather haphazard fashion from today's practice as dialectical contradictions of the dominant ways and that may become useful in the development of new forms in a new architecture.

In order to recognize the minimum dwelling as a special type and to be able to develop new forms based on the proletarian lifestyle exclusively for the class of the so-called subsistence minimum, one first has to understand the nature of the differences between the lifestyles of the proletariat and the bourgeois dwelling form—best exemplified by the family-based household—while at the same time extracting clues and incipient solutions from today's forms. In this connection, it should be kept in mind that as the proletariat represents the dialectical negation of today's society, it is re-creating it on a new and higher level. At the same time, its current sources of suffering and debasement will provide the new lifestyle of socialist society with a higher level of living energy, culture, and freedom. New joy in life will emerge from the martyrdom of life. This is also the reason why even **today's proletarian dwellings without a family-based household** and alien to bourgeois dwelling habits, despite their current revolting appearance of hovels, housing barracks, or overnight shelters, will be reproduced in the future on a higher level (naturally, with the aid of the most advanced technology and modern design methods) and thus will become the basis for a new culture of dwelling.[1] The integration of women and the young into the production process provides the main impetus for the disintegration of the traditional family. Women's equality with men, public education, the mechanization of agriculture as well as scientific advances in agronomy—all these create the preconditions for new settlement forms and the blurring of the distinctions between city and the village. One may add to this list improvements in transportation and the growth and proliferation of large cities of global commercial significance, which have spawned new forms of temporary housing types for their populations and which have forced people to live a seminomadic and mobile life.

The by-product of these developments is the modern **hotel,** which may be considered as one the first precursors of the proletarian dwelling when applied to the conditions of a socialist society. It demonstrates the feasibility of a dwelling without traditional household functions on the one hand, and an easy adaptation to change of place and dwelling on the other: both conditions fit the characteristics of proletarian life rather well. The hotel should be considered not merely as a case among other dwelling types but as the technically and organizationally most mature form of today's housing culture. It is an invention that is beginning to supplant the

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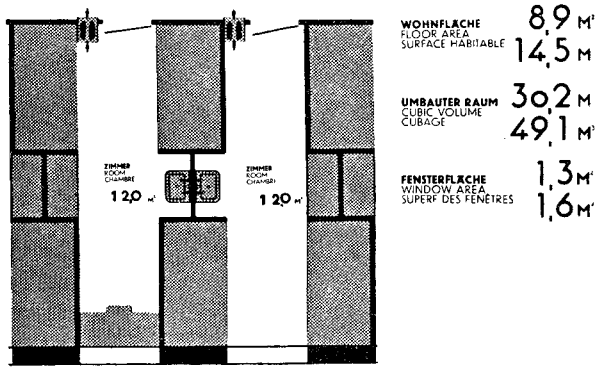
[1]) During this epoch "some of the basic characteristics of capitalism will convert into their opposite": free competition changes into monopoly and competition between monopolies; the centripetal forces shaping cities will turn into opposing centrifugal, decentralizing tendencies; grandeur and pomp will degenerate into decline and bankruptcy; etc.

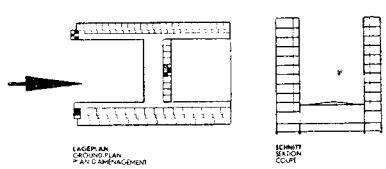


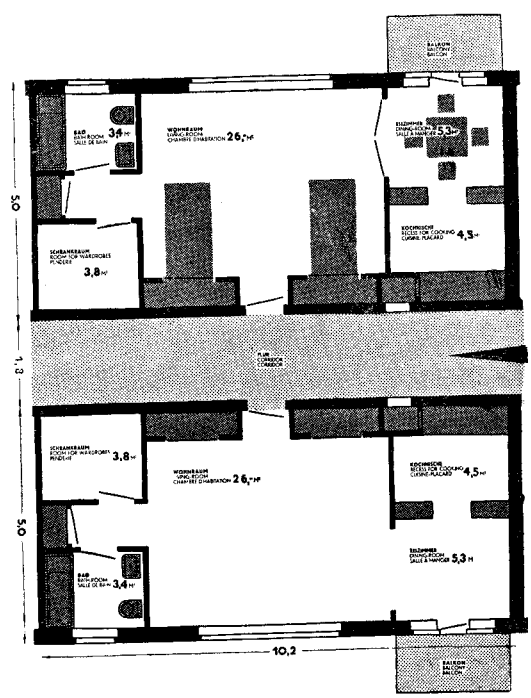
Schematic of a hotel skyscraper

Two parallel wings with rooms and a continuous side corridor. Common facilities in connecting tract.

Rationalized floor plans of the rooms and floor areas of 6.4 m² (one bed) and 12 m²–14.5 m² (two beds).







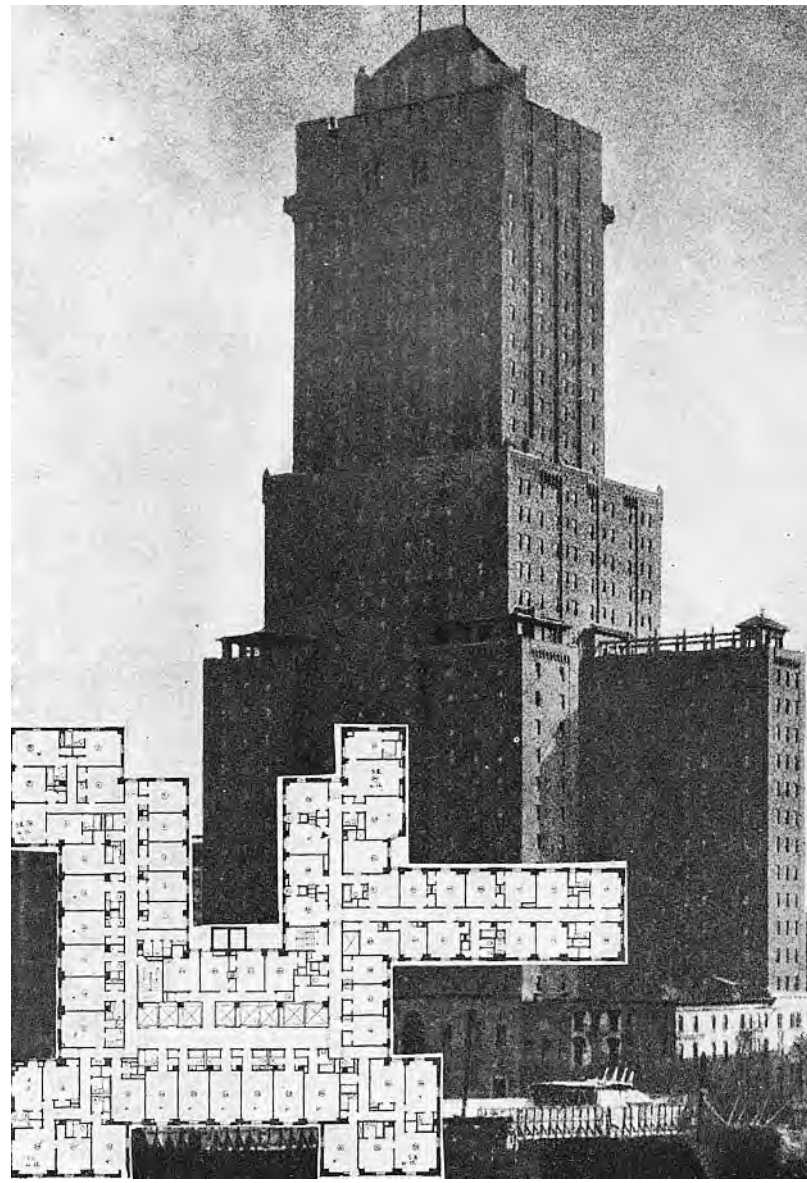
Hotel-type apartments in an American apartment house.

Central corridor. Apartment floor area 43 m², two folding beds in closets. So-called eat-in kitchen type.

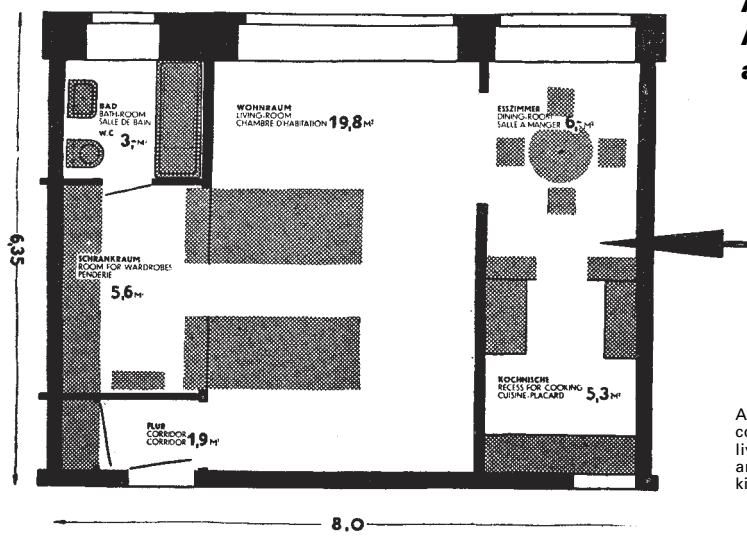
New York

Arthur Loomis

Hotel Shelton



(A typical central hotel corridor traverses all wings of the building.)



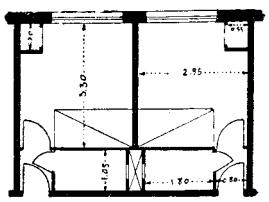
An apartment in an American hotel-type apartment house

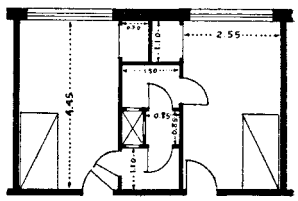
Area 41.62 m2, central corridor, folding beds in living room, bathroom, and a dining nook and kitchenette.

Floor plans of hotel rooms

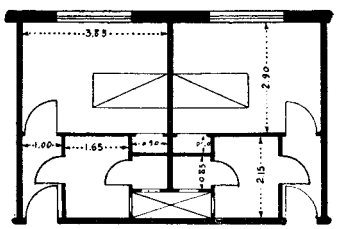
"minimum area and maximum comfort"

A hotel cubicle-bedroom, toilet, clothes closet.
Room with single bed in a hotel for short stay. Bath is ventilated by means of an open shaft. Area 12.98 m².



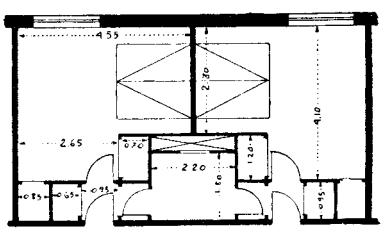


Room with single bed in a hotel for short stay. Area 14.68 m².



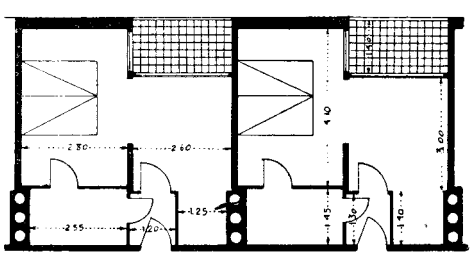
Room with single bed in a hotel for longer stay: hall, bathroom, toilet, clothes closet, and room. Area 19.63 m².

Grand Hotel in Špindlerúv Mlýn, Czechoslovakia



Two beds in a double-room apartment hotel for permanent stay, bath shared by both rooms; clothes closets and wash basins separate.

Hans Schumacher, Cologne (Germany)



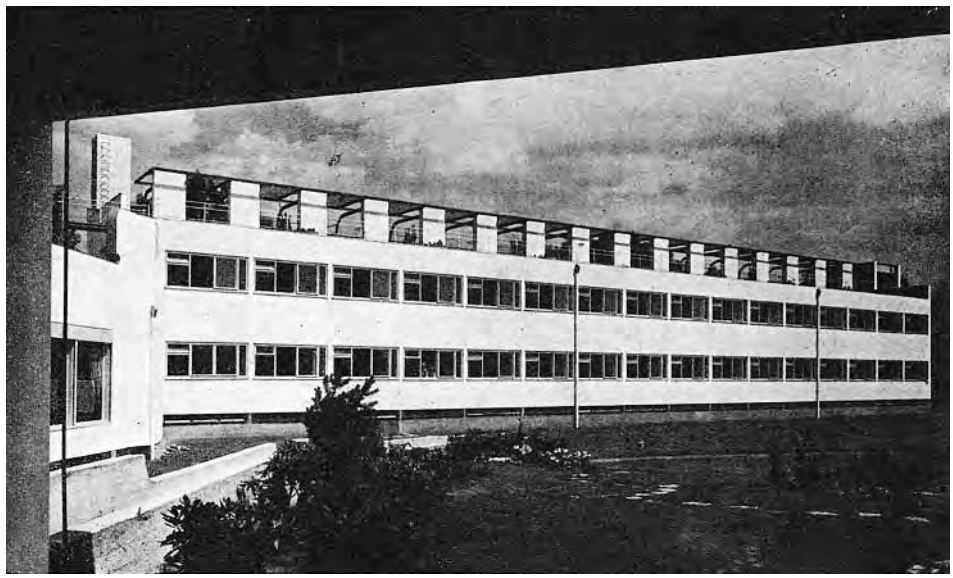
Room with two beds in a hotel for permanent stay; separate sleeping area, terrace, bathroom with mechanical ventilation.

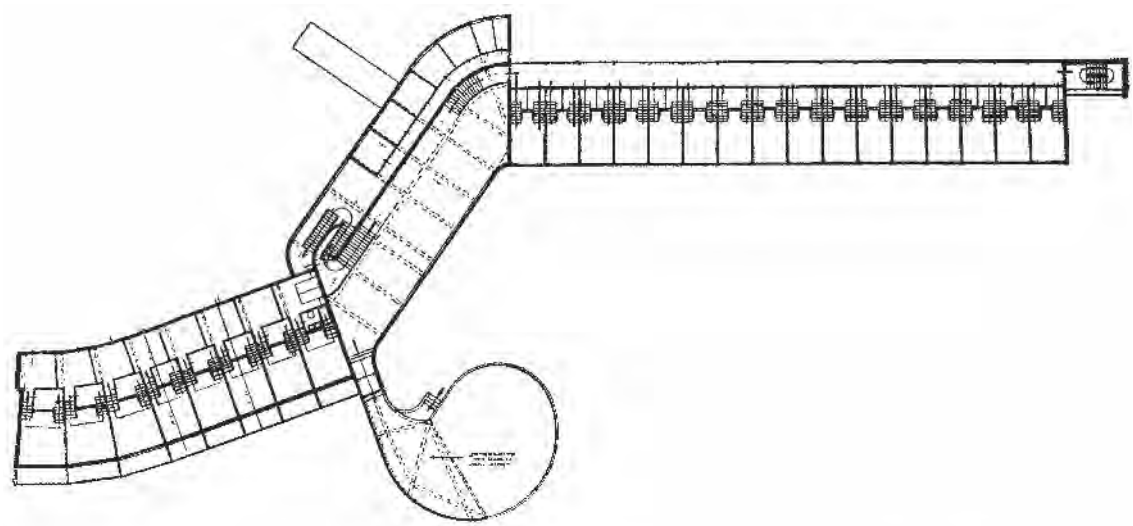
household-apartment type, just as large-scale housing production is supplanting small-scale artisanal production and small-scale dwelling-workshop households. The hotel, originally intended only for short, temporary stays, has the potential of becoming a place of permanent residence as well. For these reasons alone, **the hotel, with all its modern rationalized and mechanized common services, must be considered the most technologically advanced housing type** existing today. In effect, it is an early precursor of proletarian housing and represents in embryonic form the future style of collective dwelling in socialism; in addition, it offers the most efficient solution for providing housing service functions (sleeping, eating) under present capitalist conditions. As a technical structure it is the perfect "machine to live in," a housing mega-enterprise, as well as an institution providing housing as a "public service" on the social level.

The next step is to develop new **hotel-type services** for housing in general, in order to transform the self-contained family-based household into more comfortable but possibly more modest and less elaborate place of lodging, where all formerly individualized services will be transformed into centralized large-scale production associations, designed to provide the material and technical basis for developing a new collectivist dwelling system in socialism. The process of the socialization and centralization of all dwelling services takes place in tandem with the dissolution of traditional family forms; the socialization of work brings in its wake the socialization of a large part of the former housekeeping functions and severely curtails the role of the family as an economic unit of production and consumption.

Many of the functions of the old family-based household, such as cooking, laundry, ironing, and sewing, are already being eliminated in house plans and are provided outside the home by commercial services. In general, the trend is toward a comprehensive shift of many dwelling functions from the private to the collective sphere. This also includes the emergence of new public service agencies and institutions. The patriarchal family and the family-based household existed as a more or less self-contained organism; a person spent his or her full lifetime in the womb of the family, was born at home, raised at home, worked at home, nursed at home when sick, and died at home. With the arrival of the modern age, we are witnessing the progressive loosening of the common bonds of family life: birth, education, illness, old age, and death occur in the home with ever-diminishing frequency, and the intimate, closed dwelling spaces of the past expand more and more into common living spaces. Many living functions formerly confined to the privacy of the traditional home are now transferred to public places, beginning with maternity wards, children's homes, public schools, gyms for physical exercise, factories, offices, and hospitals and ending with old age health-care centers and nursing homes.

The progression of functions from being taken care of by the family household to being handled by centralized mass production and public services is paralleled by the progression from using hotels for a temporary stay to using hotels for permanent living, as well as apartment-boardinghouses in America and England, Dutch flats, bachelor flatlets, hostels for working women, pensions, student dormitories and boardinghouses. All are responses to the progressive degeneration of the traditional household and the gradual socialization of its private household functions, such as the replacement of the private kitchen by the apparatus of snack bars, restaurants, cafés, dining halls, automats, and the *table d'hôte.* By undermining the integrity of the family, mature capitalism tends to undermine the hierarchical order and the sanctity of its own social and cultural system, while at the same time degrading morals, pedagogy, and so on. The main victim of this degradation is the traditional family household, as the myth of the "warmth of the family hearth" begins to fade and the family-based household



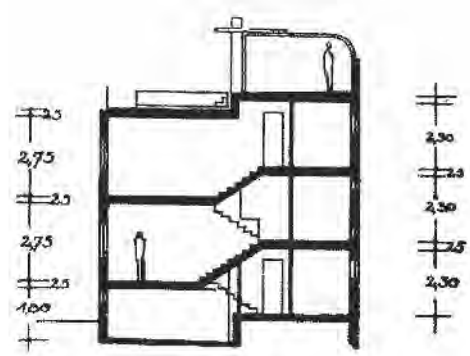


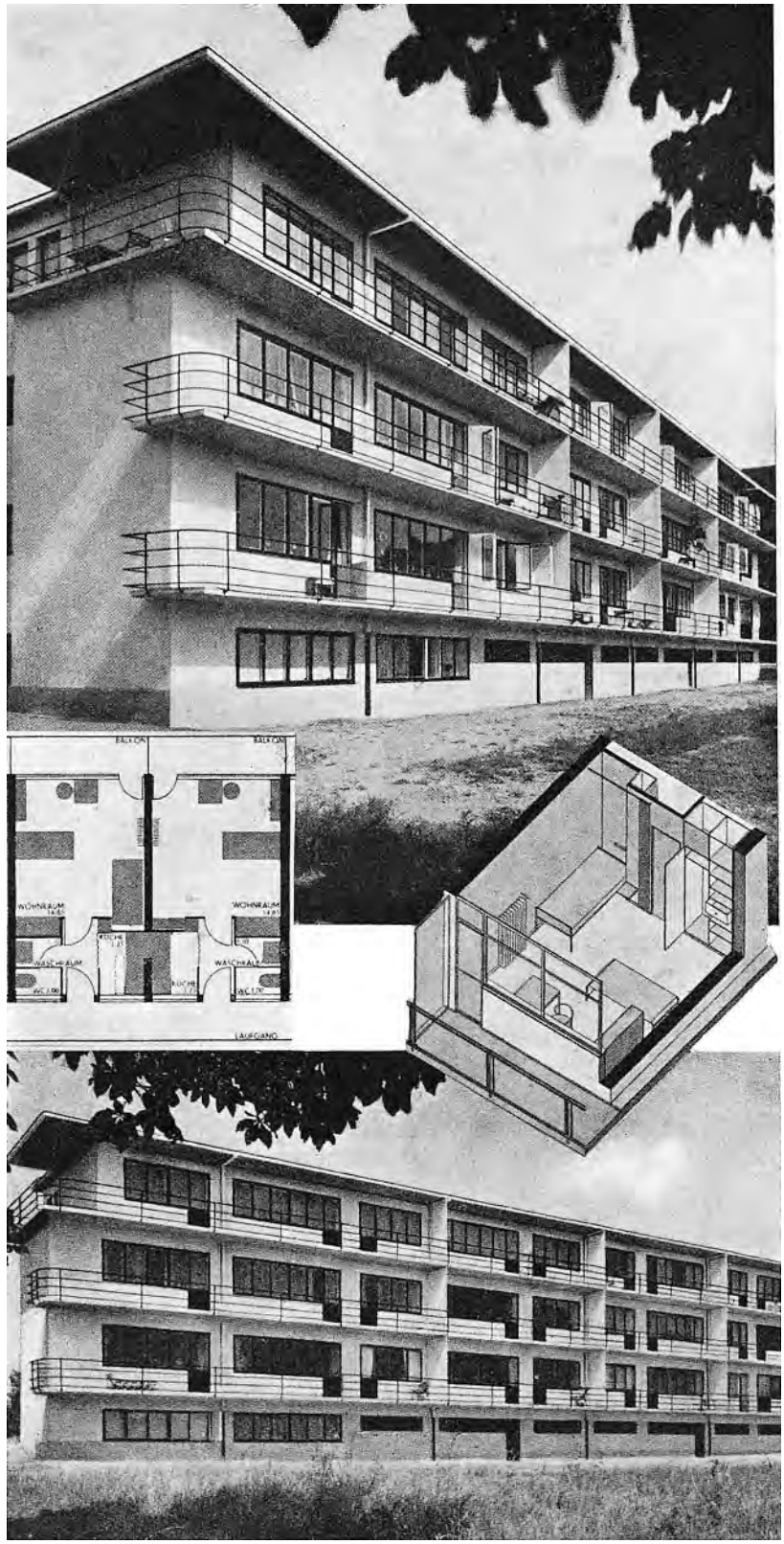
Breslau-WuWa

Hans Scharoun 1929

Boardinghouse—Wohnheim—in colony Grüneiche in Breslau (exhibition **Wohnung und Werkraum;** (now a hotel)

Single-bed rooms 26 m², double-bed rooms 33 m². Despite its formalistic style, this Wohnheim sent a strong signal to the avant-garde: it awakened interest in the idea of collective dwelling among architects of the Western avant-garde.





Frankfurt a. M.

Live-in unit: 1 living space with 1–2 beds, hall, kitchenette, washbasin, and toilet.

B. Hermkes:
Home for single working women.

as the dominant dwelling form of the dominant classes in capitalism (any strata other than the proletariat) gives way—day by day—to new forms of dwelling.

Modern large-scale industry has offered vast numbers of men, women, and even children employment in organized production processes. This has significantly changed the role of women in bringing up the maturing generation, and has progressively led to the disintegration of the patriarchal family for ever-increasing numbers of the population. Sociologists also have taken note of this deepening of the marriage crisis. In spite of this, Bertrand W. Russell (*Marriage and Morals* [1929]) still believes that even though the end of the family is supposed to offer liberation, marriage ought to be preserved in the interests of children. The size of the family is progressively shrinking; it has been reduced from three generations living together to a family with only one or two children or even childless marriages. Old family forms are being broken up more and more frequently, with an ever-increasing number of separations and divorces, caused in part by the pauperization of broad segments of the population and the pressures of economic demands on family life. Among working intellectuals, many families are being transformed into an open partnership–type relationships. The number of both men and women living an independent life is also increasing. This has led to various alarmist, moralistic, reformist, and radical attempts to save and reform the institution of marriage (see Rosa Mayreder, *Die Krise der Ehe* [*The Crisis of Marriage*], 1929) that, just like the trial marriage proposed by Lindsay, will most likely only accelerate its disintegration.

Ernest R. Groves, the author of numerous sociological writings on the family and country life (*The Drifting Home* [1926], *Social Problems of the Family* [1927], *The Marriage Crisis* [1928]), is another who discovered that the family is losing its function, purpose, and justification and who chronicles the beginning of its woes. Its end is predicted by the feminists Kolantojová, Greta Meisel-Hesse, Charlotte Perkins Gilman, and others, including G. K. Chesterton, who humorously remarked that "socialism attacks the institution of the family consciously and in theory, while capitalism manages to attack it unwittingly and in its economic practice."

The correct way to pose the question of the minimum dwelling is to concentrate first on which type of dwelling corresponds best to the lifestyle of the class of the subsistence minimum, a class in which the traditional marriage has either not fully developed deep roots or has actually become extinct.

As a rule, a proletarian relationship between man and woman is largely prompted by sexual love, regardless of whether this relationship may be officially sanctioned or not, and all the traditional features of monogamy are missing. Gone is the incentive to pass on property in the form of an inheritance to offspring of marriage—the purpose for which the male-dominated institution of monogamy was ultimately created, and without which there is no more reason for the continuation of male supremacy. Nor do most people have the means to see marriage that way anymore. The civil code that protects the prerogatives of the married male in effect exists only for the benefit of the propertied and works to their advantage in their dealings with the proletarians. At any rate, present marriage laws are mostly about money and have little or no bearing on a poor worker and his wife, whose personal and social relationship is based on completely different considerations. When large-scale industry lured woman away from the family and integrated her into the common labor market, she also gained the capacity to become the sole provider for the family, and so the last vestiges of male dominance in the proletarian house have lost their justification. Because of this fact alone, the proletarian family can no longer be considered a monogamous family in the true sense of the word, even if held together by the most passionate love and unshakable fidelity of both partners. And it is exactly for this reason that "the self-appointed guardians of monogamy, practicing adultery with

their concubines, are of no relevance in this matter, for the simple reason that the proletarian marriage is monogamous only in the etymological, but not in the social-historical, sense of the word" (*The Origin of the Family, Private Property, and the State*). "The new form of the family, along with the new relationship and position of the woman in bringing up the maturing generation, was initiated during the most mature phase of modern capitalism; the inclusion of women and children in the workforce, accompanied by the dissolution of the patriarchal family, was equally caused by capitalism, and they have inevitably assumed their most terrible, most catastrophic, and most repulsive forms in modern society. Nonetheless, big industry has created the economic basis for the emergence of a higher form of family and a new relationship between the sexes" (Lenin).

In our modern times, women of the nonbourgeois segments of the population have abandoned once and for all the kitchen stove, in order to join production and to claim their proper place in public and cultural life: therefore, it is unthinkable that a woman's enslavement should be increased by expecting her to perform double duty and carry an additional workload at home. The only way to achieve liberation is to be relieved from the burden of home drudgery—the kitchen, cleaning, laundering, sewing, and the raising of children. Only then will women emerge from their domestic servitude as productive members of society and true citizens.

If one of the conditions for the total emancipation of women is their full integration into production, it will be necessary to get rid of the domestic household, which effectively lost its public character during the formation of the patriarchal family and instead became a private service. This also means that in order for the working class to live in dwellings adapted to a nonfamily lifestyle without a family-based household, most private family household functions will have to be taken over by centralized and public large-scale industrial services, including child care and the raising of children. It would be irrelevant, immaterial, and false if we were to try answering the housing needs of the working class with apartments equipped with conventional housekeeping functions, or if we were to design minimum apartments based on bourgeois housekeeping models. Avant-garde architects ought to feel duty-bound to cooperate with the working class in solving their housing problems by developing designs for new types of dwellings that are appropriate for their actual needs. Above all, they should seek the active participation of women in designing new dwelling types, rather than imitating traditional household solutions. Bruno Taut expressed this most cogently in his splendid book *The New Dwelling—The Woman as the Creator of the Modern Household* [1924], in which he coined the phrase "Der Architekt denkt, die Hausfrau lenkt" [the architect proposes, the housewife disposes]. Proletarian women know quite well that even after all the struggles that gave them the right to vote, and after reasserting their spousal rights by ridding marital contract laws of some of their most outrageous stipulations, woman continues to remain "the slave of the home, burdened by household chores, stupefied by endless housekeeping drudgery, tied to the kitchen and the children's room, with her energies sapped by the grotesque routine of exhausting and trivial work. The real emancipation of women . . . will only be realized when the fight of the masses . . . will turn against the small domestic household and when the massive transformation toward a large-scale socialist economy will be set into motion. Popular dining facilities, children's crèches, and, in general, all the material conditions created by capitalism are the seeds and wherewithal toward the liberation of women, but they have so far have only rarely been realized to their full potential and only if they served special business interests at best, or as phony tricks of bourgeois philanthropy at its worst. . . . Nevertheless, even these modest initiatives carry in them the seeds of communism, and therefore their continued nurture is a most noble and essential task" (Lenin, *The Great Initiative*).

One of the foremost tasks of the architectural avant-garde is to pay attention to the precursors of new, proletarian forms of dwelling, which are dedicated to a more cooperative and human communal life and more congenial erotic relations between men and women, and apply their creative powers to fully explore the technical preconditions for a superior category of housing, unencumbered by private domestic household functions. The proper response to the problem of the minimum dwelling is best characterized by the notion of the collective house or *dom-komuna* [dwelling commune]: it is an apartment without private housekeeping functions, a beehive of dwelling cells intended for working individuals; it provides the same housing conditions for everybody, and it depends on the centralization and collectivization of housekeeping services, as well as serving the cultural needs of collective dwelling. Basically, the collective dwelling is an adaptation of the hotel-type lifestyle, including its whole system of common housekeeping services, to be complemented by children's crèches, boarding-houses, and club facilities.

The technical preconditions for the realization of appropriate architectural solutions for the collective dwelling have been worked out to a high degree of efficiency by capitalist civilization: the mechanical apparatus of large-scale hotels is a model of efficiency in organizing and managing all common household services and represents a household organization as up-to-date as a smoothly operating mechanized modern factory assembly line. The hotel-factory differs from the old household as much as does a modern factory from an artisan's workshop. And what about the imposing floating cities of transatlantic cruise ships, with their diversified, hotel-like service systems? Or our sanatoria and convalescent homes of both terrace- and pavilion-type designs, all equipped with highly sophisticated central services, or some of the more salubrious children's homes? All these precedents prove without any doubt that the technological preconditions for an architectural solution to the problem of the collective dwelling have already been developed to a remarkable degree.

Incidentally, hotel-type living is not a new phenomenon in modern architecture: Le Corbusier's 1922 proposal of his Immeuble-villas, which he improved on even more in 1925, may be considered as one of the earlier precursors of this type, along with his project for a hotel in the Mediterranean of 1928, or the Wanner project of large villa-type houses (one of these duplex houses was built in Geneva in 1932), all of which are adaptations of his Immeuble-villa ideas of 1922 to 1925. Other examples are the 1930 proposal by Walter Gropius for a Boardinghouse of Ten Stories, and the actually realized project Wohnheim by Hans Scharoun in Breslau (1929), among others. There is a surfeit of such proposals, but only a few have actually been built. In contrast, in the English-speaking world, such hotel-style apartment and boardinghouse types are gaining wide acceptance, as are similar Dutch projects, built mainly in The Hague. Unfortunately, none of these solutions is within an affordable range for low-income groups, since most—if not all—were built as projects for commercial real estate speculation. As far as the above cited projects of Le Corbusier and Gropius are concerned, it is evident that both architects, accustomed to working for clients from the ranks of the wealthy, conceive their so-called collective houses as luxury palaces for those who have enough money to pay for such a lifestyle. In technical terms, this means that architectural progress toward more advanced forms of housing and the development of conditions for a socialist way of dwelling can proceed only by way of designing houses for financially and socially better situated clients. Through such projects modern architecture tends to confuse the genuine needs and interests of society with those of the ruling classes, and by a strange detour finds its way toward the goal of designing housing with centralized systems of housekeeping service. A good example of such an approach is F. L. Wright's private villas. Evidently, all these

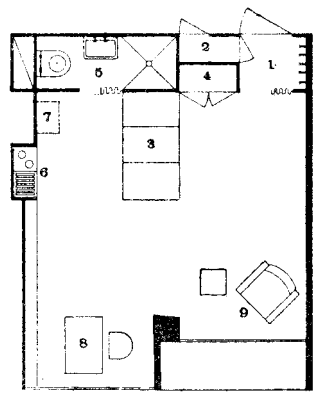
architects assume that hotel-type living with central housekeeping services will be considered acceptable and with sympathy only by more progressive members of the intellectual class, and that the whole issue of real workers' housing is not worth bothering with. They forget that the technical conditions for dealing with the problem of workers' housing exist already today, setting aside the refusal by architects to draw on rational and sociologically justified solutions for the problems of low-income housing.

The fact remains that housing is—above all—a social problem: **"It is more than likely that people will eventually insist that in questions of housing, sociologists should be the ones who decide first, and architects only second."** Currently, the apartment house represents the most highly developed type of capitalist dwelling culture. By the way, it is primarily used—or, if you wish, exploited—to satisfy the needs of the ruling class, but even they do not see the apartment as the best answer to their conservative housing needs (i.e., they are loath to give up their family-based dwelling style, best exemplified by the patrician villa; thus, too, any different dwelling type can only be realized in exceptional cases—e.g., bachelor flats, etc.). Any solution endowed with new social content will therefore be in conflict with the interests and ideology of the ruling class. This means that even the **highest form of dwelling organization** created by capitalist civilization will in certain respects transcend the framework of bourgeois social conventions and its oppressive family conditions. It also means that within the framework of these conditions and interests it can be realized only partially and only as an exception.[2] The architectural avant-garde will be able to join those who are fighting for a new era in the history of humanity only when its work becomes **invested with new proletarian content;** only then will architects become fighting allies of revolutionary social progress. Thus, not boardinghouses but collective houses, designed for people living now on the level of the subsistence minimum; or, expressed more concisely: a special proletarian cultural form of dwelling developed as the result of architectural revolution. Raising the issue of the collective house to the highest possible level of social consciousness implies that architects will also have to come to terms with the negative aspects of today's society and its waning family traditions.

To study the problem of the collective house as a new dwelling type of the proletariat can be accomplished only by recognizing the various sociological factors that determine its form. Many of past and current attempts toward solving this problem display serious mistakes and errors. These may be explained by the novelty of the task on the one hand, and by an incomplete understanding of socially determined issues on the other. Insufficient knowledge of relevant sociological and political aspects, as well as many prominent architects' lack of comprehension of the life of workers, is the main cause of these misunderstandings. By and large, architects who are used to working without questioning the ideological dialectics of the ruling class, and who are also ignorant of the lifestyle and material conditions of people living on the level of the subsistence minimum, are content to solve the minimum dwelling as a reduced version of a petit bourgeois small dwelling, based on the layout of traditional apartment building types.

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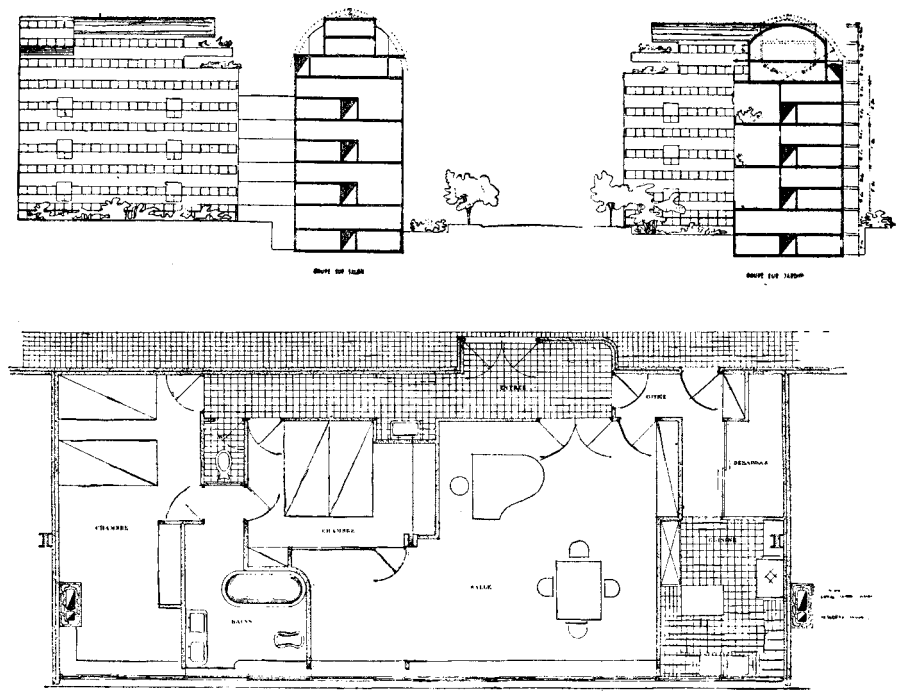
[2]) That certain forms of dwelling—especially collective houses—are capable of being realized within Western conditions, but in building practice can be realized only in special and exceptional cases (and then only imperfectly), and that these revolutionary housing types tend to fail very quickly is proof that any reform realized as an exception to the rule will, if executed on a larger scale, turn out to be incompatible with the social conditions and the production forces of the capitalist system.



1. hall
2. service closet
3. bed
4. clothes closet
5. shower, toilet, washbasin
6. cooker, sink
7. table for food preparation
8. writing desk
9. easy chair

Jiří Voženílek 1931

Live-in unit in a collective house as a dwelling for one person.



Geneva

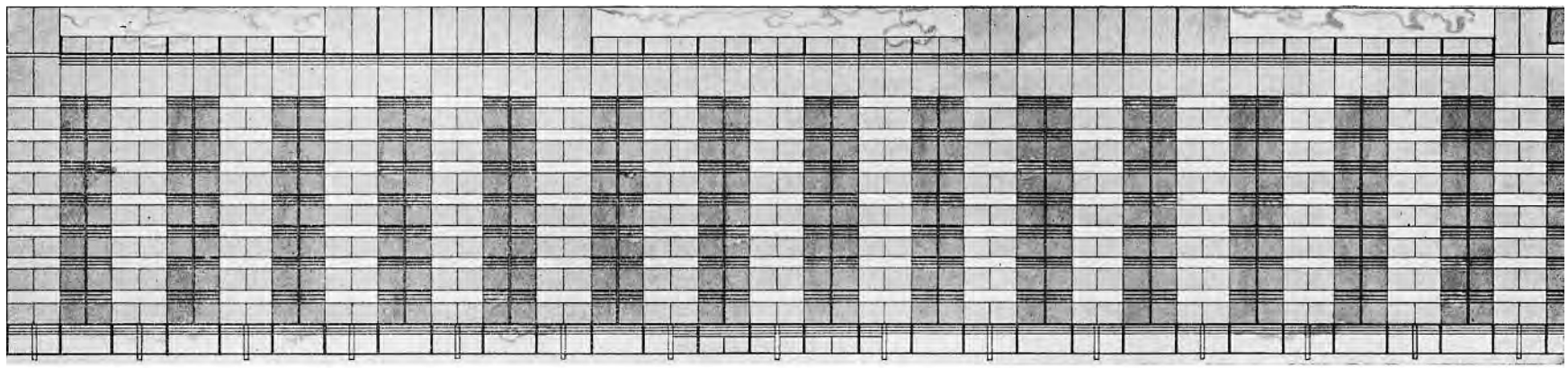
The Wanner housing project is an adaptation of the Immeuble-villas of the years 1922 and 1925. This project was realized on a smaller scale in Geneva in 1932: the Maison Clarté is a twin eight-story building (57 m long, 27 m high, and 22,000 m³ built-up volume). Steel skeleton construction, dry assembly. Completely free, flexible floor area. Fully glazed facade; sliding windows, doors, and partitions. Each floor consists of two two-story-high apartments and one single-story apartment. Remarkable room dimensions. Corridor on every second floor serves as a substitute for the proposed terrace gardens.

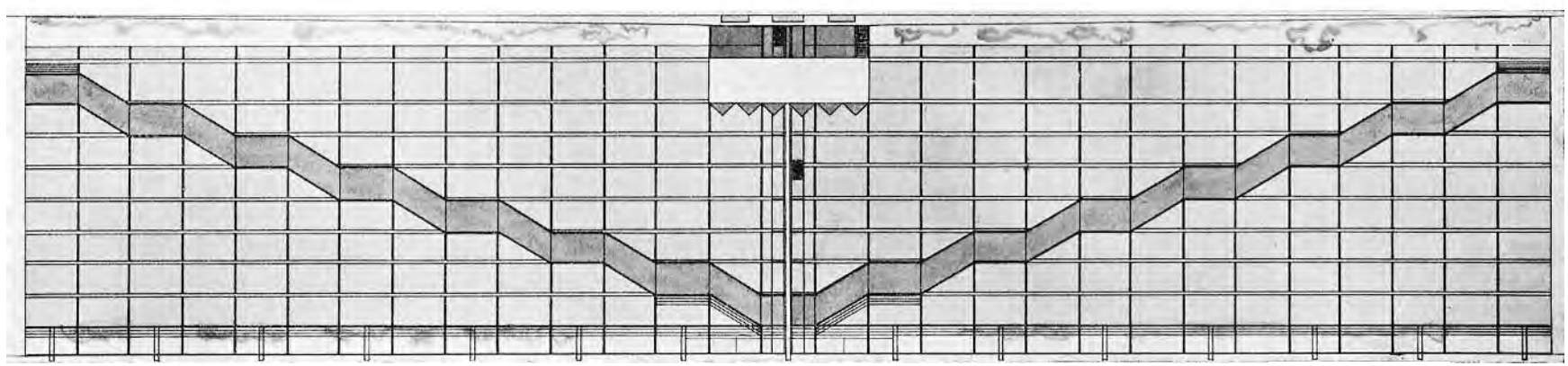
Le Corbusier & Pierre Jeanneret (1928–1929):

Proposal for villa-type housing block in Geneva.

Jiří Voženílek 1931
Proposal for a collective dwelling, long house row.

South facade.





North facade.

Indeed, there are still many architects who believe that it is possible to consider architectural design as a "purely technical activity," and that it is possible to practice architecture without a theoretical foundation or a specific worldview, just as if one were cobbling together a shoe. However, any creative work not guided by a worldview is an activity whose author is simply unaware of representing a specific worldview and is thus held captive by the ideology with which he has been inoculated as part of his class upbringing. The shocking and extraordinary mistake of Gropius's boardinghouse is a good example of creative work not guided and governed by a clear social consciousness. Another example is Le Corbusier's solution for an apartment with a floor area of 1×14 to 10×14 m^2. A better knowledge of Marxist theory and higher skills in dialectical thinking would have immediately made him aware that such a solution is not feasible for housing the poor. It is only recently that architects are beginning to understand that sociology is the most important science in the service and support of architectural creation.

When one reads the classical literature of utopian and scientific socialism, it is surprising to discover that R. Owen, Fourier, Dézamy, and even Marx and Engels were capable of seeing the question of housing and the city much more clearly and accurately than the majority of modern architects 150 years later. All those writers foresaw the decline of the traditional family, while "modern" architects, living in this "future," today, still cling to the concept of the family-based household type. As early as 1822, **Charles Fourier** paints a remarkably realistic picture of a social utopia of the collective house of the future in his *Traité de l'association domestique-agricole*. He describes it as follows: **"A common building for approximately 2,000 persons, instead of some 600 individual apartments, which would normally accommodate such a number of persons today. The savings achieved would make it possible for workers living in such a splendid palace to enter a new social universe; one such house will be erected per each quarter mile of land area; it will have a covered gallery, extending through the full length of the building, and will be heated in the winter. Inside will be displayed the latest products of the organic as well as inorganic world."** Ignoring the fact that the image of a splendid palace still harks back to a class-determined, stylized, and academic notion of architecture, we can see that Fourier already clearly foresaw in his utopia the form of a collective mega-house. Incidentally, Fourier's architectural solution already anticipates the gallery type or Le Corbusier's "rue intérieure" and Lenin's axiom concerning dispersed and uniform settlement of the population throughout the whole country as partly resolving the contradictions between city and village. Owen proposes a maximum concentration of ten to twenty thousand inhabitants in one place—and he also suggests joining cultural functions with the residential component of the commune.

The relevant passages of the writings of Marx, Engels, and Lenin, particularly Engels's tract *Zur Wohnungsfrage* [*The Housing Question*], are even more cogent and have been frequently referred to in the text, because they represent the most accurate analysis of the housing problem and the best critique of all reformist illusions on the subject of the minimum dwelling. The problem of the proletarian dwelling had already surfaced as an issue during the infancy of modern industrialization and the simultaneous emergence of a new class—the proletariat—whose existence architects seem to have discovered only recently. That the authors of the classics of social theory many decades ago understood the problem of the city and housing more succinctly than today's architects only proves that without the knowledge of their theories (of Marx, Engels, and others) no work of architecture can call itself modern.

In Strindberg's novel *Student or New Construction,* we find a well-drawn account of collective life in the iron foundry of the deputy Godin, who realized such a Fourierist utopia:[3] "there, in the back is the palace of the Society, their family home: three square buildings with glazed-in courtyards, containing the apartments for two thousand persons and a children's home, where all the children of the Society are being cared for and nursed; lecture rooms, theater, restaurant, café, library, billiard room, baths, stables, and gardens. A model commune. Its existence is based on work. There is no church. . . . I am astounded that all these people are willing to live in barracks, even though each of them has longed for something of his own. . . . We, the old people who had longed for our own hearth, soon came to realize how insecure it is, how baneful 'my own' is when compared with 'somebody else's' and how 'our collective own' is, in the end, the most secure choice. There is no coercion. Before, we lived in six hundred households—six hundred kitchens, with six hundred miserable housewives tending the stove: so much wasted energy. Now we have one common kitchen, and those who desire company

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[3]) In his tale, Strindberg describes rather accurately though in a somewhat fictional manner the life in an actual **cooperative settlement, patterned on the ideas of André Godin in Guise** in the Aines department near Lyons in France. As a matter of record, Fourierist communities were never and nowhere realized in their integral form as originally conceived by Fourier—namely, as coexistent agricultural and industrial associations, where both room and board were shared by all, and where the workers (just like capitalists) were given shares, based on profit. Other communist settlements in the United States and France did not succeed, and numerous production cooperatives (though their members erected a statue in Fourier's honor on the Boulevard de Clichy in Paris) were following only loosely and indirectly Fourierist ideology. The Guise colony is the only one that—not literally, but at least in its main features—may be considered as a direct realization of Fourier's ideas of a phalanstery. André Godin, a mechanic who attended Fourier's school in 1843, six years after Fourier's death, was involved in a whole range of socialist experiments. He put all his wealth—100,000 francs—at Victor Considérant's disposal to found a settlement in Texas, U.S.A. The project failed and Godin lost all of his investment in the venture. He started with the construction of the Guise project later, in 1860, based on the model of Fourier's phalanstery, where he tried to realize his ideas for collective living (with less luxurious appointments than those imagined in Fourier's dreams, described above). The building is located outside of the town of Guise, next to a river, and is surrounded by a relatively large orchard (15 hectares). It was to provide a home for 400 families, i.e., about 1,500 to 1,600 people. The residential complex contains a large glass-covered courtyard, intended as a hall for communal festivities, with galleries on each floor that provide access to the individual living units. Vertical circulation is provided by staircases in the four corners of each floor of this large caravansery-like block. Few private comforts and amenities are provided. Instead, Godin offered his commune reasonably well-developed common facilities: schools, a library, playgrounds, and a theater. His original plan was to introduce communal dining facilities *à la table d'hôte,* but he had to be content with establishing a communal restaurant and a general goods store (today, we would call this a cooperative department store). Godin gave the name *Palais Social* to the main building of his *Familistière de Guise,* which sounds somewhat pretentious but which actually represents a fairly accurate realization of Fourier's ideas. The *familistière* survived its founder (Godin died in 1888) and still exists to this day, even though it was torched and sacked during the war [World War I]. It had to be renovated and refurbished after the war, and has become a pilgrimage destination for all those who are studying social experiments and the cooperative movement. The building complex of the *Familistière de Guise* has survived to this day as a building but has failed as a utopian socialist experiment. After 1885 it was converted into a regular profit-making concern (see note on p. 49). Its example has not been followed or imitated, and thus the whole venture has proven to be a somewhat futile experiment. Succeeding cooperative reform movements decided to give their support to the cause of garden colonies with family houses of the English type rather than following the example of Fourier and Godin with large collective dwellings. In his memorable debate with some contemporary architects on the problem of housing, Fourier (who died in 1837) accused them of Anglomania, because one of them recommended building the phalanstery with detached pavilions on the model of English cottages.

eat in the common dining hall, while those who want privacy eat in their own room. This is true liberation of women from kitchen work. Now, most prefer to eat their meals in company, for the perpetual chitchat between man and wife becomes eventually boring over time: it turned out that the married frequented the dining hall far more often than the singles. And the children? We succeeded in cracking even this hard nut. We have a child care center. . . . What kind of mother would put her child into a child care center? . . . All of them, yes, all of them! While we are talking about child care centers, we are not talking about some children's asylum, as commonly set up by public institutions, where the parents never see their children; but instead of six hundred separate children's rooms we have one pavilion, accessible at all times, provided with permanent supervision. Just look at the situation of the poor in the capitalist world. They leave their children locked up all alone in their small rooms, while their parents are at work. Based on my own personal observations, I can report this one fact as certain: here, a mother's love is concerned more with the fear that something untoward should happen to her child. Once this fear is eliminated, it seems that there is less of the old cloying mother love. . . . Only a small number of mothers keep their children at home overnight. . . . Family life? . . . What is it like in the old world? With too many people crammed together, the household is suffocating and the children are unkempt and dirty. The man tries to escape as often as he can into the pub. The pub is the only public place where a person can give free rein to his communal instincts. Nevertheless, his good cheer is never entirely genuine, for he knows that somebody is waiting for him at home, bored and exasperated. If he takes his wife with him to the pub, both are uneasy because the children had to be left at home unattended and both feel guilty for abandoning them to their own devices. Here, both can go to lectures, the theater, or a café in the evening. Their children are safe and taken care of. Parents can phone the children's home at any time to inquire how they are doing and can go and see them any time they wish. . . . The whole establishment is surrounded by parks, gardens, playgrounds. Feasts and celebrations take place in the palatial covered courtyard."

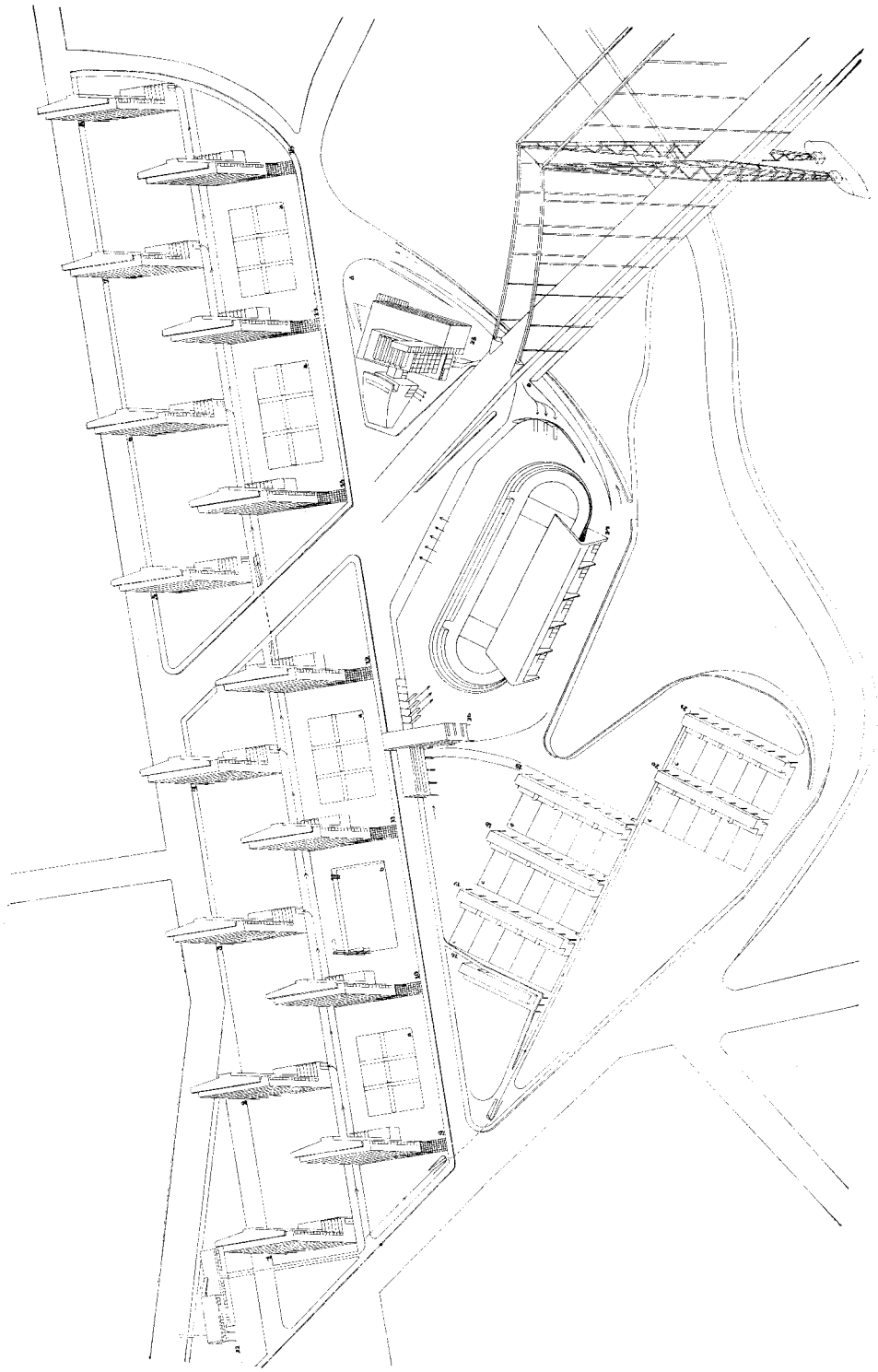
Older utopias worth mentioning that anticipate socialist and communist lifestyles are those proposed by **Morus** (sixteenth century), **Campanella** (seventeenth century), and **Morelly** (eighteenth century). They too are based on the premise of the abolition of the patriarchal family and the family-based household. In contrast, **Étienne Cabet** in his novel *Journey to Icaria* (1879) preserves the institution of the family in its current form even in the communes of his imaginary Icaria. His only innovation is to introduce a rationalized breeding system for the human race, while leaving the establishment of children's homes to the future. **Robert Owen** occupied himself with the questions of future dwelling as well, but chose to project his ideas through the lens of the technical capabilities of his own time, when machine production was still in its infancy. In his 1820 project of a commune he decides to retain the family-based dwelling, but complements his utopia by adding children's homes and common dining halls. His house-communes, worked out in great technical detail, try to resolve the conflicts between city and country (much as does Fourier's phalanstery) by integrating industry with agriculture and by eliminating existing settlement forms: his phalansteries are neither cities nor villages, but isolated large houses located in open nature. In his "Code de Communauté" (1842) Théodore Dézamy discusses three- to four-story house-communes for 10,000 people. The conflicts between city and country are resolved in his commune by supplanting the existing type of family with free love. He envisions the realization of his commune only by means of social revolution.

Only a few proposals (laboratory studies) for collective houses as a proletarian type of dwelling have been worked out during the past years in western Europe. The main impetus for a deeper and more thorough study of this issue has been provided mainly by examples in the

Soviet Union, where they have proceeded within the framework of the five-year plans with the building and reconstruction of a few hundred cities, and where it has become imperative to deal with the question of housing on the basis of proletarian needs and the socialist lifestyle. It comes as no surprise then that the example of the Soviet Union has aroused much interest among members of the Western architectural avant-garde, and it was notably the **Czechoslovak delegation to CIAM** who not only studied the subject of the collective house in theory but applied it in its projects as well. Accordingly, during the Brussels Congress the Czech delegation proposed that the dwelling for the subsistence minimum should be solved in the form of collective dwelling and as an exclusive dwelling type for the working class. In general, especially in our own country, the subject of the minimum dwelling has been ignored by modern architects. Instead they occupy themselves with the building of commercial palaces, villas, ministries, and so on. Only lately has our avant-garde produced a number of exceptional projects for first-rate collective houses with minimum apartments.

The first attempt to find an architectural solution to the problem of collective dwelling in Czechoslovakia is the proposal by Havlíček and Honzík of two alternatives for hotel-type housing. The first alternative is hotel-type houses of the double-loaded corridor type (with a central corridor, typical in hotels). The project consists of two rows of seven-story houses, connected by low, two-story buildings containing the central services (dining room, reading room, club, kitchen, heating plant, pools, etc.). Flanking the central corridor are bachelor-type dwelling cells (ca. 4 × 4.5 m). The project contains 864 such units. The second variation is of the *koldom* [collective house] type, also based on the concept of a residential hotel for permanent living. Again, it is a double-loaded corridor type, this time divided into two independent houses, connected by stairwells and an elevator. The only flaw of the *koldom* blocks is the interior courtyards, probably made necessary by the difficult site conditions of this project. The dwelling cells are an enlarged version of a modern hotel-apartment; each cell has its own toilet and lavatory and space for one to three beds. It is also possible to join two cells into a single apartment unit with three beds. Strictly speaking, these cannot be counted as truly individual living cells, since they more closely resemble a family apartment without a kitchen. In many ways, this project represents a creative adaptation of the modern hotel-type in which all dwelling functions are **centralized** in one building, thus combining both the individual living cells and common services under a single roof. The *koldom*s are nine stories high, with half the apartments facing east and the other half facing west. The dimensions of the living cells are (for one to two beds) generous, that is, 5 × 5.7 m.

The next step in the transformation of the hotel type into a bona fide collective dwelling is the project by Gillar and Špalek, submitted by its authors in a competition for houses with small apartments that was sponsored by the Prague municipality. The authors developed their proposal as an entire district with collective dwellings. They assigned each distinctive dwelling function to special buildings in a decentralized manner by separating common facilities from the actual dwelling houses, and by assigning to each a specified number of residential units. The residential houses are conceived as beehives that contain individual dwelling cells. They are five stories high, with central corridors on each alternate floor, opened up to daylight and air access by two terraces. The dwelling cells are of two sizes: 30 m^2 and 44 m^2, intended for one and two persons, respectively. Stairs leading up and down from the corridor to the two-story-high living cells complicate the layout considerably. The ground floor is taken up by two large dormitories (for the unemployed!?). Groups of five houses are each served by a special building containing a club, kitchen, dining room, and terrace. The clubhouse is connected to the residential houses by covered sidewalks. In addition, the architects included three children's pavilions, differentiated by age group, for the entire residential district. The



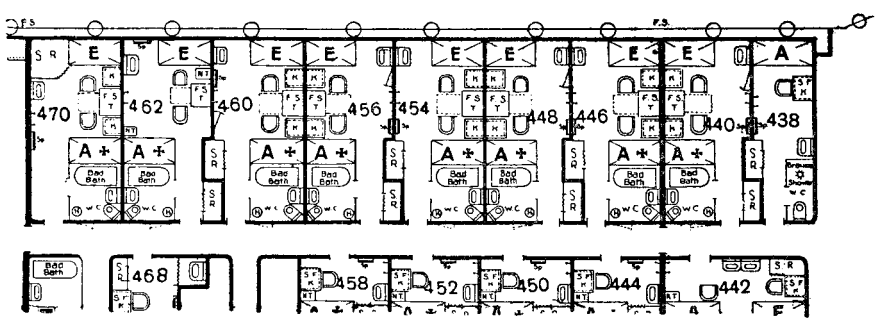
The Collective of the Czechoslovak Group of the International Congresses of Modern Architecture, Prague 1930

Proposal for a collectivized housing district in Prague on the Pankrác Plain.

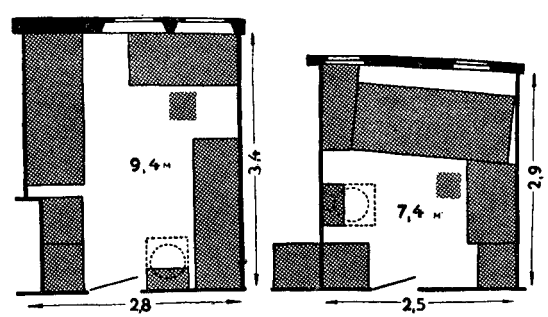
(Demonstration project for socialist living; competition proposals for the Central Social Insurance Corp.)

Explanation: 1–15: high-rise housing slabs, 15 stories, 300 dwelling cells for single adults in each house. Dwelling cells 9.6 m². Pavilion for babies 6–12 months old. 18–21: Children's homes for children 1–6 years old, every age group (90 children) in its own separate pavilion, with 15 children per room; coeducational principle. 22: Factory-type kitchen, laundry, and drying room, heating plant for whole district. 23: House of culture and rest, library, reading room, theater and movie hall, café, game room, office of district advisory council, post office, etc. 24: Sports stadium. 25: Medical pavilion, sick beds, and dispensary. a: Playground. b: Swimming pool. A dining room on the ground floor of every building. The whole district has 5,000 inhabitants, of whom 450 are children of pre-school age. The designers of this demonstration projects are P. Bücking, J. Gillar, Aug. Müllerová, Jos. Špalek.

The economic base of this housing district is assumed to be a certain production enterprise. The employees of this enterprise would live in this district. This housing district represents an alternative to workers' colonies and barracks in the suburbs. It is a vertically conceived garden city, which would become an integral part of a new urban conglomeration. Neither corridor streets nor squares are to be included in these vertical garden city housing districts. No more closed or open blocks. Individual buildings are placed independently in space.



Large double- and single-bed cabins on the transatlantic steamer **Bremen**



Passenger cabins of a transoceanic steamship. a = 7.5 m². b = 9.4 m².

organization of the various function in this project exemplifies a more mature solution for proletarian dwelling (the club), as it is highly attuned to the social and cultural needs of workers: it provides a higher level of functional differentiation for a decentralized collective settlement with separate structures dedicated to dwelling, sociocultural, and educational purposes. Some of the drawbacks of this project are the overly complicated layout of the dwelling houses and the excessively large size and poor layout of the living cells. The site plan is also less than satisfactory, as a number of pedestrian access ways are made to empty into busy traffic (some of the houses are right next to these roads). Finally, the low density of inhabitants per hectare (110) must also be considered a mistake.

The next stage on the way to a new proletarian form of dwelling is the so-called **L-Project,** developed by several members of the Czechoslovak section of CIAM (i.e., the Prague Architectural Group Levá Fronta [Left Front]), who submitted it in a competition sponsored by the (Czech) Central Social Insurance Company (Ústřední sociální pojišťovna) for houses with small apartments on the Pankrác Plain in Prague. The project should be viewed more as a demonstration: taking the opportunity offered by the competition but exceeding and ignoring its conditions in all respects, the authors set out to confront the jury with a new form of collective dwelling for the working class and submit their ideas to expert judgment, besides intending to make them the subject of wider discussion by the working public. As might be expected, the ruling of the jury experts was politely negative, slightly confused, and less than cogent. In contrast, the ensuing discussions in workers' organizations were more lively and sympathetic.

The L-Project is a proposal for a housing district of 5,000 inhabitants, with fifteen dwelling beehives (300 inhabitants each) each fifteen stories high, a house of culture and recreation, six children's pavilions for 500 children of preschool age, a medical pavilion, a central kitchen-factory, a sports stadium, pools, sports and playing fields, and so on. The dwelling units have a gross area of 14.80 m^2, each with its own toilet and shower, and a habitable area of 9.60 m^2, with a volume of 24 m^3. The living cells are designed exclusively for repose and the private life of an individual. All rooms in all houses are appropriately oriented toward the sun (southeast); each floor contains twenty cell-units, totaling 300 for the entire house; each floor has a common terrace area; the roof is capped by a solarium. The ground floor is reserved for communal baths (one tub per twenty persons) and a self-service dining room with its own separate food preparation area, which gets its food delivered from a central kitchen. Each house has four elevators. None of these dwelling beehives contains any of the functions usually included in a traditional household-type apartment. But, in contrast to the hotel type, bachelor flats, and pensions, the L-Project is not a self-contained housing complex; it is a collection of separate buildings, containing the various collectivized social, cultural, educational, physical exercise, and other functions. These spaces are not incorporated into the houses containing the dwelling cells but are located in separate buildings.

Primarily for the reasons given above, the L-Project was mainly intended as a demonstration of the feasibility of the concept of collective housing and thus must be viewed more as an architectural manifesto than as a conventional competition entry. Its solution goes beyond the custom hotel-type house and succeeds instead by changing the character of an entire residential district of the city. Viewed purely as a competition proposal, it leaves unanswered the question of its economic viability and provides no evidence of having considered the important issues of construction and operating costs. The project also suffers from a number of conceptual errors. For example, if we assume a full working day with three work shifts, the dining halls and the club are needlessly oversized, given the modest size of the proposed residential district. By ignoring economic aspects, the project opens itself to criticism as utopian, and

rightly so, since we must never forget that above all, proletarian housing must be economically viable. In addition, there are a few other architectural oversights: for example, there seems to be no apparent reason for the conical shape of the balconies, the site plan is unsatisfactory (in the southern orientation of the apartments), the layout of the dwelling cells is poorly worked out, and the children's home is located too far away from the dwellings.

The L-Project was an experiment and a serious research effort that tried to come to grips with the problem of collective dwelling. It represents a search for a new direction and is a work of high architectural quality; and—so far—it is the **only significant contribution** on the subject of the minimum dwelling by **Czech modern architecture.** That said, it must also be pointed out that the task was posed strictly in laboratory terms and without taking into account its genuine prospects for realization as part of the political struggle waged by the proletariat against exploitation in housing and fraud in construction. Thus the L-Project had no effect on that struggle. In a nutshell: it proposes a hypothetical solution for future housing in a socialist world but fails to address pressing issues of today. Instead, its motto should have been **"Housing for the workers now!"** Any design that views the future abstractly is bound to end up as utopian illusion, for it is impossible to predict in detail what the future life patterns in a socialist society will be like or to say with certainty what its lifestyle will look like. The L-Project consciously ignored real economic conditions, and thus it represents merely a hypothesis concerning collective housing in the city that assumes the conditions of developed socialism.

By consciously ignoring today's economic conditions, the "L-Project" makes the mistake of proposing a hypothetical housing project as if it were to be realized under the full-fledged conditions of mature socialism. The authors probably assumed that collective dwelling within the today's framework would be utterly impossible under any circumstances. Objectively speaking, such an assumption is fundamentally incorrect, for one should not forget that today the proletariat has the capability of realizing its specific cultural aims, including the choice of its preferred housing type, to serve its goals and advance its cause in the course of its revolutionary practice. This potential can be realized not only through cooperative self-help but even more by organizing the masses to struggle politically and to secure important concessions and advantages for the proletariat. The mobilization of the masses in the struggle to eradicate the housing shortage and in their efforts to try out new ways of living together can be realized only by concrete action, never by images of a faraway utopian future. In effect, we have the means today to **establish the full extent of the housing shortage statistically very accurately, to calculate the building expenditures necessary** to overcome this shortage, and to allocate the funds in state and local budgets funds needed to **cover these expenditures** (by canceling antisocial items); at the same time we can spread the idea of collective dwelling broadly among the masses and explain its economic and cultural advantages. Of course, this also implies that such "housing for the workers" cannot be built without raising certain concrete demands regarding the quality and character of new types of collective housing. Thus, the main concern of this architectural project should have been to investigate and articulate the details of proletarian housing problems under current conditions and propose solutions that would support today's struggle against the housing misery of the working class. The excessively costly technical features of the L-Project, including expensive materials and methods of construction, prevented this project from becoming a suitable model for proletarian housing. At issue was not this or that feat of architectural or technical performance but the satisfaction of a social need.

It was the competition of the workers' mutual consumer cooperative VČELA [Bee] in 1931 that provided the stimulus for dealing concretely and openly with the question of the extent to

which it is or it is not practically feasible to realize a collectivized habitation today's economic conditions. While the L-Project was conceptually based on the assumption of socialist conditions, the VČELA competition considered the construction of proletarian housing by the self-help of organized labor within the framework of existing conditions and current building laws. However, before attempting to examine this issue in all its implications, it may be useful to discuss in some detail the principles of collective dwelling.

●

The minimum dwelling in a collective house must be conceived as an individual living cell, that is, as **one room per adult person.** These cells are to be arranged into large housing beehives. Given the lifestyle of the working class, the family-based household needs to be eliminated and communal child-rearing facilities should be provided.

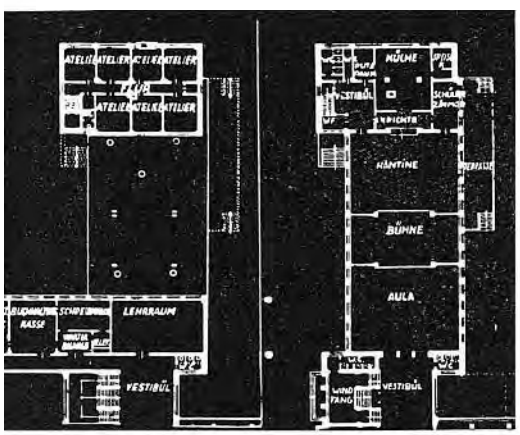
Existing models, such as hotels, bachelor flats, and so on, are a good beginning but inadequate, since each is designed exclusively for its own specific lifestyle only; and in many of them, the distinction between all the requisite private and collective services and cultural facilities is not well defined. In collective housing this distinction is rigorously imposed by the centralization and mechanization of all housekeeping functions and the accommodation of all cultural community functions in public buildings. For these reasons, the formula for the minimum dwelling is a beehive of dwelling cubicles, each accommodating one adult person. If we keep this purpose in mind, there is no reason why the habitable space of such a living cubicle should not be effectively reduced to a minimum: this is how we define the minimum dwelling, since everything that is not directly related to private functions in dwelling is eliminated from the plan of the individual cells: there is no dining room, nor parlor, nor children's room; it is a place for sleep, private rest, private study—in short, a place for enjoying private intellectual and emotional life. It does away with the permanent cohabitation of two persons in a single room.

By assigning a minimum cell to every adult—man or woman—we achieve not only a reduction of the family-based household regime but the wholesale elimination of most of the existing housing and household programs based on traditional models. The result is a **change from quantity to quality;** for all the changes that occurred along the way from the castle, palace, and manor house to the bourgeois apartment of the nineteenth century, including the reduction of the luxury apartment to minimum-size household layouts, were essentially quantitative. Moreover, up to the present these quantitative changes, best exemplified by the various reforms and selective innovations were—by and large—brought about by technical progress in architecture (i.e., the rationalization of the dwelling and its dimensions). We have now have reached a point at which a radical break has occurred: **quantity changes into quality** with the intervention of a new social content that renders the bourgeois small household apartment obsolete, and the dwelling cell is stripped of all its former housekeeping functions, which subsequently become transformed into collective service facilities (see schematic diagram on page 17).

The living cell provides a private sanctuary for the spiritual and emotional life of an individual. In contrast, a minimum apartment of the housekeeping or even traditional apartment type of, say, 20 to 70 m^2 floor area, designed to accommodate from two up to eight persons, will never be fully capable of satisfying all the cultural needs of all its inhabitants, because of the inevitable psychological distance that tends to develop between the individuals of different sexes, ages, and lifestyles sharing the household. Architecturally, the term "living cell" is de-



Karel Hannauer 1931
Live-in cell in the pension Arosa in Prague.



Upper-floor plan. Ground-floor plan.

Studio apartments, connected by a joint dining room; kitchen and lecture room on ground floor.



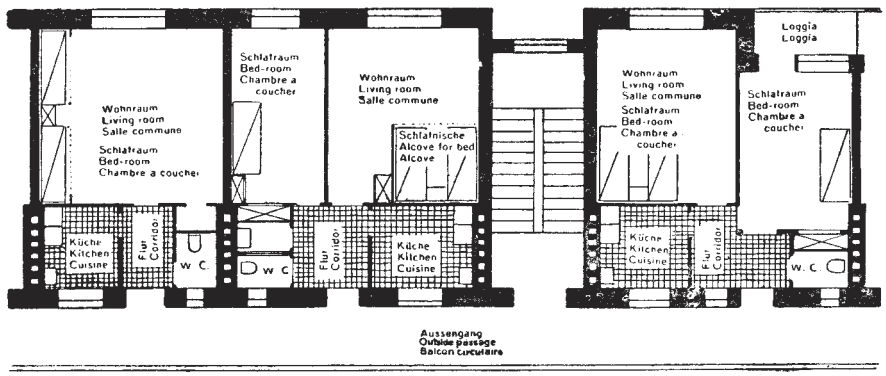
Walter Gropius 1926: Bauhaus in Dessau; design studio wing.

fined by a fully organized layout of a living space, worked out to the last detail: the achievements of modern architecture and technical civilization (e.g., the Frankfurt kitchen, railroad dining car kitchens, etc.) prove how sharply a functional space can be reduced, once the problem is approached rationally.

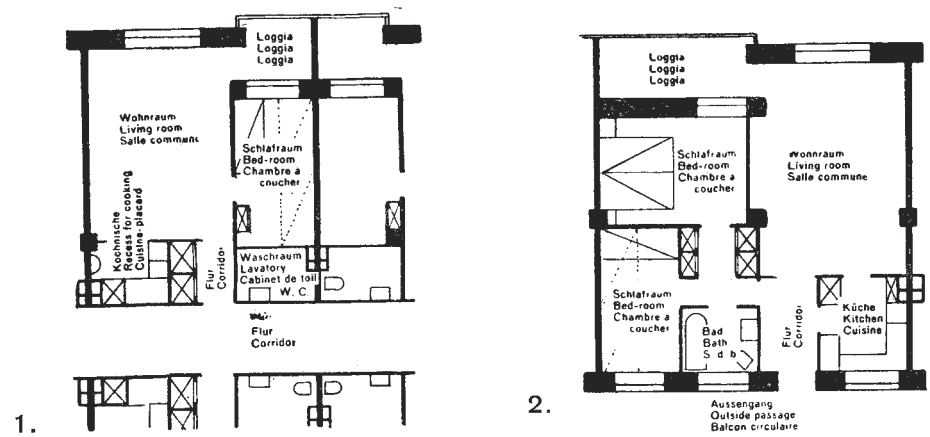
The only point in dispute is the question of the optimal **dimensions of the living cell** in a collective house. However, regardless of what the answer to this question should turn out to be, the basic assumption concerning its typological character is as follows: all the functional elements of the cell are standardized and designed according to anthropologically determined norms and are the same for every adult working person, male or female. Each cell is intended to be occupied by one adult only, and thus its layout and furniture arrangement will differ substantially from other living areas, which are occupied by more than one person. In the absence of the former class distinctions, there is no need to differentiate between individual living cells in size and comfort. In other words, there will be no first, second, or third class, as on a train. All things being equal, such a cell may be best compared with a compartment with all the comforts of the first class but without superfluous luxuries, like the third class. It should also be taken for granted that the dimensions of this cell should be as modest as possible. In the USSR, the sanitary norm has been fixed as follows: 8.2 m^2 and 20 m^3 per adult, allowing space for mechanical ventilation. An appropriate furniture arrangement consists of the following: a fold-down bed, tables, chairs, and so on. These dimensions may be lowered even more, if large windows can be provided (possibly an entire glass front wall). This would help overcome optically the feeling of cramped space. Ultimately, the question of dimensions is really a question of the functional specifications of the cell: (1) If the individual cell is to be used exclusively as a **sleeping cubicle,** then the functions of individual intellectual work would have to be accommodated in separate work spaces, small chambers, and so on. (2) If the cell is to be considered as an individual's **private dwelling space,** it will have to satisfy the following functions: sleeping, reading, study, and other private intellectual and educational activities; private rest, storage of things indispensable for daily life (clothes, linen), a toilet, and facilities serving the needs of elementary private hygiene and intimate life.

In the first instance, the area, cubic space, and equipment of the cabin may be designed on the model of the layout of a sleeping compartment of a railroad car or the cabin of a cruise ship: an area of 3 to 5 m^2 would be sufficient. In the USSR, where the question of the dimensions and the functions of such dwelling cells has been widely discussed, and where it has been decided that the size of collective spaces should not be reduced at the expense of individual cells, the majority opinion favors a size of 5 m^2 as sufficient; the minority demands 6 m^2, but nobody seeks anything bigger. Assuming that the cell is conceived as private living space, it should be designed to accommodate the following functions: sleeping, study or private spiritual and intellectual activities, private rest, storage of things necessary for dwelling (clothes, laundry), and a toilet and facilities serving the needs of elementary private hygiene and intimate life. The norm of 5 m^2 per person is definitely higher than that prevalent in today's overcrowded proletarian housing. The most powerful argument advanced by the Soviets in support of the idea that the cell should be considered merely as an individual's sleeping place is that a larger living space would have a negative influence on the future development of collective life and common cultural activities, and that workers would then tend to leave their clubs and isolate themselves at home.

In the second instance, if the cell is to be designed as a space for general living and not merely as a place for sleeping (i.e., combining the functions of boudoir, study, sleeping cubicle, and living room), it will be necessary to increase its dimensions to a more generous norm of ap-

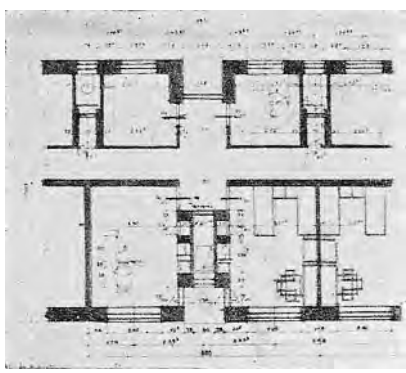


Standardized floor plans by the Building Committee of the RSFSR:
Gallery type.



Apartment house for foreign engineers in Moscow

1. central corridor
2. side corridor.



Ernst May (1931)

Floor plan of a collective house with central corridor.

Daylight reaches the central corridor by way of verandas inserted at intervals between apartments. Entrances to apartments are from these verandas.

proximately 7 to 9 m^2 and eventually even up to 15 m^2, besides increasing its inventory of furniture and other service items. Such a fully furnished dwelling cell should contain the following items: a folding bed or sleeping couch, a worktable (possibly folding type) or secretary, a cabinet with adjoining bookcase and other items for intellectual work, a small table, two to three chairs, built-in closets with a wardrobe and linen storage bins, a washbasin, a vanity cabinet, and a mirror. The dwelling cell or *jačejka,* as it is called in the Soviet Union, therefore unites the following functions in one space: bedroom + nook for intellectual work + space for intimate private life. But even in this case the floor area is smaller than that of a traditional minimum-size apartment, because the space specifications of the *jačejka* are based on a functionally more efficient calculus. N. A. Miliutin suggests the following dimensions as adequate for all the above-mentioned functions:

2.8 m $\times$ 3 m = 8.4 m^2; 8.4 m^2 $\times$ 2.6 m = 21.84 m^3

Some Soviet architects consider these minimum dimensions (7 to 9 m^2) as temporary, justified only by the current acute housing shortage in the USSR; they insist that the size should eventually be increased to provide a more generous norm for a higher standard of healthy living. They propose to build larger dwelling cells in the future in increments of floor area from 9 m^2 to 12, 15, 18, and even 25 m^2. They further suggest that such a gradual increase of dwelling norms is necessary given the difficulties of the Soviet economy in providing a single room for every adult citizen at its present stage of development. Instead, they propose that available cells be occupied by more than one person as a temporary measure. This acknowledges the inability of the current economy to provide more generous dimensions, and means a certain amount of temporary overcrowding. They also believe that such an interim solution will be more acceptable to those members of society who are as yet unwilling to give up their traditional family lifestyle. It also means that no one will be coerced into collective living against their will.

The correct way to promote collective living is by means of ideological struggle and cultural propaganda, which will expose the atavisms and prejudices of outdated ways of living. In concrete terms this means: resist the planning of projects with overly large dwelling cells to be occupied by more than one person, a married couple, or a family with children; resist the cohabitation of two or more generations under one roof, as well as the senseless distinction between single and married people in the allocation of dwelling space.

In any case, if we assume a five-day workweek, taking into account even the time spent in the club, meetings, study rooms, and the gym, then according to our new time schedule a person will still spend approximately half his or her life in his or her private all-purpose room, the *jačejka:* for this reason, it may not be advisable to fix its dimensions too low. Our concern is to find not just any minimum but a minimum that is satisfactory from both the sanitary and biological points of view: in other words, a minimum that is both **adequate and essential.** A dwelling cell for one person measuring 8.2 to 9 m^2 actually offers a higher standard of accommodation than that provided by a conventional small apartment of 20 to 45 m^2 occupied by three to six persons. Future increases in prosperity may lead to a somewhat higher allotment of square meters, but change will most likely come in the form of providing more comfort by adding a private toilet and a bathroom to each unit rather than by increasing the area of the living space as such. In the meantime, the Soviets have decided to provide auxiliary kitchenettes for each floor of their dwelling beehives (one per 25 to 50 cells); these later could be easily adapted to other uses (e.g., bathrooms, reading rooms, meeting rooms, tea rooms, or even additional dwelling cells), once they have outlived their use. What the above implies for design is the need for maximum flexibility and variability of the general layout of these

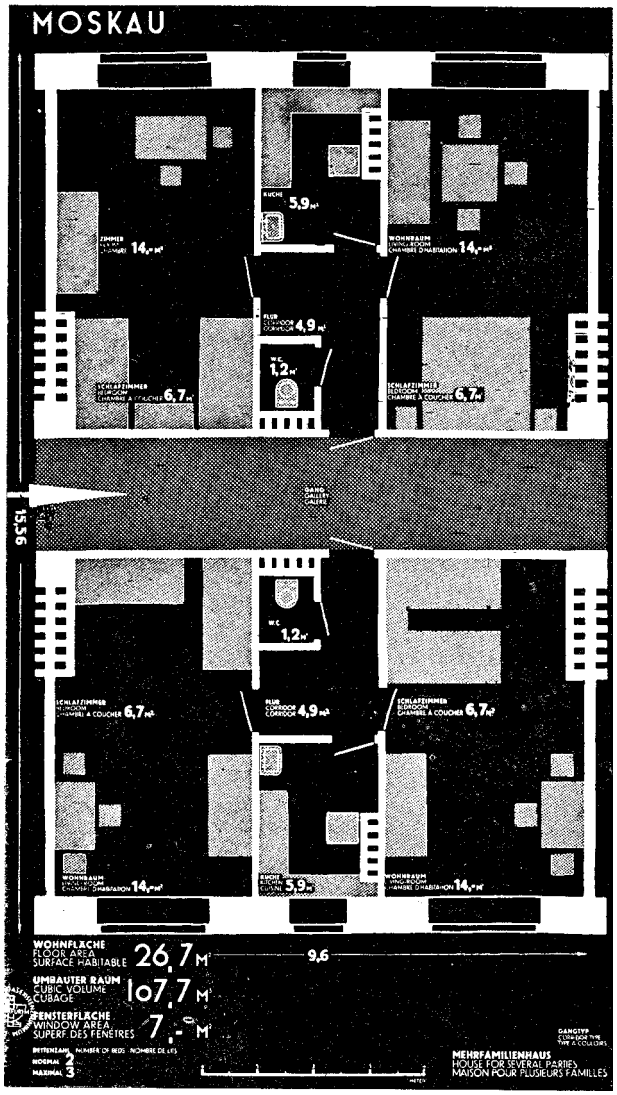
buildings. In turn, this implies that "open" skeleton construction systems in steel, wood, or concrete should be used.

The dwelling cell as such represents the **most mature form of the minimum dwelling.** It is not to be considered merely an emergency minimum: **it is a minimum and a maximum at the same time.** Experience will show soon enough whether the spatial norms of such cells (as yet to be generally accepted in the USSR) should be later increased from 8.2 m^2 to 9 m^2, and eventually 15 m^2 or more. According to our own judgment, even if such an increase should be possible it may ultimately be undesirable. Why should the inhabitants of these cells wish to assume the burden of having to keep up a larger apartment than the one that is already sufficient for their needs, especially when they will have at their disposal all the modern services and comfort in the collective realm? A living cell of 8 to 10 m^2 is a dwelling that will never again make anyone the slave of his or her home. Well then, why should a dwelling, which is much like a suitcase accompanying our life's journey, be dragged along like a heavy burden? Why should it be so difficult to reduce it to a reasonable size?[4] For example, in cases where windows facing an open space eliminate the feeling of being boxed in, preference should be given to a smaller apartment area (while maintaining a livable minimum). Of course, this also presupposes a well-designed arrangement of functional furniture, which may include built-in and folding items as well as sliding windows and doors to save even more space. The principle validating these contentions is that when space is functionally coordinated with overall dwelling performance and comfort, it can be radically reduced. In effect, a rationally justified reduction of space will actually lead to an increase of functionality and comfort in an apartment: this also must be considered one of the principles underlying the concept of the minimum dwelling. Thus, too, the dwelling cell must be considered the primary and essential unit of space provided for every adult working individual. It reduces the space of all housing functions dedicated to private purposes to a single room. The living cell is a strictly standardized element: the common basic needs of dwelling and lodging for the masses are therefore served by a mass-produced, standardized abode.

Given the premise that so-called popular housing is a matter of mass needs, the technical standards for such dwelling are of fundamental importance. Not only do they have to conform with the needs of the masses, but at the same time they also have to satisfy individual needs as well. To do so, generally valid, pragmatic requirements and principles must be formulated. In matters of dwelling, all civilized people have the same biological needs—the same requirements for air, light, comfort, and health. Even people living on the level of the subsistence minimum, best represented by today's proletariat, pretty well agree on what the requirements for socially viable housing should be. In practical terms, such agreement implies that these generally uniform requirements should be satisfied by standardized means. It also implies that there is no reason why dwellings should differ, just as there is no difference between instances of suitcases, railroad cars, ship cabins, airplanes, and sleepers. The first and foremost task is therefore to design a dwelling **made to human measure:** thus, to provide standard furniture as true to type as today's standardized light bulbs. In effect, consistent standardization is a good indicator of the degree to which public ownership has been realized.

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[4]) "The minimum dwelling is very important and should be a welcome option for every modern working person. A modern working person will try to simplify his or her apartment and living conditions to require a minimum of effort and expenditure for their maintenance and upkeep, solving his or her housing situation in such a manner that instead of giving prominence to ever-new gadgetry, he or she will be simply throw outdated items overboard. The more simply and quickly he or she can perform the work necessary to maintain his or her existence, the more pleasant life will be" (Mart Stam).



Moscow-Mockba

Apartments in a collective house.

Soviet housing of the **obshchezhitie** [communal living] type is generally designed with a central corridor, which gives access to apartments for individuals (though they sometimes accommodate more than one person, or even a family): kitchens are usually shared by a number of apartments, sometimes a whole floor. Occasionally a central kitchen and dining room are provided for a whole building. One room usually represents one apartment cell. Accessory functions are shared by two apartments. Such **obshchezhitie** with a central corridor are a very common housing type, similar to mass housing workers' barracks, which were quite common in czarist Russia, especialy in districts with textile factories. Their floor plan is analogous to typical Anglo-American apartment house layouts. Owing to their primitive comfort level and inadequate technical equipment, the **obshchezhitie** are not very popular, and as a result, newer apartment houses resort to the more conventional staircase type. The collectivization of housing in the USSR so far has left much to be desired on the technical level, and thus it may not be advisable at this time to rush headlong into any collectivization schemes and to propagate ideas on communal housing prematurely.

Net floor area of apartment unit for 1–3 persons, 20.7 m².

Central corridor hotel-type housing. No cross ventilation.

Each two units share 1. hall, 2. toilet, 3. kitchen. The sleeping space of the room is ventilated into the corridor. No bedrooms.

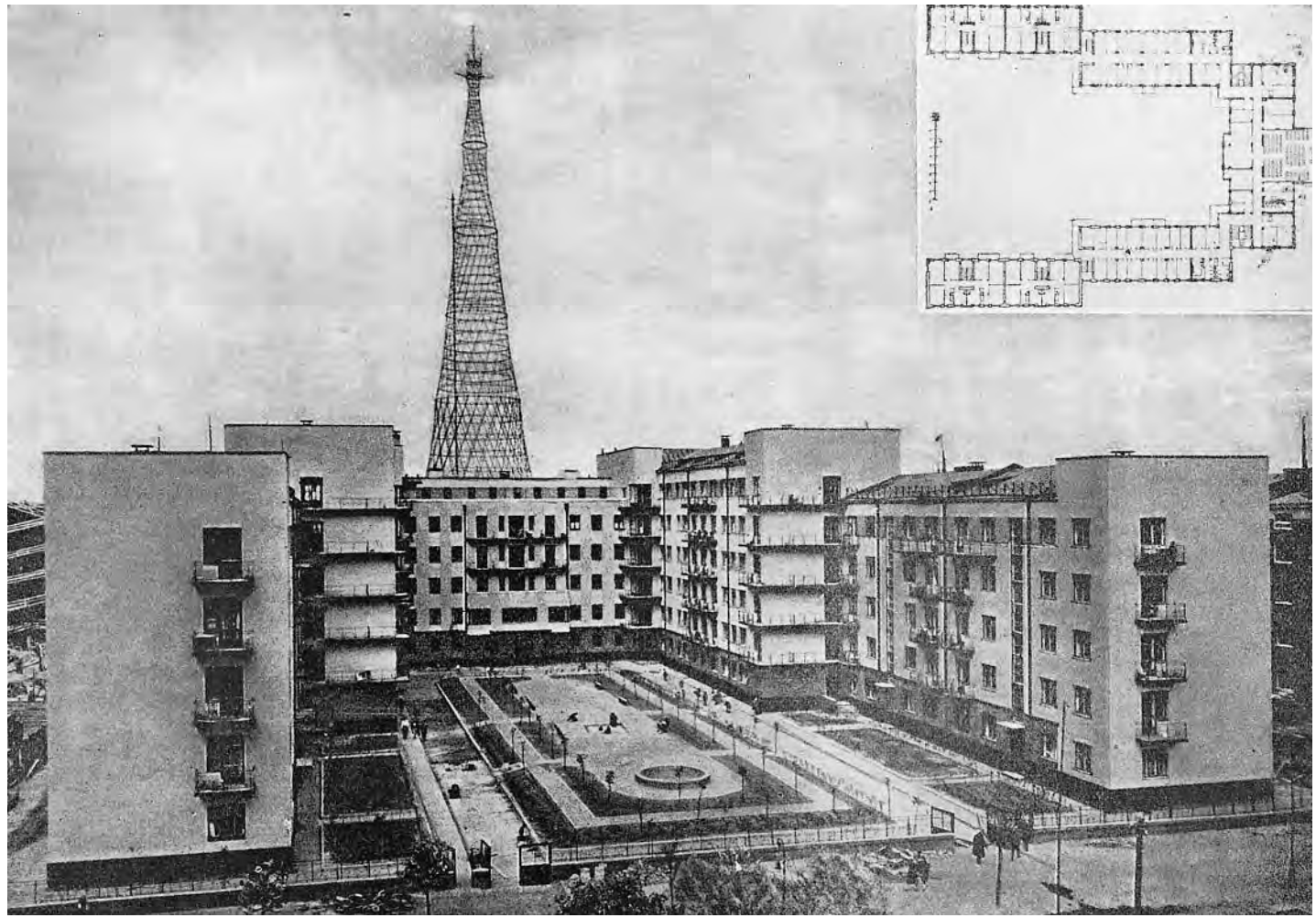
Wide-ranging uniformity and standardization should promote a staggering reduction in the expenses of industrial production and operation.

Because its functional components are standardized, the proletarian dwelling is the ideal type to take advantage of the benefits of such standardization and mass production; in contrast, the existing bourgeois apartment has to vary according to family size, social standing, property status, cultural preferences, and so on, and in addition must constantly strive for individuality, representativeness, eccentricity, and originality by catering to each client's special requirements and personal caprices. Instead, the proletariat is "the class that will create a new society by abolishing all other classes and overcome the division of labor and class barriers by creating a human society of an international and universal character. It is united by its common suffering, and therefore does not lay claim to any particular privileges. . . . [I]t will not be able to gain its own freedom unless it will have liberated itself from the rule of all other classes, and by such an act achieve their liberation as well; in short, by failing to liberate all it

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1925–
1928



Total area 47,664 m². Children's home, club, gymnasium, baths, etc. Live-in cells in collective wing 9 and 14 m².

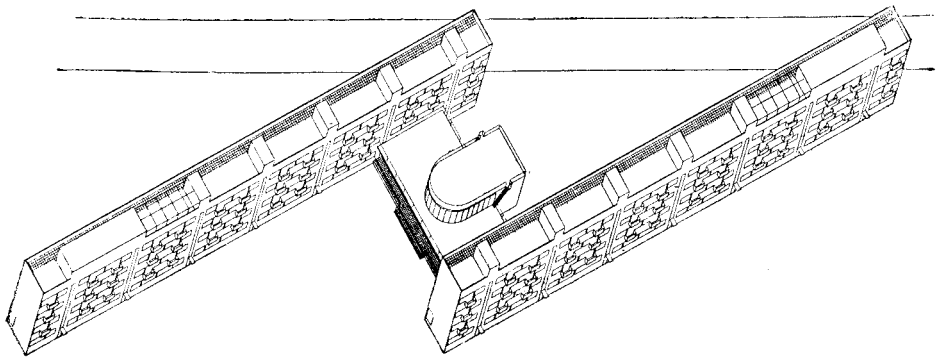
Mosgubzhilsoyuz (Moscow Gubernatorial Association for Housing Construction)
The first collective house complex—**dom-komuna**—in Moscow's Zamoskvariechesky district. A combination of 5-story houses with family apartments and a 6-story collective house of the central corridor type with 320 one-room cells. 8 staircases and 2 elevators.

would lose its own humanity and thus its only chance to redeem all of humanity" (Marx, *Economic and Philosophical Manuscripts of 1844*). The proletariat is a class that does not demand special rights and privileges but draws strength from its debasement to advance the evolution of humanity, a class that will be content with **complete uniformity** in all parts of life, whether clothes or housing.

From an ideological point of view, the standardized aspects of the living cell for an individual help subvert such notions as "home," "native land," and "family" and prepare the conditions for the emergence of a new psychological type of human. As a standardized cell, the dwelling space for an individual is transformed into its most authentic form by each inhabitant with the precious spiritual freedom and peace gained during his or her hours of rest. This is a feature that none of the small conventional European apartment types has yet addressed. Besides disassociating erotic relations from material considerations, the elimination of spousal cohabitation in one room not only provides effective medicine against the parochial pettiness of the bourgeois marriage but also works powerfully to stimulate a more gentle flowering and transcendent enhancement of genuine human instincts and feelings. The elimination of the bourgeois dwelling type means doing away with the incongruities of the bourgeois "nest" and delivers a mortal blow to bourgeois psychology and its despotic individualistic mentality.

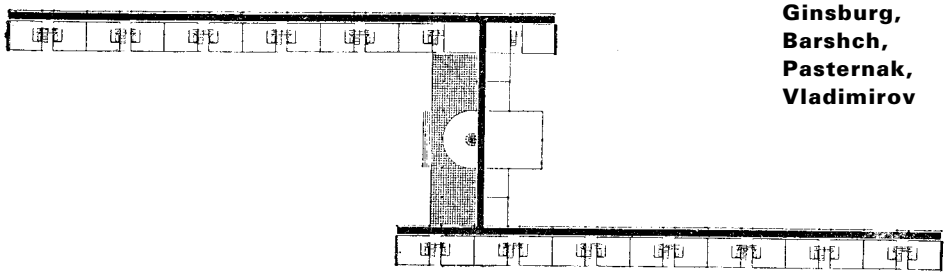
The multipurpose *jačejka,* which best exemplifies the radical break with bourgeois family conditions, is the material manifestation of this new dwelling type in technical form. Here, the family ceases to exist as the basic economic unit of a social whole, and traditional marriage is replaced with a higher form: a free relationship between two people, bound to each other solely by sexual, parental, and similar relations. Intimate relations between people become a strictly private affair. People can be freed from their former economic dependence on traditional family-based-household living only by eliminating the underlying divisions of labor and by negating the primordial class struggle between man and woman, children and parents, as well as the so-called conflict between generations. The multipurpose *jačejka* reproduces proletarian lodging on the higher level of socialist culture. It is a modern version of the barrel of Diogenes, and, as Le Corbusier aptly observes, is "the peak of wisdom, utility, and architectural creation." It was Diogenes who, living in his barrel, was capable of renouncing everything superfluous and who dared to shout at the great Alexander in front of his barrel: "Get out of my sun." Well then, let all the superfluous things contrived by architects and the luxury industries of the past get out of our sun as well! Or—if you wish—let us follow Buddha's advice: **freedom means leaving the house.** Applied to our own time, this translates into casting off the dead weight of the traditional apartment. The living cell for one person becomes our modern barrel of Diogenes, a real place for private dwelling; each individual is provided with only what is his or her due, while the relationship between men and women is liberated from having to endure the stress of common disturbances in a shared apartment.

Currently, the functions and dimensions of the *jačejka* as a new housing type are widely discussed in the USSR under the heading of the *obshchezhitie* [collective living] versus the **dom-komuna.** The collective house is seen as a kind of interim solution, designed to accomplish the transition from the rental barracks type to a higher mode of dwelling. These collective houses are intended to provide accommodations for more than one person, and sometimes even families share a single room. The apartments have no kitchens, which are provided separately and shared by a number of living units. In some cases public dining halls are provided instead. The *dom-komuna* represents a more authentic solution for collective living: it is a house designed for a large number of inhabitants—a big structure, without kitchens, but



Project designers:

Ginsburg,
Barshch,
Pasternak,
Vladimirov



The Building Committee of the Economic Soviet of the RSFSR 1928

Collective house, Type A

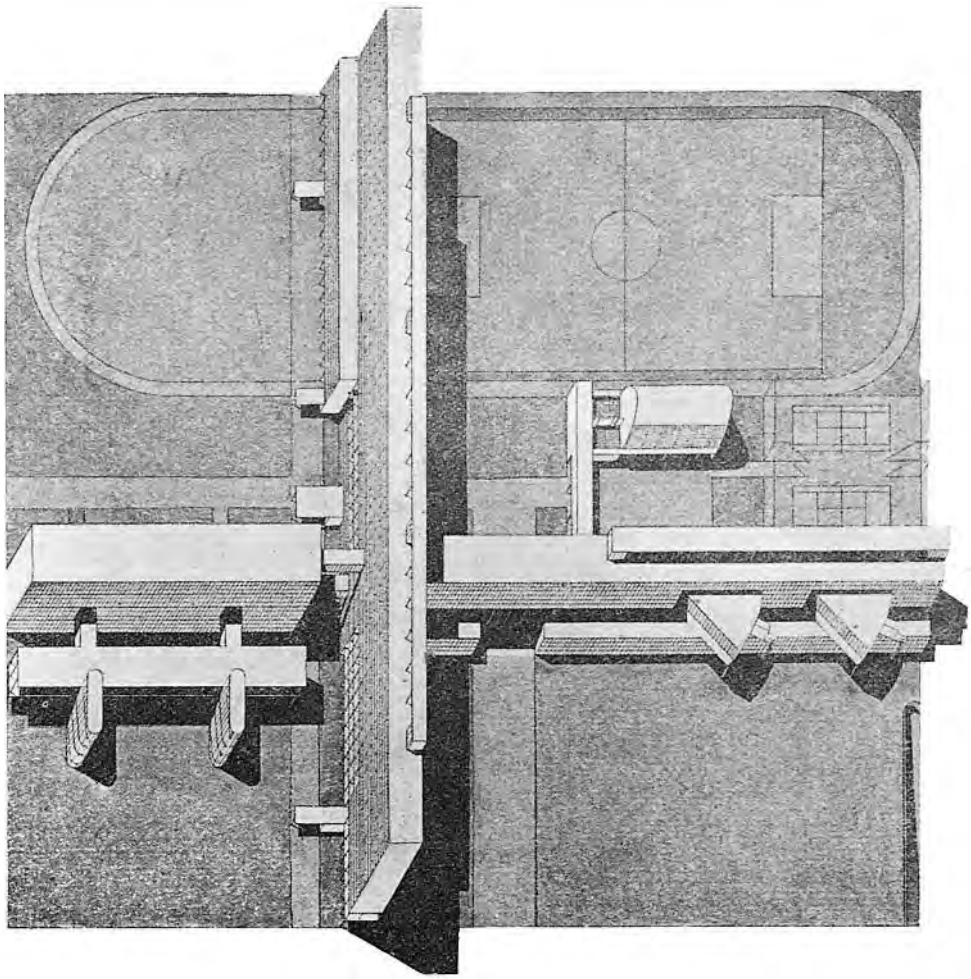
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containing common children's homes, clubs, and so on. An all-out collectivization of dwelling services implies that it is possible to develop two types of houses: the **dwelling beehive** or the **dwelling combine.**

One of the foremost advocates of the *dom-komuna* [i.e., dwelling combine] idea is Sabsovich, the author of the book *The USSR in Fifteen Years* [1929], where he proposes a much more developed version than that exemplified by early Moscow dwelling communes. His mature *dom-komuna* envisions complexes for two to ten thousand inhabitants. Each commune is conceived as a distinct community, a city, and includes meeting halls, a club, study rooms, a theater, movies, health care facilities, emergency rooms, exercise rooms, and so on. Other spaces are provided for the offices of the administration and the local soviet. Several of these *dom-komuna* can be combined to make up a residential city for adults. Children would be raised and educated outside of the city, in special school districts.

Sabsovich's theories have been implemented to some degree in the well-known architectural project of a large *dom-komuna* by **M. Barshch** and **V. Vladimirov,** members of the Construction Committee of the Economic Soviet (Stroikom), with the difference that in this project the children's home and the schools are included as an integral part of the complex, in order to

A housing complex, combining in a single building sleeping cubicles with the dining hall, club halls, study rooms, library, sick bay, classrooms, lecture rooms, children's homes, gym, verandas, sports stadium, etc. This collective house (**dom-komuna**) is actually a city in itself.

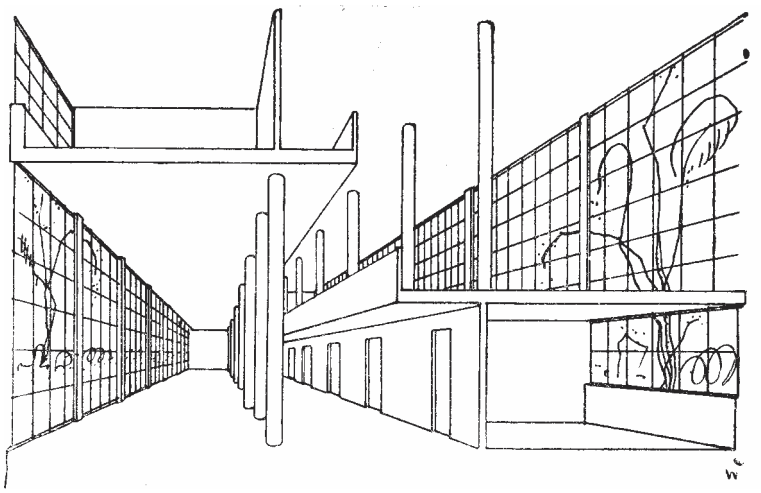


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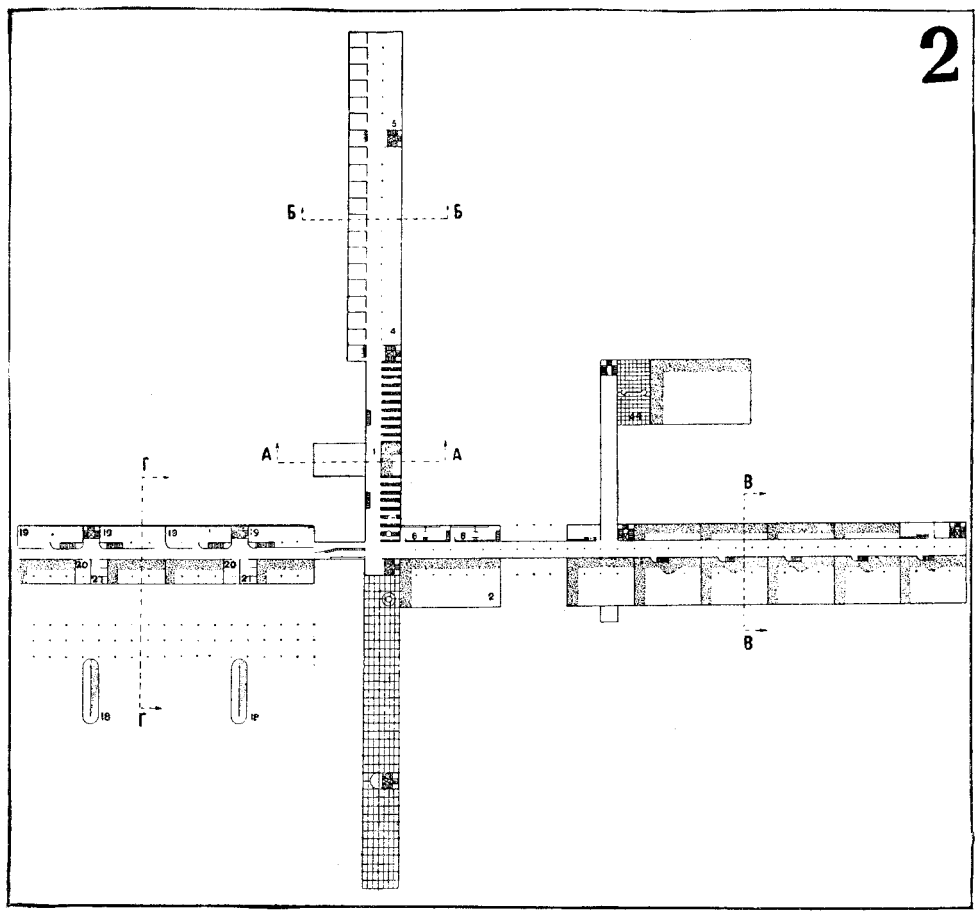
The Building Committee of the Economic Soviet RSFSR (stroikom) 1929

M. Barshch & V. Vladimirov

Dom-komuna

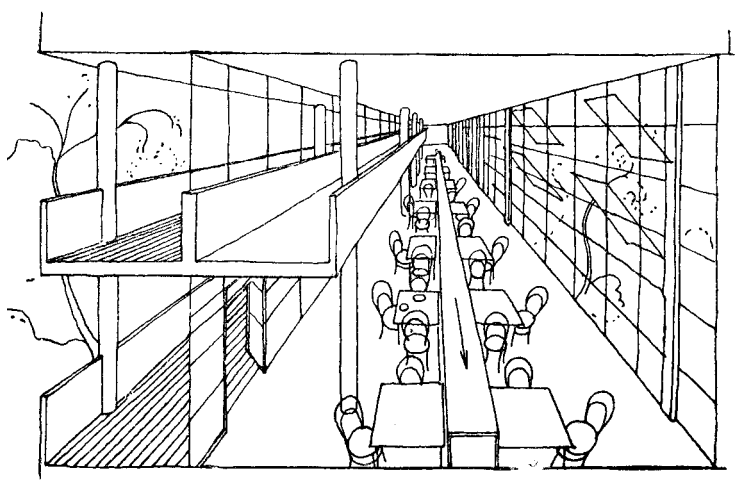


Hall of rest and recreation.



Moscow
Mockba

Second-floor plan.

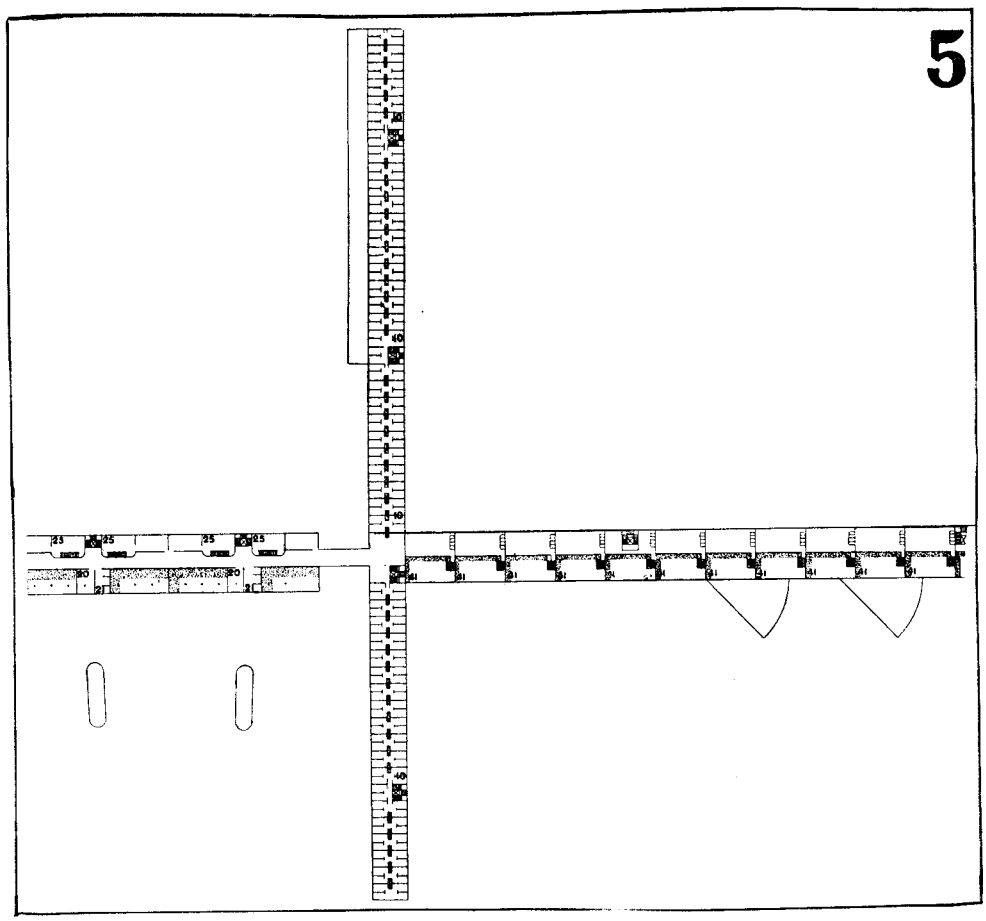


The Building Committee of the Economic Soviet RSFSR (stroikom)

M. Barshch & V. Vladimirov 1929

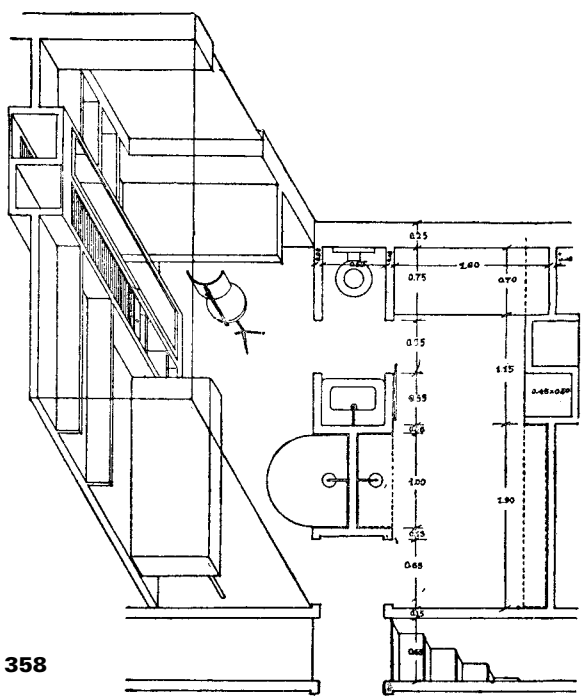
Dom-komuna

Common dining room. Food is served on a moving belt.



Moscow
Mockba

Fifth-floor plan.



The Building Committee of the Economic Soviet RSFSR (stroikom)

M. Barshch & V. Vladimirov
1929

Dom-komuna

A dwelling cubicle for one person (1.60 × 3.75 m).

prevent the segregation of children's life away from adult life in special districts.[5] It is a self-contained community, an independent dwelling complex and a new urban type, designed as a unified architectural structure serving both individual and collective life. Its design and built form reflect the organization of collective life. It succeeds in fusing into a unified whole a whole series of heterogeneous elements. According to Sabsovich, the fundamental question facing the new type of socialist housing is **to define the center of gravity of the dwelling combine: is it represented by the common spaces or by the complex of individual rooms?** In his opinion, there is no doubt that the center of gravity of any socialist dwelling should be the collective, social spaces. And, since it is imperative to build at the lowest possible cost and save space, he defends the position that unavoidably the individual dwelling cells must be kept as modest as possible, rather than skimping on collective spaces, where it is essential to nurture the new lifestyle. For the collective spaces, he establishes a minimum of 3 m^2 per inhabitant (but never less than 1 m^2). Sabsovich assumes that the majority of the inhabitants will spend most of their free time in the collective spaces for recreation, lectures, study, physical culture, and similar activities, while they will use their individual cells only for sleep and possibly individual rest—in short, when biological needs make isolation from the collective necessary. On these assumptions, it should be possible to reduce the individual cell to a mere sleeping cubicle of minimal dimensions, with an approximate floor area of 4 to 5 m^2. The opponents of Sabsovich's theory claim that such housing communes change communism into communalism and that it is neither advisable nor possible to bring together all private as well as collective living functions in a single building complex, even if loosely arranged. They argue that it would therefore be better to **decentralize** these functions and accommodate them in special buildings, which means that the ideal collective house should be conceived as a separate **beehive,** consisting solely of individual living cells.

The gist of the discussions about which form of collective dwelling should be preferred may be reduced to a few basic questions: Should the collective houses be grandiose edifices, sumptuous palaces, or, ultimately, skyscrapers? Should they house a few thousand, or tens or hundreds of thousands of people? **Should all dwelling processes be centralized in one building,** or **should there be a separate beehives for private dwelling functions?** To assume that the housing skyscraper is the only suitable form for collective dwelling would be to fall into the trap of American simplemindedness. All that can be said in this case is that a high structure should be considered for no other purpose except the collective dwelling, because a high structure will be able to accommodate only active young people, never the aged and children. But the reasons that make the skyscraper unsuitable for traditional family-based households (children and old people find it difficult to use elevators and escalators), do not exclude it from being used for collective dwelling. One thing is certain: any future skyscraper dedicated to collective living should not be a mechanical replica of the American, capitalist type, as found in Chicago or New York, or an adaptation of Le Corbusier's high-rises based on the same model. In the end, the American skyscraper is really nothing but the last hurrah of capitalism.

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[5]) "Dwelling houses may contain two to three thousand tenants. There should be no kitchens or individual laundries and no separate self-contained apartments; equally there should be no private living rooms or family rooms. Each working citizen should be assigned his or her individual room in such a house, which is intended for sleeping and occasional individual rest only. There should be no rooms occupied jointly by a couple. We have no time for time-consuming transitional periods, history does not allow us to conduct experiments and lengthy studies; we have to get things done now" (Sabsovich). These theses by Sabsovich were sharply rejected by L. M. Kaganovich, who protested that such radical changes of lifestyle, for which the masses would have to be mobilized, would do more harm than good.

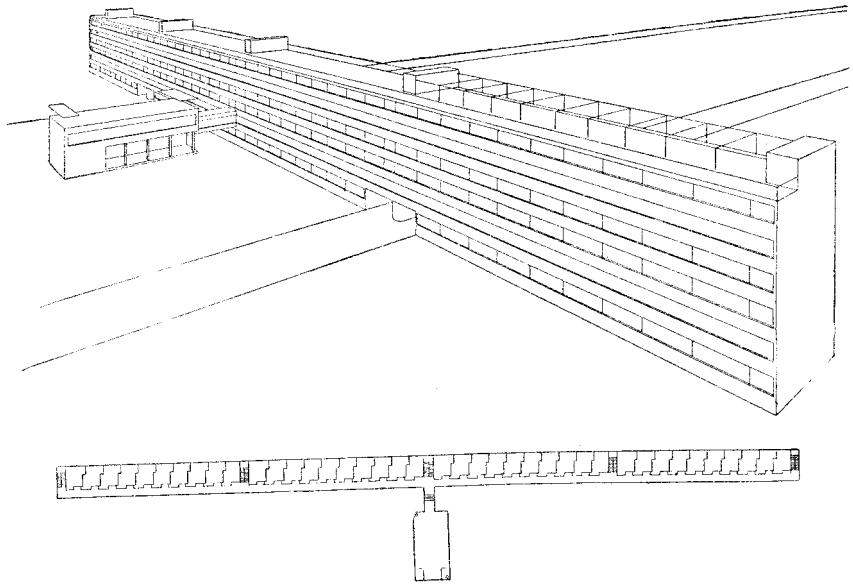
On the whole, collective houses should be conceived on the model of enormous apartment complexes, and thus presumably be even larger than traditional big apartment houses. Of course, this does not mean that a skyscraper or some huge housing bulk is the only possible solution. Even existing embryonic forms of collective dwelling do not necessarily require gigantic edifices. As mentioned before, the forerunners of collective dwelling such as the grand hotel, as well as other examples of smaller buildings represented by hospitals of the pavilion type, are, in spite of their different construction, good examples of more modest solutions. Where providing collective services would be too expensive, or where the number of inhabitants participating would be too low, the question of the height and bulk of the collective house is difficult to answer in any case, since the efficiency of a tall building depends to a high degree on the cost of land (see also the discussion in chapter 11). Moreover, one should not build on areas capable of accommodating other, better uses. For these reasons, housing should not be built on sites harboring valuable mineral resources. And for the same reasons, it may be admissible in some cases to consider high-rise residential buildings, even if they are not in a large city subject to land speculation, which was real cause of the development of capitalist skyscrapers in the first place.

As far as construction costs are concerned (and at this time, socialist development in the USSR is calling for extreme, even ascetic austerity), one should keep in mind that the backbone of any high rise is the **elevator.** The maximum height of a house without an elevator should not exceed five stories. Structures without elevators have the advantage that they can be constructed using old and frequently cheaper materials and methods (especially in the USSR). Once elevators are called for, one must expect higher construction costs and the use of modern construction methods, especially for high-rises. This presents a serious problem in Soviet construction today, since the use of "deficit materials"—that is, expensive modern building materials—is authorized only for absolutely essential purposes. As for the distance of apartment entries from the elevator, the introduction of mechanical **horizontal people movers** will make it possible to extend connecting corridors into real "interior streets" with their own transport devices. In turn, this would make it possible to significantly expand large houses in the horizontal direction, that is, build houses up to a few hundred and eventually even thousand meters long.

In principle, collective houses are essentially mega-structures, but high-rises are not alone in fitting that description. On the contrary (depending on circumstances), it is more likely that collective houses will actually be realized as **long edifices of low height.** Thus, the main question is not how high or how long a row should be, but how many people are to be provided in the most rational fashion with collective services, and what the lower as well as upper limits of this calculation should be. Put differently, the question is one of desirable density for the smooth functioning of both services and transportation. N. A. Miliutin, the chairman of the state commission for the construction of socialist cities in the USSR, has established the following numbers:

Dining room: no larger than a capacity of 300 to 400 persons.
Density of population: for low-rise row houses, 300 persons per one kilometer of road; for medium-rise row houses, 2,000 to 4,000 persons for each additional kilometer of roads.

Taking Miliutin's numbers as a base, we find, that a minimum of 400 inhabitants will justify providing a reasonable level of collective services per project; they represent the equivalent of 100 to 125 traditional families, composed of 300 adults and 100 children. The maximum has been established as 800 people; that is, 600 adults and 200 children and teenagers, or the



The Building Committee of the Economic Soviet RSFSR 1928

(Architects: Ginsburg, Pasternak, Barshch, Vladimirov)

Project for a collective house, Type F

This dwelling beehive does not contain any of the functions usually attributed to a full housekeeping flat. In contrast to a hotel, bachelor flats, and pensions, such a dwelling beehive should not be considered in itself a complete dwelling entity. The program of "dwelling" includes all the relevant social, study, etc. spaces, and separate children's rooms are concentrated outside of this dwelling beehive in their own separate buildings.

Collectivization and centralization of all housekeeping and communal functions;
Reduction of dwelling to a single cell for each adult person;
Liberation of the working woman from household chores and the upbringing of children;
Elevation of the housing standard and culture of the working class;
Support of popular education and physical culture, as well as community life;
Full medical care;
Reorganization of the city as a whole;
Isolation of an individual's private life within a single standardized dwelling cell.

equivalent of 200 to 250 traditional families.[6] The exception is cultural halls, which require a considerably higher number of users to become worthwhile, especially when there is a nonstop workweek.

Given the premise that the most rational choice for dining facilities is a capacity of 400 to 800 persons, clubs, in contrast, ought to be capable of accommodating the social needs of 2,000 to 8,000 inhabitants. This leads to the conclusion that it may not be very practical to build housing combines that include all housekeeping and cultural as well as common spaces in one building, even if these were located in different wings or in connected parts of the main structure. Aside from the reasons already mentioned, the experience of modern architecture has shown that it is inadvisable in principle to combine different functions in one building, as this inevitably violates and seriously complicates the basic floor plan. A better strategy is to assign different purposes to different buildings, an approach that allows the layout of each individual structure to be adjusted more freely and developed more independently. Good examples of such an incorrect mix of disparate functions are commercial buildings that combine under one and the same roof both offices and apartments, proving that it is not correct to centralize disparate functions in one building.

These observations show even more plainly that such consolidation is not the most suitable solution for collective dwellings, not only because of the different planning requirements for housekeeping as opposed to cultural functions, but also because the optimal number of inhabitants differ for each type; in addition, collective functions tend to come at the expense of the space allocated to the individual living cells. The main technical defect of consolidated collective houses, which combine all the heterogeneous functions in a single, large structure rather than separating them in special buildings, is the need to connect all these various functions by heated corridors and other superfluous spaces, leaving the *jačejka* as a mere suitcase for sleeping. Once the decision has been made to include all dwelling processes (sleeping, entertaining, study, political and educational life, physical culture, child care, eating, etc.) in a single housing combine, it follows that each function will have to be assigned its own separate and functionally differentiated space, whether in collective meeting halls, reading rooms, lecture halls, or the individual study rooms and individual sleeping cubicles. In essence, this differs little from the apartments, villas, and manor houses of the old gentry, with their equally differentiated assortment of rooms and spaces. Once again, the same old formula: dining room, salon, children's rooms, smoking room, music salon, game room, study, library, bedrooms, reception area, rooms for servants, and so on, except that the name has changed and the building is now called a collective house. All these palatial facilities are at the disposal no longer of patrician families, but of the larger family of a worker's collective. Because of the spatial requirements of the collective facilities within the overall layout of the building, the pressure exerted on the dimensions of the individual dwelling cells is liable to lead to their reduction in size to a closet or cloakroom, hardly fit to sleep in.

To solve the problem of the collective dwelling by using old, dead, and petrified models of housing such as the mansion, villa, or the single-family home in effect will only help discredit rather than advance the cause of socialist housing. For these reasons, the monolithic collective house must be considered an inappropriate and out-of-date type, a structure blown up to

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[6]) Ernst May points out that large communal kitchens in Moscow, Leningrad, etc. have been quite successful, but that the current tendency is toward smaller dining halls, which can more easily offer a more intimate atmosphere and opportunities for personal contact (and thus control as well) between consumers and service personnel. The large food combines provide the collectives with semifinished products, which are further processed in the food preparation facilities of the dining halls.

gigantic size and rechristened with the new, pretentious name *dom-komuna.* It differs from ordinary housing only quantitatively, in its dimensions, rather than fundamentally and quantitatively. The gigantic *dom-komuna* projects in the USSR show that the architects who believe in this principle suffer from a severe case of elephantiasis; in addition, they ignore the achievements of modern natural science, technology, and sociology, which teach us that the leviathans among machines, animals, buildings, and cities as well not only are dying out but invariably belong to less advanced and lower evolutionary forms. Biology too tells us that embryonic cells are at their largest in their early stages of development, not their mature state. Once we accept the principle that the dimensions of the basic dwelling cell must not be increased at the expense of collective spaces, the only way to prevent an unacceptable reduction of their size in the *dom-komuna* is to reduce the number and size of communication spaces, such as superfluous corridors, stairs, ramps, and elevators. Unfortunately, it is precisely such monolithic *dom-komuna*s that are full of superfluous corridors, vestibules, and other installations. Given the gigantic scale of these buildings, these cannot be avoided; and the building ends up as a vast system of pipes, drains, wires, elevators, ventilators, sterilizors, and heating and cooling equipment, not to mention the space eaten up by their complex and burdensome machinery, resembling more the utopian concoctions of Jules Verne or Wells than a collective house designed for good living. How simple and more honest is the nomad's tent or the barrel of Diogenes in comparison!

Recognizing the drawbacks of the *dom-komuna* concept, the proponents of **decentralized collective dwelling** are gaining ground in the USSR, advocating a **simple beehive structure** for the living cells and separate buildings for the various collective service functions. They see adapting and further developing mature versions of the open gallery type as the most advantageous approach to decentralized collective dwelling. The advantages of the open gallery type are listed in chapter 12 of this volume, which describes this system's inherent capability to line up the individual dwelling cells horizontally, or stack them above and next to each other, within the geometry of a single house row. The row housing concept with its long, linear buildings at the same time has a construction mode well suited for the development of linear cities. A variant of the open gallery type is a house with a continuous, heated corridor on one side. This works very well in severe climatic conditions, or where the toilets and bathrooms are located in groups, outside the living cells. (For reasons of economy and only under exceptional conditions one may consider the use of a central corridor. But, as mentioned before, such a solution is not recommended.) The major task in adapting the open gallery type for collective housing is to find the most rational and most economic combinations of vertical and horizontal circulation systems; that is, to limit stairs and corridors, and—if need be—introduce corridors on alternate levels to serve two or three floors simultaneously. In contrast to the *dom-komuna* type, the living cells are bunched together in their own dwelling beehives, which consist of a system of cells arranged above and next to each other and served by continuous side corridors. These long, three- to ten-story-high houses make up a narrow band as each single beehive is linked to its next neighbor, in the following range of preferred sizes:

1-story buildings . . . . . ca. 300 cells
3-story buildings . . . . . ca. 990 cells
5-story buildings . . . . . ca. 1,650 cells
6-story buildings . . . . . ca. 1,980–2000 cells

As mentioned above, only private living functions will be accommodated in these beehives, and **all collective functions will be dispersed throughout the entire residential zone**

of the city (called the minor circulatory system of the city). Furthermore, if we include in the definition of the concept of collective dwelling other processes and functions that in the past were considered part of a household economy (i.e., when the home was still used simultaneously as a workshop and a place to live in), such as work, production, nursing, education, and so on, then **these processes will have to be accommodated in the entire plan of the city and across all its zones** (called the major circulation system of the city). The ebb and flow of life in a socialist city will alternate between dwelling and work, spilling over to the industrial or the nearby agricultural zones, and from there to the regional clubs in the residential zone, or to the central cultural and sports institutions in the greenbelt, and back for a night's rest in the residential beehives. The regional clubs with their dining facilities should be placed in the residential sector; they should not be part of the dwelling beehives but instead should serve them in separate facilities. In fact, all social services should be assigned their own buildings, separate from the dwelling beehives and common to a whole district. Their network should be contiguous throughout the whole residential zone. Children's crèches and child care centers, as well as the school boardinghouses, should also be situated in the residential zone. Schools should be located in both the industrial and the agricultural zones, thereby creating a desirable link between education and productive work (including gymnastics, dance, etc.). Cultural institutions, such as large theaters, stadiums, and so on, should be placed in the green zone.

All the functions that were combined in one building in the *dom-komuna* are now separated and decentralized within the entire residential zone: the residential zone as a whole is conceived as a coordinated composite, which harmoniously synthesizes and at the same time loosely disperses both the private and the collective elements of the entire dwelling process. The slogan is "Not a house commune, but a commune of houses." It is difficult to develop one's individuality without finding its counterpoint in the collective, as it is equally difficult to foster a rich collective life without fostering the spirit of a well-developed individual life. To nurture high development of the collective as well as the individual spirit, both production and dwelling processes must be brought into a harmonious relationship. This will prove difficult to achieve if the living standard in both of these spheres is not raised and if productive life remains underdeveloped and uncivilized. Both housing and cities must be planned so as to account for and harmonize the contradictions between private and collective needs and to solve them dialectically, thereby raising human existence to a higher level. The proponents of the *dom-komuna* approach tend to neglect the private, individualistic components of the dwelling process; in the case of the commune of houses, the separation of the dwelling beehives from the clubs and from children's homes, in independent buildings, allows for a more natural development of individual dwelling processes within the housing commune's overall disposition. Clubs and children's homes are placed apart from the rows of the dwelling beehives, but still remain an essential part of socialist dwelling. All children's facilities reflect the **principle of coeducation.** As for the location of children's homes in the overall plan of the city, the rule should be that the younger the children, the closer their accommodations should be to the houses of their parents, while the older ones should be closer to the various collective facilities. Children's playgrounds and crèches should be placed between the house rows and connected to the homes of adults by covered walks. Thus, the contact between parents and their children will not be impeded. Separate children's homes are a proper response to the needs of a society with an economic system that has effectively done away with the concept of the traditional family and that will eventually make it redundant. They free the woman from the burden of child rearing, which—in the present situation—has become a more or less amateurish maternal chore anyway. The education of the young should be entrusted to public care

and placed in the hands of qualified child care and teaching personnel. On principle, contact between children of various ages, between children and their parents, and between different generations should be encouraged, especially in work and culture. This should benefit all generations, not only the young. Children's living quarters should be organized on the model of a scouting (pioneer) camp. Teenagers should be housed in buildings similar to former student dormitories, but without their own dining facilities, and separate from their schools, since the high schools will be located in the industrial or agricultural sectors. In effect, they should be treated more or less like adult housing. With the exception of teenage housing, children's homes should not be built higher than two floors. The same goes for houses for the aged and pensioners. The influence of the collective of adults will gradually weaken the formerly exclusive influence of parents on their children.

Clubs (regardless of whether these be regional clubs, clubs joined to dining halls, clubs attached to factories, or even central palaces of culture in the green zone), should not be designed on the model of ostentatious casinos, the clubs of the English aristocracy, or promenades of fancy health spas of the past. In short, they should never take on the appearance of the pleasure palaces of the idle rich. The true purpose of a workers' club is to provide the setting for an integrated cultural development of the working class as a whole. The workers' club is the crucible of collective life, where the character and the psychological features of a new cultural consciousness will be forged into new shapes. It is in the workers' club where the new collective man will be born. It is the workers' club that is to be the center of a new solidarity (about which Jules Romain has no clue). This means: no more bourgeois-type clubs for idlers, but instead new centers of political and cultural life. Such a club will thus become the true "family hearth" of the collective and **the very heart of collective living**—its common living room, without which the living cells in the housing beehives could not be called a home, without which collective dwelling could not exist, and without which these beehives would be reduced to just another version of **"mass housing barracks."**

The collectivization of services will free about 30 percent of the population of any given city for work in production. Of that 30 percent, approximately one-third will continue to be employed in centralized housing operations—that is, in factory-kitchens, dining facilities, child care centers, and so on—meaning that the other two-thirds will be able to work in production or become active in other economic or cultural activities. The extent to which domestic work can be rationalized by the introduction of collective services, while providing in its new form higher levels of comfort as well as a better quality of life, is best demonstrated by the division of work on transatlantic cruise ships. Even if one includes the luxury-class component of the first and second classes, we find that 40 to 60 persons are fed by a single cook, and 20 to 30 passengers are served by one cabin steward.

The reduction of housing costs effected by centralized services can be significant (e.g., with less volume in each apartment, fewer mechanical installations, the elimination of kitchens, and so on). According to the estimates of the Soviet State Planning Commission (GOSPLAN), large-scale collectivization of housing in newly founded cities has reduced construction costs by 50 percent and more in comparison with conventional projects. These figures prove again that building in accordance with socialist principles of housing produces considerable savings for society as a whole.

They also prove that the socialist system is economically more rational than the bourgeois system, since—as its cost is reduced—housing ceases to be a burden to society as a whole. In short, the socialist system will dump all the old housing types onto the garbage heap.

The collectivization of housing services has its own economic significance in the Soviet Union: it plays a significant role in providing the *rabochie kadry* (workers cadres), as well as

all other working individuals active in the industrial development of the country, with all the necessities for a decent life. Unlike in the West, in the USSR not only has unemployment been eliminated, but the problem of overpopulation has been solved as well. There is in fact a great shortage of workers. In the traditional family a woman's time (whether mother, wife, daughter, or sister) is consumed by the lonely and irrational small tasks of a wasteful housekeeping economy. To change this situation, one of the first priorities of the socialist system has been to return to society as a whole all the manual and intellectual energies hitherto consumed by the family-based household. "Without bringing women into the political process and public life in general as independent participants, there will be no socialism, . . . nor any genuine and permanent democracy. . . . Every housewife must be taught how to govern the state" (Lenin). Today, and to an even greater extent in the future, the building of socialism in the USSR will require the input of new workers by the hundreds of thousands, even millions. Natural population growth will not be able to supply the increasing demand of the new industrial giants for an ever larger workforce. The mechanization of agriculture and its conversion into a modern agro-industry will stop the population influx from the country into urban industrial centers. Where, then, will the needed workers be found, if natural population increase or migration from the villages to the city will not cover the deficit? Nor can immigration from abroad be counted on to relieve this situation to any significant degree. The only way the Soviet Union can obtain these much-needed working hands and brains almost at once is by the liberation of women from housework and the concurrent socialization and mechanization of all formerly private housekeeping chores. This is also the reason why in the USSR, the elimination of the household does not cause unemployment (which does not exist there at any rate), but instead helps reduce its acute shortage of workers.

The distressing housing crisis, with its persistent shortage of apartments in the cities, cries out for a new settlement strategy for humanity and for curbs on the influx of workers into overcrowded cities. As new industries spring up in different locations, they must find thousands of new workers, without whom the smooth functioning of the economy is threatened. In turn, once a few hundred thousand new inhabitants decide to settle in a place, the housing shortage is liable to become critically dangerous. The solution is clear: the family-based household must be eliminated and all housekeeping functions must collectivized and mechanized. And so, in one fell swoop, we will now have at our disposal approximately 30 percent of the entire adult population of that city for productive work in both industry and agriculture. Of this number, less than 40 percent will be employed in collectivized housekeeping operations, in public services, and in child care; the remaining 60 percent will be at the disposal of industry.

The elimination of the family-based household in any given city will increase the number of available hands without at the same time increasing the overall number of its inhabitants.

The principle of not forcing the population to a new style of dwelling is correct, but it should be accompanied by propaganda and education to inform the population of the advantages of collective living. These can be summarized as follows:

1. Liberation of housewives from domestic work.
2. Reduction and eventual termination of the need to recruit new workers from the country into the city.
3. Reduction of the cost and simplification of construction.
4. Increase in work productivity.
5. Increase in the standard of both living and housing in workers' residential districts.
6. Higher cultural achievements by all humanity.

All the theories and experiments initiated by Soviet architecture and construction are as yet a long way from becoming reality, and it will take some time to implement any of them in a definitive and valid form. For the moment, we are witnessing mostly ongoing discussions and the clash of conflicting and often contradictory opinions; everything seems to be in a state of constant experimentation and research. The transition toward new types of housing appears to be hesitant and slow. The policy is not to force the population into a lifestyle that they are not accustomed to and that they may find difficult to accept. In practical terms, this means that even new housing is still being built based on traditional designs, with each apartment having its own kitchen and so forth: the number of communal, large capacity kitchens, dining halls, children's day care centers, and parks is currently still inadequate. Only a few of the newer housing projects are half-hearted attempts to find a solution for a socialist way of dwelling.

We are faced with a fundamental incompatibility: the new organization of life and any notion of a socialist "apartment" are exclusive of each other. Here, no compromise is possible. This does not mean that transitory solutions should be ruled out. Nevertheless, even during the transition to socialist forms of dwelling, crèches and children's homes are a must, simply because they are **the most important element of public education in the collective upbringing of new citizens, without whom there will be no socialism.** According to Miliutin, the issue of the collectivization of housing is of fundamental importance in all new construction.

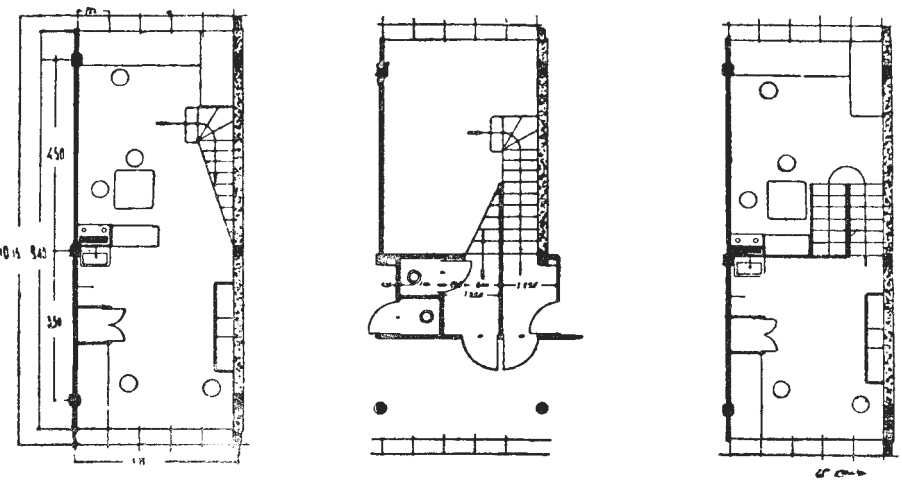
The choice is simple: either a collective dwelling, or a small bourgeois apartment. It will not do to solve the problem by trying to have it both ways, as for example by trying to accommodate a family in a single large living cell, as proposed by some Soviet architects. This has resulted in an increase of construction costs by 50 percent in a time of acute housing shortages—when indeed socialist development mandates maximal, almost ascetic, levels of thrift. Such a strategy is clearly untenable. It is absurd to build family apartments with a kitchen—even a tiny one—to be included in rooms of a boardinghouse character. Given the necessity of a transitional phase, a better strategy would have been to utilize existing old houses and apartments, of which a sufficient number have been left, to accommodate family-style living for those who have not as yet embraced the advantages of collective dwelling.

A gradual reduction of new apartments of the individual household type in the USSR has effectively taken place as a result of the housing policies introduced after the October Revolution. Given the shortage of available housing, it was not possible to allocate a private kitchen to each family in densely overcrowded houses; and the few kitchens and the bathrooms available had to be assigned to more than one family to use. This situation is aptly described in the story "Primus Stove" by E. E. Kisch (*Czars, Popes, Bolsheviks* [1927]), which traces the birth of collective living to the existence of these first communal kitchens. Another strategy designed to make up for the shortage of private kitchens was to establish public canteens for entire blocks of buildings and in factories.

All this happened not as a result of dull, official decrees but as a direct response to the changes in the organization of work and life under socialist conditions, gradually leading to a more planned approach for better organization of collective services, capable of satisfying all the dwelling needs of socialist living.

To sum up: The collectivization of all dwelling and housekeeping services leads to the creation of a new housing type of higher quality. It is characterized by the elimination of the existing family-based household, by centralization, by collectivization, and by the mechanization of all housekeeping functions, which include nutrition, cooking, laundry, cleaning, socialized child care, education, and training; it also entails a close linkage between education and production. Above all, it requires at the same time the liberation of women from their housekeeping

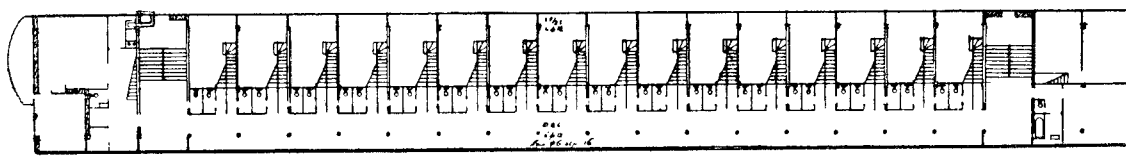




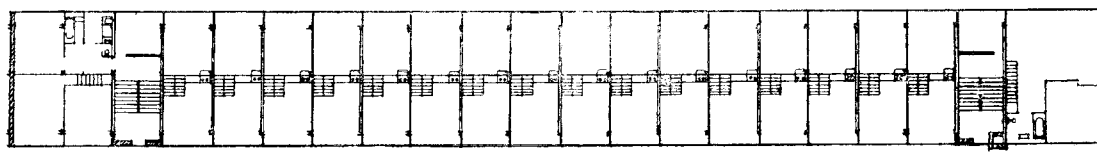
Floor plans of dwelling unit.

M. J. Ginsburg & F. Milinis (1929)

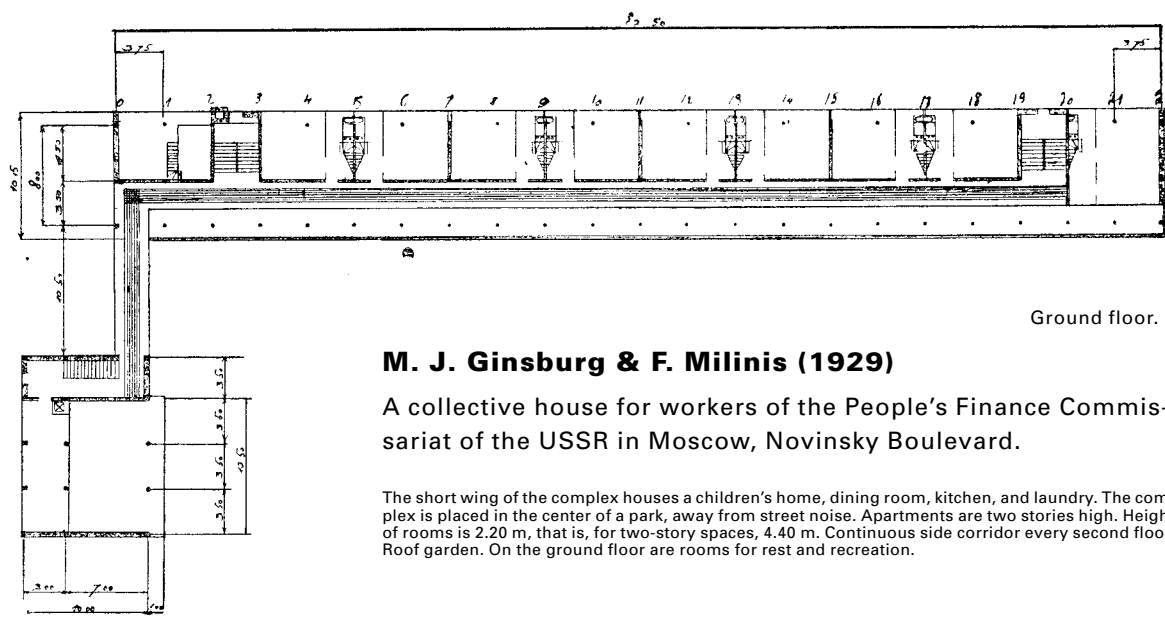
A collective house for workers of the People's Finance Commissariat of the USSR in Moscow, Novinsky Boulevard.



Floor **a** with continuous side corridor.



Floor **b**.



Ground floor.

M. J. Ginsburg & F. Milinis (1929)

A collective house for workers of the People's Finance Commissariat of the USSR in Moscow, Novinsky Boulevard.

The short wing of the complex houses a children's home, dining room, kitchen, and laundry. The complex is placed in the center of a park, away from street noise. Apartments are two stories high. Height of rooms is 2.20 m, that is, for two-story spaces, 4.40 m. Continuous side corridor every second floor. Roof garden. On the ground floor are rooms for rest and recreation.

Moscow-Mockba

chores and from child rearing, and their full integration into production and public life. Finally, the program of collective housing must be extended to include facilities to support activities related to all aspects of collective physical and intellectual culture, as well as providing continuous medical care for everybody. The problem of collective dwelling, like all problems relating to architectural solutions in the field of housing, cannot be attacked without taking into consideration the planning of residential districts and the city as a whole: this becomes even more evident when we consider that the dwelling process cannot be limited to the house alone, but takes place throughout the residential zones of a city. In fact, it extends even beyond these zones, into the greenbelt with its parks for rest and recreation. Thus, the dwelling process must be considered as merely a link in a long chain of interconnected processes: the Soviet city is the locus of work, political, and cultural life, as well as recreation. Its organization is based on the seamless integration of industry, agriculture, transportation, energy, education, and housing. All the functions of the residential sector (culture, dwelling, recreation, etc.) are naturally not only inextricably linked with each other but tied equally to the functions of the other sectors, with particular emphasis placed on the integration of production processes with other aspects of private and collective life. For these reasons, it is not possible to separate the issue of dwelling from the issue of the *sotsgorod* [socialist city].

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The housing sector of the linear *sotsgorod* is made up of the following functions and buildings: residential houses and children's homes of various categories, buildings housing administrative and political authorities (GORSOVIET, etc.), dispensaries for the various districts, clubs with dining facilities, libraries, reading rooms, and physical exercise facilities and sports halls (baths, massage, barber shop, etc.). In addition, each sector contains several shops, food supply centers, and so on. With the introduction of a continuous workday, both lunch and dinner are served in the dining halls for each shift: as a result, it has been possible to reduce the size of the dining halls by 30 percent. Snack bars remain open day and night.
The long rows of the housing structures are positioned as much as possible in a north-south direction, with their facades facing approximately east and west: the side corridors are located on the eastern side, the living spaces on the western side of the buildings. In some cases it became necessary and more advantageous to build the rows in an east-west direction, with corridors facing the north and the living spaces facing south. The spacing of the rows is proportional to their height. Children's homes, schools, and, on occasion, district clubs, along with lawns, playgrounds, and so on, are located in the spaces between the housing rows. Vehicular roads are placed at right angles to the housing rows. This offers the following advantages: (1) a shortening of roads and thus of the distance to travel between work and home, which is not to exceed a ten-minute walk, (2) beneficial air movement between the rows and good access to sunlight for all apartments. In the overall plan of the city, all the housing rows have their windows facing woods, lawns, fields, and water.
Clubs, cultural edifices, and libraries are placed within the territory of the individual residential districts. A large central theater is to be located in one of the parks in the greenbelt.
The city as a whole is served by an integrated system of services. The housing sector forms a unified economic entity within the overall organization of the city. This includes collective services for all the needs of the residential zone and the provision of suitable accommodations for children and invalids. All this is achieved by the liberation of women from their former household drudgery. In effect, such a city ceases to be a city in the conventional sense of the

term and instead becomes a **"workplace for X-thousand workers and a hotel for the same number of inhabitants."** It is the result of a more mature form of social life taking place in new urban and architectural settings, representing the advent of a new cultural epoch and a higher quality of life both in the workplace and at home. It is the culmination of a long development from lower figurations, owing a great deal to technological advances during the nineteenth and twentieth centuries. Modern architecture, modern urbanism, modern hotels, hospitals, schools, and the various versions of bourgeois "minimum dwellings" have provided the technical and scientific preconditions for more mature socialist solutions. Nevertheless, such higher forms cannot be derived entirely from lower forms or be based exclusively on past or present technical and scientific achievements. Fundamental qualitative and structural differences exist between even the most modern urban planning methods and housing policies of capitalism and their socialist counterparts. It is at this nexus that we encounter the dialectical change from quantity to quality and the transformation of the formal elements of one structure into a new one, defined by its own special destiny. It forces open the great fissure in the history of humankind: the victory of the proletariat and the birth of a new economic and social system. Without this, no fundamental change in our basic worldview would be possible, since without such a change of social and political consciousness, we would never be able to arrive at any new formal solutions; general technical development and progress are not sufficient to produce them.

A new generation is taking charge of the cities and rural settlements in the USSR, a generation that has no memories of life in a prerevolutionary world. In the new children's homes, there is growing up a new youth, educated by the most progressive pedagogical methods under optimal conditions of health and psychological well-being. It is a youth free from the deformations caused by the old dilettante methods of education, an education dominated by the naiveté of cloying motherly emotions rather than the spirit of an enlightened system—a system that is trying to bring up its youth free of parental hang-ups and not spoiled rotten by the fetid warmth of the so-called family hearth.

It was Lenin who insisted that socialist cities represent the main battleground in the "struggle for a happier, healthier, more educated and shining Russia." It is the cities that will become gigantic workshops for creating better housing for thousands and millions, and for releasing new energies that will recover an emancipated new culture of body and spirit alike.

Like the legendary phoenix, who rose newborn from his own ashes, a new life is being forged in the crucible of socialist creation; and in its cities and settlements, humanity is reborn to a new life of boundless creative vigor. The birth of socialist cities not only signifies a new epoch in architecture but affects all branches of culture and civilization as well. **The materialist view of history teaches us to distinguish between different phases of social history, each characterized by its own way of providing food, clothing, and housing.** Such a momentous change is happening in our own time, characterized by the birth of socialist cities and radical reforms in housing designed to satisfy the specific needs of working men and women (best described by the elimination of the old family-type household and its transformation into dwelling beehives), and providing a grand setting for society's development toward socialism. The synthesis of city and housing exerts its mighty influence on other domains of life as well, including ethics and the creative genius of humanity at large.

The elimination of bourgeois ways of dwelling does away with the remnants of the bourgeois "home" (= way of life) and has delivered a mortal blow to bourgeois psychology and its despotic individualistic mentality. Even a cursory glance at the plans of the new socialist cities and settlements reveals the outlines of the unfolding of a mighty epic; its power signals the incontrovertible passing away of the old world and the birth of a new one.

Energized by the enthusiasm of the workers, socialist settlements and planned production bring us a quantum leap closer to what is popularly called "the music of the future" and what we call the "real realm of freedom." The beginnings of the building of socialism are marked by a wide-ranging transformation, and its completion will signify—the end of the prehistory of humanity.

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Socialist settlements will finally put an end to the century-old antithesis between city and country (see also chapters 5 and 14). The geographical decentralization of industry and the elimination of parasitic land speculation will eliminate the causes of overly high population densities. The second five-year plan confronts Soviet architecture with the monumental task of resolving the conflicts between its cities and villages even without changes in their physical makeup; cities in the USSR became socialist simply by changing their sociopolitical character and introducing new production relationships. Up until the present, the primary task of the new Soviet order was to reconstruct its old cities, while at the same time planning the building of new ones. Whereas the capitalist city is "market-oriented," its Soviet counterpart is a planned attempt to link industrial development with collectivized and mechanized large agricultural enterprises without a capitalist central business district. The concatenation of industry and agriculture is also the first step toward a later uniform distribution of the population throughout the whole territory of the country. In effect, the first steps toward the creation of a socialist-type city were already taken during the October Revolution by the expropriation of all privately held land, the nationalization of all means of production, and the establishment of a planned economy. Moscow is a good example of this transformation: 50 percent of the population in the center is now made up of workers, whereas before the revolution their presence amounted for only 3 to 5 percent. The overall number of workers living in greater Moscow is now 75 percent.

Be that as it may, the fact remains that a socialist metropolis is—by definition—a *contradictio in adiecto:* it is a contradiction arising from the antagonisms between new social content and old form. To redress this antagonism, it will be necessary first to put into place new communal politics and subsequently to proceed with the actual socialist reconstruction of the city, whose material-technical form will be designed to correspond to the new conditions and methods of productive and cultural and social life in socialism. The current loosening up of the inherited structure of the city is only a first step in eliminating the contradictions between city and country (i.e., between industry and agriculture) and liquidating the city as the dominant form of human settlement. To expect that the complete liquidation of cities (like the death of the state) could be accomplished in our time is to fall into the trap of utopian thinking. It took a long historical development of industrialization for cities to develop to their present stage, and thus it is unrealistic to expect that they can be dismantled by the wave of a hand; for "it is not just a matter of dividing them up into mini-cities and continuing to establish more mini-cities in the future." (L. M. Kaganovich).

Cities have played a prominent role in the past, and even today they are expected to play their part in showing the way to the village. The issue is socialist reconstruction, not destruction. In other words, not the fragmentation or complete elimination of existing cities, but their socialist reconstruction. To broadcast the slogan "Auflösung der Städte" [death of the city] today is purely utopian. Its goal can be achieved neither by self-liquidation nor by condemning

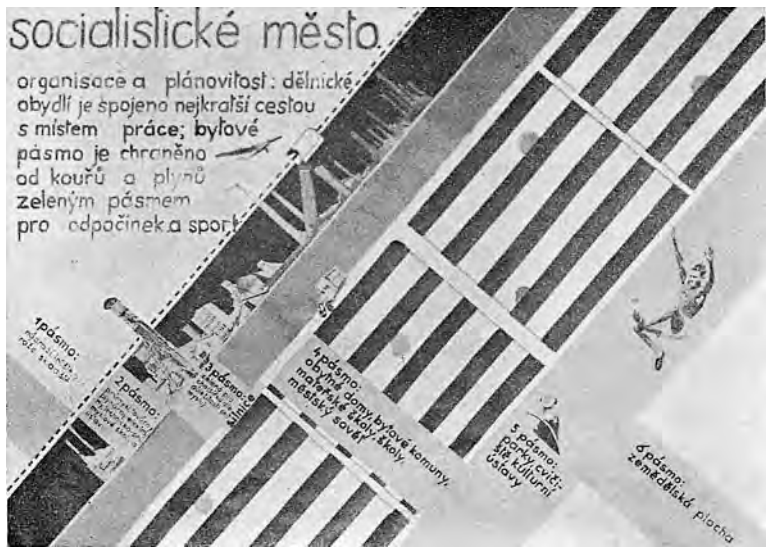
cities to death, but only by their reconstruction, the upgrading of rural life, the cultural improvement of life in both city and village, and the transformation of the city's very essence, structure, and quality. This does not mean that one should not oppose the irrational concentration of populations in cities and the establishment of additional industrial enterprises in existing urban centers. Obviously, it will be much easier to prevent overly dense agglomerations in newly founded cities. Still, even though the new settlements in the USSR cannot any longer be considered traditional cities, they are not yet fully de-urbanized in the historical sense of planned de-urbanization. Instead, what we have at the moment is a wide range of different transitional types of cities and settlements.

As an interim solution, the Soviets are trying to relieve existing cities by surrounding them with a system of satellite cities. One of the most radical solutions is Miliutin's **linear city** (*Bandstadt,* in German, which is—to a certain extent—a revival of the ideas of the linear city proposed by Arthur Soria in 1882). At the other extreme, we encounter the ideas of a utopian and fanatic anti-urbanism, whose spokesman is Okhitovich; he rejects all cities on principle and instead calls for a uniformly dispersed, decentralized, and relocated system of settlements, leaving the old cities to regress into village isolation, where collective ways of living would not be able to survive. Given the current situation, the cultural advantages of urban concentration are still important and are used to good effect to foster the spirit of class solidarity and collectivism. Not confounded by utopian fantasies, Soviet practice is faced with reconstructing their inherited cities on the one hand, and the founding of new de-urbanized settlements of different types—the so-called *sotsgorods*—on the other. These latter may be cities on wheels, relocatable and mobile, such as mobile homes for the sovkhozes and kolkhozes [collective farm enterprises], which can be moved to wherever work has to be done in the fields; here the city is essentially transformed into a mobile camp with a communal kitchen, canteen, club, cinema, theater, and schools. Another type of relocatable settlement is the camps of the tractor brigades, which move from spring to fall across the entire arable area of the Soviet Union, from east to west and back. (Note: Motorization, along with the introduction of tractors, has decisively influenced the collectivization of agriculture and patterns of agricultural settlement.)

The elimination of the differences between city and country, as well as current attempts at population dispersion should not be confused with other tendencies of decentralization, best exemplified by the initiatives of the garden city movement. At the core of the **anti-urban** argument is the contention that the technical improvement of transportation caused by the replacement of steam with electrical energy will make extensive geographical decentralization of industry possible.[7] As long as industry depended on steam energy, the efficiency of the system was dependent on carrying its own fuel to generate steam, which tied industry to places close to sources of coal; these were often at some distance from its vital source of raw materials. In turn, this caused difficulties in the delivery of materials and semifinished products to their source of manufacture. Electrification made it possible to distribute energy over long distances and eventually opened the door to considering a relatively uniform decentralization of industry, since raw materials are available almost everywhere (in the USSR). Hence, the production basis of the anti-urban model is founded on the mechanization and industrialization of large-scale agriculture into gigantic factory-combines, producing cereals, canned foods, and so on.

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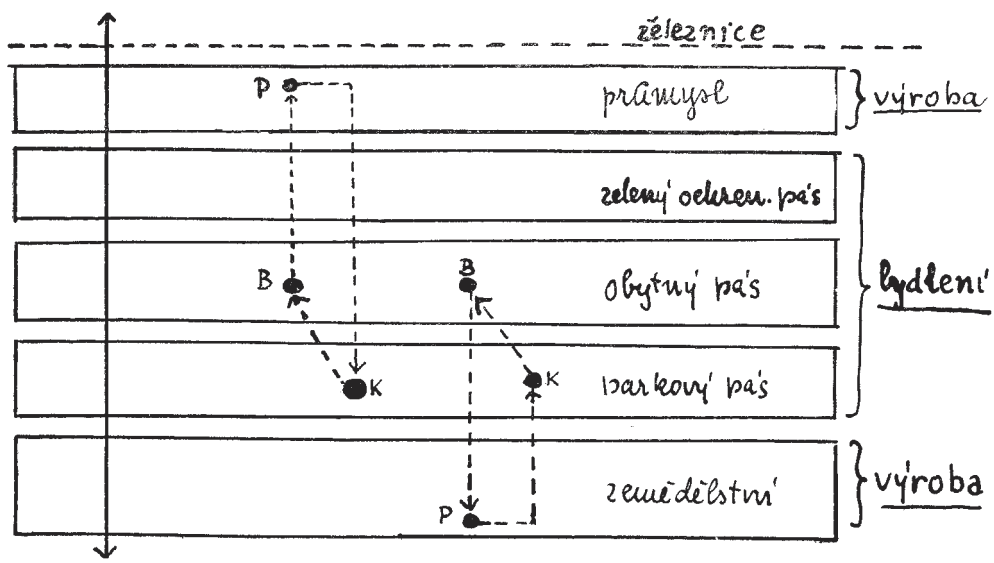
[7]) We define the term "anti-urbanism" [*desurbanisace*] in the above context the same way as did Lenin, who meant by it uniform socialist habitation (*sotsrazselenie*), as opposed to the utopian theories on the liquidation of cities proposed by Taut or Okhitovich.



Schematic of a linear sotsgorod

(based on design of N. A. Miliutin)

From the exhibition of the architectural section of the Levá Fronta in Prague.



Schematic of a linear socialist city

"Major circulation scheme"—commute from the flat to industry, from there to the park of culture and recreation and back home (B to K to P and B to P to K to B). Functional organization: 24-hour cycle: flat—work—culture. Transportation is arranged at right angles to the various belts: B = flat (**byt**); P = work (**práce**); K = culture (**kultura**).

železnice = railroad; zelený ochran. pás = greenbelt; obytný pás = residential zone; parkový = park zone; zemědělství = agricultural zone.

The city grows in a linear fashion—transverse distances (main transport) remain constant.



Ernst May and collaborators:

The general plan of Magnitogorsk—a settlement for 150,000 inhabitants attached to the Magnitogorsk industrial complex.

Once the use of machines becomes common in agriculture, its workers will have the same status and qualifications as those in other industrial sectors; and it will then be possible that **one and the same person will be able to alternate between work in both industry and agriculture. The planned exchange of workers between agriculture and industry** will subsequently make it possible to employ agricultural workers in factories during the winter, and during the summer send factory workers to help out on the farms. The cultural needs of the population living in a de-urbanized type of settlement will be served by a dense network of cinemas, clubs, adult education centers, broadcasting facilities, and so on. The political goal is the eventual elimination of all classes and the ending of the class struggle, followed by the establishment of a classless society and eventually the withering away of the state, as all government and administrative functions will gradually fade away. Those formerly employed in administration will be transferred into the production sector.

In the present period of reconstruction and the current state of socialist cultural revolution, the Soviet Union is about to launch the second five-year plan. Its goals include the elimination of the discrepancies between city and village, the eradication of all exploitation by the remnants of capitalism, and the elimination of all class differences on the territory of the USSR. It is interesting to note the emergence of certain social phenomena that—according to the laws of dialectical materialism—may be seen as antithetical to those expected to be present in mature socialism. The reason for this is that even if the building of socialism were to produce a higher standard of living for its population, the ultimate transformation of mature socialism into its highest phase, communism, along with the withering away of the state and the elimination of the army, will not be possible except on an international scale. For example, in today's phase of socialism, new cities are being founded and old ones reconstructed, whereas in the age of mature socialism there will be no more cities. Currently, gigantic new industrial plants are being built, whereas after electrification, all production will be decentralized. A savage class war is being waged, to end in a peaceful, classless society. Individual freedom, the most precious fruit of communism, is at this point in time subjected to stringent discipline.

The slogan of today is ascetic frugality, while a mature socialist society is expected to live in abundance and wealth. We must keep in mind these dialectical contradictions between the economic and cultural policies of today's militant socialism on the one hand, and victorious communism on the other, if we want to understand today's policies concerning housing and the city, as well as the developmental tendencies for future change.

The actual physiognomy of cities in the USSR bears witness that at least at the present, the conditions for de-urbanization still do not exist. The situation is as follows: up until now, cities have been considered indispensable from the standpoint of both economic and political priorities. This view continues in the planning of new cities of a different type and structure than the older cities inherited from the past, which are being subjected to radical reconstruction. In both cases, the city is, above all, conceived as a center of production, not as a market or a stock exchange. Only those enterprises are allowed to be concentrated in one place that are mutually interdependent in their production processes (combines). At the same time, an effort is being made to convert city and village into an economic whole by making each city agriculturally self-sufficient. As mentioned earlier, the very notion of a "socialist city" is a contradiction in terms, but a historically unavoidable contradiction, because all mistakes made simply reflect the difficulties in dealing with the conditions inherited from prerevolutionary times. It must never be forgotten that the evolution from capitalist city to new patterns of human settlement can **take place only dialectically:** the new class inherits from the past discordant types of settlements (city, village) and subsequently is saddled with the task of changing the social structure of both city and village by changing basic relations of production. The result is that during the early period of building socialism, old cities still keep growing, while new ones are being built at the same time. **What remains decisive is keeping in sight the goal of an ultimate transition toward sotsrazselenie** [dispersed socialist settlement], a transition that is already occurring in the regulatory plans of both old and new cities. To give an example: in the linear cities proposed by Miliutin, workers are still not alternately employed in both industry and agriculture, but both agricultural and industrial workers are housed in the same residential zone.

The *sotsgorod* is only the first stage of de-urbanization, with the ultimate goal of eventually unifying both city and village. Complete de-urbanization may be expected to be implemented only sometime at the close of the twentieth century. Thus, it stands to reason that in the present period of socialist reconstruction, the proletariat has recognized the vital importance of the city in its struggle toward mature socialism in the USSR. For these reasons as well, the city currently still maintains its hegemony over the village even in the Soviet Union. But unlike in the past, it is not a hegemony of capital dominating agriculture; instead, the friendship of the proletariat offers its help to the peasantry.

The leading role of today's city, with the proletariat as the new ruling class, means that the peasantry is considered an ally in uprooting all remnants of capitalism and a comrade in building socialism. The first five-year plan has laid the foundation for building a socialist society, and it is in the cities that the industrial proletariat has seized all the political administrative positions of power in this struggle ("we have entered the epoch of socialism"; Stalin). The goal of the second five-year plan is to strive toward an even more advanced stage in building socialism, which will require the complete elimination of all capitalist elements, including small-scale production, the seedbed of all capitalist development. If the goal of the first five-year plan was to eradicate all vestiges of capitalist life and to mechanize and collectivize all agricultural production, the goal of the second five-year plan is to erase the difference between city and the village. This means that the realization of *sotsrazselenie* is no longer some

distant siren song of the future, but a concrete prospect of the next five years. De-urbanization is not the same as the negation of the city at the cost of preserving the village, as imagined by William Morris, nor is it the elimination of the village and the preservation of the city, as proposed by Le Corbusier or Sabsovich; it is nothing less and nothing more than a planned route toward dispersed and uniform new types of socialist settlements.[8]

today? tomorrow?

The preceding discussion on the subject of collectivized housing and the *sotsgorod* dealt mainly with the theoretical issue of **prognosis,** with the aim of setting the direction for present-day architectural solutions of housing and urban planning problems, solutions that will foster the development of the social processes necessary for their future implementation and that will—on the basis of the analysis of preceding stages—permit us to anticipate the steps to be taken next. It would be utopian to foretell the concrete forms that life will assume in the age of mature socialism. Still, there is some merit in studying critically and carefully any utopian experiment that tries to anticipate new forms of both individual and collective life, even those that may harbor grand illusions. Only by rational analysis will it be possible to distinguish between what is positive in these utopias and what flaws are hidden below the surface of their progressive illusions, so that we can then try to correctly identify their progressive core, which may indeed contain the seeds of new realities and thus reveal the path toward higher "future" cultural achievements. For example, Marxist criticism maintains that below the surface of individual revolts of intellectuals against the ruling doctrines of the legal order in regard to marriage, art, morals, and so on, one can discover a hidden progressive core (even if obscured by romantic ideas and anarchistic or romantic illusions about liberated life, free love, nudism, and so on), which should be nourished and allowed to mature. A similar case can be made for the various architectural revolts and utopias that attack the excesses of capitalist decadence in architecture, along with the malignant growth of its large cities. There, too, it is necessary to find behind the veil of illusions and fantasies those elements that may be capable of further practical and healthy development in the future. Earlier, the utopias of Fourier and Dézamy were mentioned in reference to matters of collective dwelling and the abolition of marriage. Once such utopias are published, they virtually turn into realities, expressing the revolt of the human mind against life's contradictions and inequities as well as intimating new forms that announce their presence in human consciousness. However, one should never forget that any utopias that try to conjecture the state of the world, say, one hundred years from now will always tend to reflect the social, technical, and living conditions of its own time rather than those of an unknowable future. Inevitably, they tend to see the future merely as an extension of the present.[9]

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[8]) See also the special volume of *Stavitel,* nos. 9–10, edited by the author of this volume. It discusses in more detail the controversy between the urbanists and the de-urbanists in the USSR. Special attention is also directed to the study by the author titled "Urbanisace a desurbanisace" [Urbanization and de-urbanization] in the same journal, which is reproduced as an addendum to this chapter [in Teige's original; not translated here].

[9]) Miliutin tells us that the utopias of the sixteenth century envisioned the first socialist city as a **bastion** of the future of history; there young men would gather once a month to make their ablutions and change their clothes (!). This utopia too projected the image of the present into a distant but unknowable future by merely modifying the physical shapes of its own time.

No matter how valuable utopias may be for speculating about the future, science is not concerned with the "magic of fortune-telling." Similarly, it is not our intention to offer the reader visionary glimpses of some distant, magical future but to enrich the prognosis with a scientific study of prospective developmental tendencies as part of a dialectically constructed argument. If we talk about the future at all, we allow speculation to enter our imagination only to the extent that it enables us to examine those elements of existing reality that have the potential to develop into new constellations, based on legitimate scientific development. In the preceding chapter we analyzed the dominant forms of the capitalist city and its associated family-based-household dwelling types. We traced the decline of the traditional family and its household in the lifestyle of the proletariat as well as the deepening of the inner contradictions besetting architectural and social forms of housing and the city. Proceeding from there, and drawing on the understanding of the dialectical processes that act on the contradictions that affect social and architectural structures, we attempted to infer a direction for future action that would be historically justified. We tried to accomplish this by identifying those forms which are beginning to emerge in front of our eyes from the womb of the present as it recedes into the past, and which have the potential to show the way for future developments in architecture, housing, urbanism, and communal politics. Scientific prognosis is obviously something other than prophecy or theosophical fortune-telling; it is impossible to foretell in detail how architectural creativity will change the face of the world in the coming decades. The task of prognosis is more modest and must be seen more as an aid to understanding the overall direction of development and warning us of unforeseen obstacles ahead. It should be axiomatic that future reality will never coincide exactly with theoretical predictions. Practice is always richer and more multifaceted than overly simplistic theoretical schemata, and it is practice that, in its complex totality, always presents us with the "unforeseen."

Accordingly, as we see it, all that has been said above should not be taken as an attempt to present some kind of utopia, even if scientifically colored, but as a tentative hypothesis about the architecture of tomorrow, tomorrow's dwelling culture and urbanism, as well as a **challenge to those who struggle for a new and better tomorrow**—a hypothesis that is confirmed by the calculation of "historical probabilities" provided by the tenets of dialectical materialism and Marxism. One thing is certain: a more advanced, new type of human dwelling and new patterns of the social organization of life processes are not and will never be the result of purely speculative architectural ideas. Even today, we can already discern in embryonic form certain dwelling types (e.g., hotels) emerging from the material and social conditions of monopoly capitalism, or those realized during the early phases of socialism, that are already far removed in their social content from the architectural tradition of capitalism and bourgeois ideology, but that—at the same time—are effectively the result of mature architectural science and technology as developed by capitalism. The evolution of a higher type of human habitation in proletarian culture must therefore be understood dialectically: its meaning rests in the fact that the proletariat has appropriated for its own purposes the most mature technical advances in housing produced by capitalism and has adapted them to its own collective needs.

The intention of the next pages is to trace the direction toward and focus more sharply on the goal of modern architecture in the field of housing, rather than examining present utopias and other vacuous fantasies. As part of this search, we shall attempt to illuminate the guiding principles that ought to inform today's architectural practice in the solution of the problems pertaining to today's housing crisis—that is, the design of housing for the strata of the

subsistence minimum and the enormous task of reconstructing our cities: in short, we shall provide architects with an orientation that will help guide their work in solving the problem of proletarian dwelling not only in the Western world but equally in the more favorable conditions in the Soviet Union, described above.

Guided by the principles of the dialectical-materialist method, architectural work has the potential to become a powerful factor influencing development in all spheres of human behavior, including ideology: architects cannot remain satisfied merely to react passively to changing conditions in life and production, but must actively and aggressively participate in the creation of a new economy, a new society, and a new social human being. There is ample proof that the way we choose to dwell exerts an important and multifaceted influence on intellectual work and—to a large extent—on human character as well. If we accept the hypothesis that the cultural development of humanity is to a large extent conditioned by its dwelling environment, then the architecture of new housing must be designed so that its support of the progressive development of a socialist culture and positive influence on the psychology of its inhabitants are maximized. As mentioned before, it is not possible to restrict architectural solutions to purely technical matters: thus one has to avoid falling into the trap of machine idolatry. Instead, the proper way to proceed is to bring both technological and economic aspects into a dialectical relationship with all the social, ideological, and cultural as well as political moments of the dwelling process. This does not mean that we should ignore the essential exigencies of today, but it does mean that in our work we must intensify and develop at the same time the seeds of future forms after correctly evaluating the most progressive phenomena of our time. The housing communes of the Komsomol and student housing in the USSR teach us that genuine collective dwelling will not come about automatically, mechanically, or by forcing people to live in groups, but only voluntarily, when people are brought together who share common values in work and culture, who are bound to each other in true friendship and bonds of personal intimacy. Only by enriching the life of the individual will it be possible to enrich the life of the collective and vice versa.

In the preceding pages we have tried to prove that collective dwelling represents the specific dwelling form of proletarian culture. The question to be asked is this: how and to what extent has it been realized in our day in the conditions of the Western world on the one hand, and in those of the Soviet Union on the other? Just like any other cultural form or any other sector of proletarian life, collective dwelling as a specific proletarian dwelling form is capable of being realized anywhere—in any place that is home to a mature modern proletariat. After all, it is the result of the initiatives and creative forces inspired by the proletariat, not only in the USSR but in capitalist countries as well. Of course, only a complete historical victory will afford the proletariat all the preconditions essential for free and unlimited development and create the fundamental conditions for finding the correct path to reorganize dwelling on a higher level in its entire scope and more consistently than can be done in the West, though in Western countries, too, the proletariat has created its own, new cultural forms that serve its own goals and interests even today. One of these new forms of proletarian culture is the collective house.

It goes without saying that the creative advances of the proletariat in the cultural sphere run up against numerous obstacles and restrictions in capitalist countries, a matter that cannot be easily dismissed. Given the current precarious economic situation in the West, the realization of proletarian collectivized dwelling meets with ever-increasing resistance from the ruling ideology, its canons of morality, and the glorification of the domestic hearth, as well as from economic interests that find it more profitable to house the poor in family-centered

accommodations. They do not want to acknowledge that the proletarian family may have its own, special social interests, and they wish to maintain a situation that allows both women and children to be exploited as potential sources of cheap labor. Maintaining a semblance of family life, proletarian women are further exploited by being saddled with the additional chore of having to take care of the old, the invalid, and ultimately their retired spouses; they thus relieve official programs, which presumably are meant to provide them with social security but instead oblige them to make up for these services by caretaking and extra work. The wretched retired indigent and his wife are thus frequently forced into a kind of family "business" partnership, in which neither of them is able or willing to play the role of a "silent" partner. In the current stage, the proletarian family actually mirrors in exaggerated form the disintegration of the bourgeois family; but at the same time, both spouses to a certain degree have become the victims of a compulsory and forced economic union.

As far as cultural opposition to new forms of dwelling is concerned, it should be kept in mind that the ruling ideology—largely as a result of its control of educational and cultural policies—has taken deep root in the way of life, the customs, and in part even the worldview of the working class. However, it is not right to abandon the idea of the collectivization of housing, simply because it has not yet completely overcome the emotional habits and the moral as well as psychological blocks still afflicting some workers' families. Even if one were to discount the effects of this moral and emotional residue on the institution of the proletarian family, the fact remains that even in the West, the traditional family as a cohesive unit of production and consumption hardly exists any more among workers and working intellectuals, and manages to survive primarily in the circles of tradesmen and people owning a small family business. In the USSR it is beginning to disappear even in the villages, mostly as a result of the collectivization of agriculture. On the other hand, even among the proletariat the family still continues to exist as a purely conventional arrangement; individuals and generations happen to share an apartment, usually without any specific economic motivation. In essence, the family not only has lost its significance as an economic unit but no longer makes sense as a group of people participating in irrational shared household activities. For these and other reasons too numerous to mention in this context, the family-based dwelling is an arrangement foreign to proletarian culture. It is expensive and uneconomical; a lot of space in the apartment is eaten up by service rooms, making it impossible to exploit the potential capacity of an apartment or house for the functions of actual dwelling. The task of collectivizing dwelling is neither hopeless nor overly difficult, and there is no need to abandon it in a defeatist manner in favor of conventional housing.

Only a correct assessment of all the circumstances affecting the realization of collective dwelling will prevent premature and utopian projects. In any event, a correct evaluation of all these circumstances should in no way present an obstacle to realizing distinctive forms of proletarian housing, even under current conditions. Obstacles can always be overcome by confronting and fighting cultural backwardness. Even if a proletarian cultural renaissance cannot blossom fully under current economic conditions that tend to brutalize the life of working people, an effort must still be made to insist on a certain level of cultural maturity as desirable if not indispensable if such conditions are to be overcome. To deny the possibility of developing a distinctive type of proletarian housing means to deny and dispute the creative capabilities of the proletariat today to develop its own cultural values. Even though the negative effects of today's unfavorable circumstances facing the working class and the obstacles put in the way of progressive development by the prevailing educational system are difficult to avoid, one must also make an effort to acknowledge the proletariat's unique achievements and their significance in the social struggle of this class.

Fr. Mehring, a prominent sociologist of proletarian culture, has pointed out these difficulties and obstacles by using the example of the accomplishments of the independent proletarian theater. As might have been expected, in the beginning nobody understood or appreciated the new theatrical idiom of proletarian dramaturgy, as employed, for example, in the plays *Blue Blouses* and *Tram*. However, since Mehring's time, developments have progressed to the point that even in our present difficulties, new factors in play have significantly changed the physiognomy of proletarian culture. These are (1) the cultural achievements of the USSR, which provide an example for the proletariat of the whole world to follow, and (2) the greater self-confidence of the workers' movement in capitalist countries, which no longer confines its interests exclusively to bread-and-butter issues but has matured sufficiently to express its class interests by developing its own radical cultural forms (in addition to reaching a much deeper understanding of its own ideological foundations and the significance of its historical mission).

Even today, under existing conditions, the realization of collective dwelling projects should not be considered impossible, though the obstacles encountered (zoning laws and building regulations, the poverty of workers' organizations, bureaucratic chicanery, hostile social policies, and so on) to a certain extent limit the possible solutions. These obstacles certainly exist, but they can often be circumvented or negotiated, since none can be considered as completely rigid or unchangeable: like all obstacles in nature or society, they are conditional and subject to change. For this same reason, it is impossible to determine mechanically the exact historical turning point of any social or cultural change, or the point at which it will likely be practical to fully realize proletarian dwelling as its own category or, for that matter, in any other facet of its cultural manifestations. Workers' journalism, physical culture, theater, and cooperatives have developed despite the political and legal obstacles put in their way, and despite the cruel fact of worker's poverty; so, too, it is important to continue to nourish the predisposition of the working class to develop collective housing, fulfilling the hope that it too will become an important feature of proletarian cultural aspirations.

Contrary to the attitude of those who have decided to sound the retreat while at the same time professing their support for the proletarian cause and its program to realize the idea of the collective dwelling, and despite their efforts to justify their inaction with the excuse that it is premature to experiment with any new housing type under the conditions of capitalism or—for that matter—even during the present stage of development in the USSR, lamenting that new cultural forms will be able to exist only during the last stages of mature socialism, history proves otherwise. Even during the current period of economic crisis in the West and the early socialist reconstruction in the USSR, the proletariat is busy creating its own cultural reality, to be used both as an instrument and as a weapon in the pursuit of its historical goal.

Even now, the disintegration of the family in capitalism and the emergence of the proletariat have created the preconditions for a new class-specific psychological human type, best characterized as a human being who thinks in terms of collective categories of existence. The objection that life without a family would degrade the proletariat overlooks that its debasement is the effective result of the conditions created by capitalism; and the idea that all would be as before if the workers should achieve a higher living standard in no way refutes the need for collective housing. This is borne out by the example of Moscow before and after the revolution. Before October 1917, men outnumbered women by 1,000 to 700 (Moscow workers lived alone in the city, while their families remained behind in the villages), whereas today this imbalance has disappeared. That the liberated proletariat no longer has to live a life deprived of family does not mean that the idea of collective dwelling should be abandoned. The incorporation of women into production and the establishment of centralized housing services

eliminate the significance of the family as a traditional housekeeping unit and thus reinforce the argument for establishing collective ways of dwelling, as long as the following objective, material conditions for realizing collective housing are satisfied: (1) family conditions different from bourgeois marriage; (2) integration of women into production; (3) lowering of housing construction costs, which can be achieved by the elimination of the kitchen and individual housekeeping functions; and (4) creation of the material conditions for workers' self-help and cooperatives to commission their own projects.

In addition, and concurrently with those above, the following subjective conditions must be satisfied: (1) cultural self-confidence and the understanding that eliminating the family and the family-based household is the correct path toward liberating women and children; (2) an understanding of the irrational aspects of the existing family-based household apartment types, which waste of construction expenditures and which waste the potential of women to become active in production; and (3) the will to create an exclusive proletarian form of housing on a higher level of cultural achievement.

Cultural development is the product of underlying economic conditions, and changes occur faster or more slowly depending on those conditions. Aside from this mutual interdependence and aside from the issue of economic determinism, it is important to remember that there also exists a reciprocal relationship between economic and cultural factors, mutually influencing each other. In other words, economic factors alone are not enough to trigger social and cultural transformations. Cultural consciousness influences the future development of the economic base, which, in turn, stimulates further cultural progress. Obviously, this relationship is a very complex one. To think in dialectical categories does not mean depending exclusively on the conjectures of a mechanical, causal determinism; one should complement one's understanding by taking into account other factors that determine the entire scope of the dynamic tensions that affect the various states of the social organism. In any case, the bottom line is that progress in cultural and social life can never be achieved by mere passive waiting. It is useless to sit around and wait . . . for what? . . . The arrival of some happy circumstance to provide the opportunity to act? That will not do. One has to prepare in advance to be able to meet opportunities as they occur, for the conditions for a cultural and social transformation already exist today in a nascent state. For example, the disintegration of the family, which is a result of ongoing social evolution, and the idea of collective dwelling, which is a result of architectural and technical development, are already incontrovertible realities even in our day. New forms of dwelling with a new social content—that is, the proletarian home—will not come about full-blown as the result of pure architectural intuition and speculation; they can develop only out of the material conditions of today's society and forms of production. Like all material conditions, the preconditions for a new social system have been already created in our time by the evolution of industry, technology, and science; and in existing conditions, we can already discern the outlines of higher cultural and social constellations and witness the birth pangs of the new culture of international socialism.

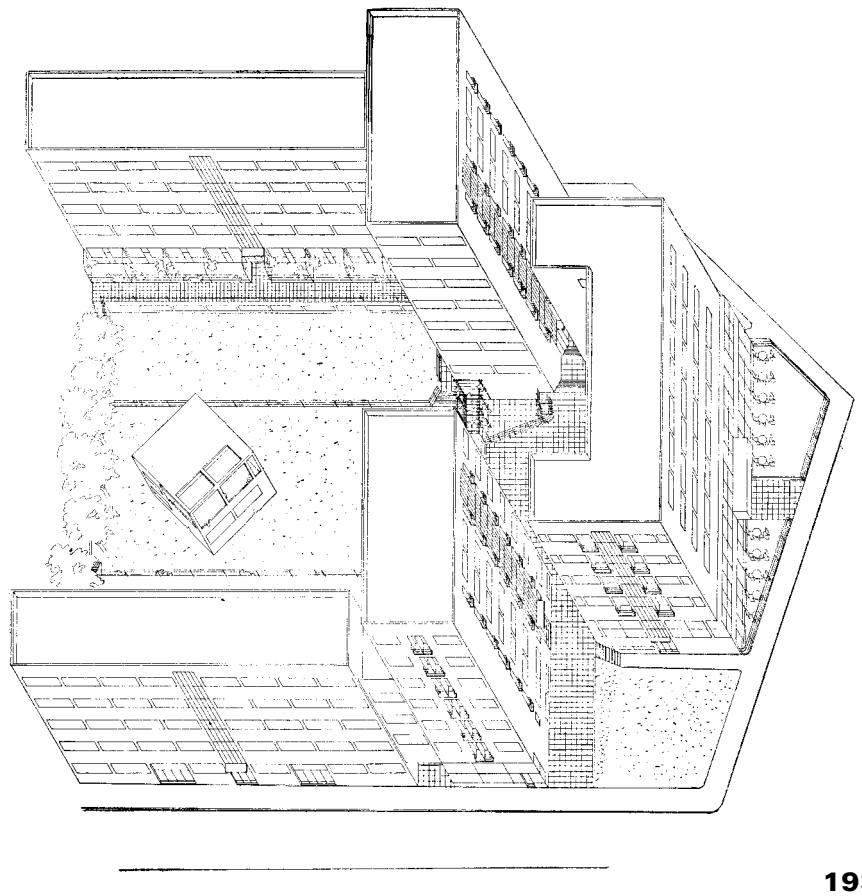
This does not mean that individual creative will should not respond to the above-mentioned factors and objective conditions, for without creative intervention, the formal aspects of social and cultural life will not change under even the most favorable circumstances. Cultural forms always respond to the influence of underlying material conditions; thus, if we want to influence their change, those conditions must be suitably modified, for "it is people who change circumstances, and it is the educator himself who must be educated first." It is equally wrong to assume that architectural forms can be derived exclusively by simply adapting the products of technology to the requirements of design, while ignoring the influence of ideol-

ogy, psychology, and the culture of a particular time and class, as defined by the existing state of productive forces and degree of social differentiation.

Finding a solution to the problem of the proletarian dwelling as a distinctive cultural form under given economic conditions requires the careful study of all its aspects, avoiding the easy way out—that is, presuming that it can be designed as a reduced version of a bourgeois apartment. On the contrary, it can be realized only as the antithesis of that apartment, which because of class and income distinctions has differed from other urban dwelling types from the very beginning of its evolution. The correct approach consists in understanding that every aspect of economic and cultural development needs to be taken into account to define the specific functions of workers' housing. Only after the full meaning of the relationship between a proletarian way of dwelling and contemporary social and cultural reality has been assimilated will it be possible to recognize whether a certain architectural solution is correct or not, and only then will it be possible to arrive at a correct formula for its architectural solution.

A good example of such an attempt to find an architectural solution to the problem of proletarian housing within the current framework in our country is the VČELA [Bee] competition for the construction of a housing block with small apartments in District 13 in Prague. Unlike most other official commissions for small apartments, this project was assigned a concrete class content: for the first time a competition confronted participating architects in our country with the explicit task of designing a proletarian-type housing project, to be realized by a workers' cooperative **according to its own special interests** and responding to the distinct lifestyle of the workers who were to live there. In other words, this was a habitation that the proletariat was to build for itself within the context of today's economic, social, and cultural conditions, one not beholden to programs grounded in prevailing social welfare notions concerning housing held by the various philanthropic societies, bureaucrats, industry, municipalities, and so on. The program of the competition required architects to develop authentic and concrete proposals for a model proletarian dwelling that would exemplify how to overcome the differences existing between the special housing requirements of the proletariat and conventional housing forms: in this case, the change of housing form was tied openly to a change of its social content, and its mission was to provide an example for the design of such a new housing type.

The difference between a conventional apartment, routinely offered to workers on the commercial market by official organizations and speculators, and an apartment built by the workers on their own initiative is obvious: an apartment built **for the proletariat** is not the same thing as an apartment built **by the proletariat.** Therefore, the main concern of the competition was to consider the working class not as some abstract object of architectural fantasies but—above all—as the subject of a construction venture designed to change both the content and the prevalent class-determined formal qualities of workers' housing. The VČELA competition (in contrast to earlier competitions sponsored by the City of Prague and the Central Social Insurance Company for houses and small apartments in the 1930s) provided competing architects the first opportunity not only to deal relatively freely with immediate issues pertaining to housing as such but also to explore the possibility of considering as integral to housing common social and cultural facilities such as baths, day care centers, dining rooms and a restaurant, lecture halls, laundry, and so on. This was also the first time that our own modern architects were called on to occupy themselves with the problem of collective dwelling. To build an example of avant-garde socialist housing in a capitalist city was obviously bound to favor solutions in the form of a communal house (*dom-komuna*), that is, a



1931

J. K. Říha
Competition entry for small apartment house in the workers' cooperative VČELA in Prague-Vršovice. Half-open block (first prize).

dwelling complex with centralized services, since any other solution would have been difficult to integrate into the existing fabric of the city: a decentralized housing solution is feasible only within the context of new or reconstructed socialist districts.[10]

Unfortunately, though it produced a number of very remarkable competition projects, this first attempt at dealing with the issue of collective housing was unable to avoid a number of serious mistakes. To some extent, these can be explained by the novelty of the program, insufficient knowledge of the sociological and political problems involved, and the ignorance of architects concerning the lifestyle of the working class. Not accustomed to working with the interests of the working class in mind and not familiar with their living conditions, the competing architects tended to solve workers' apartments on the model of conventional small,

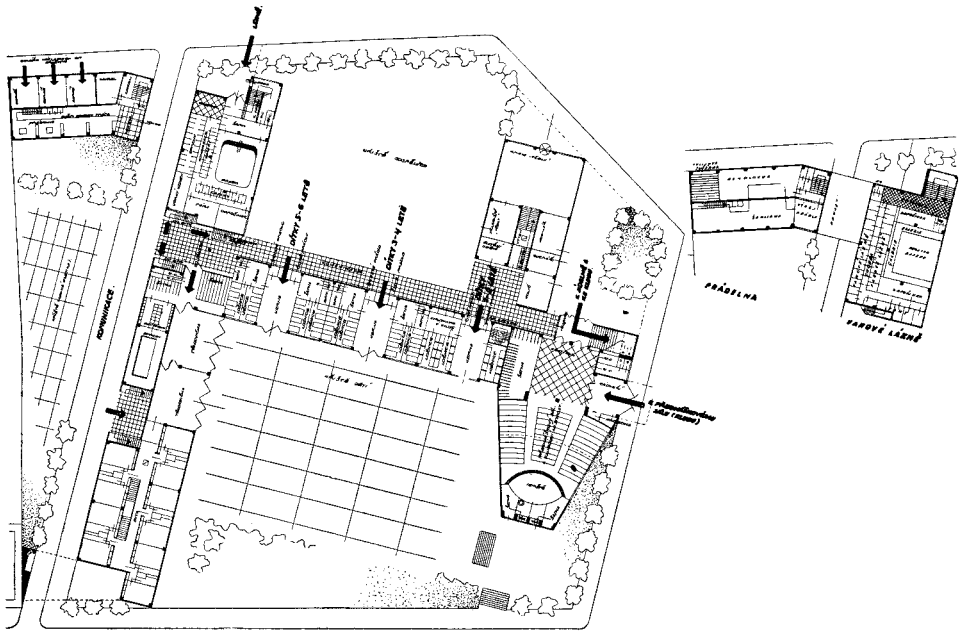
[10]) This means that collective dwelling can be realized even within the framework of the capitalist city, although its concrete formal aspects cannot be the same as those realized in the urban environment of socialism.

middle-class apartments. In order to stay within the floor area limitations of the competition program, and wishing to provide these small apartments with as much usable overall space as possible, the designers frequently failed to respect the real needs of collective dwelling by neglecting collective functions, such as adequate accommodations for children's homes, collective facilities for education, communal halls for social life, spaces for organized and cultural and political activities, and playgrounds and sports facilities—in short, the functions without which a proletarian dwelling cannot exist if it is to avoid becoming another version of newly built cheap barracks with inferior apartments. It is questionable that such housing could be regarded as a serious improvement over existing older apartments of the same size. In that sense, the VČELA competition has brought to the fore all the problems that proletarian housing has to face in our present situation. The competing architects had to attack the problem under exceptionally difficult circumstances, which forced them to pay special attention to the following demands:

a. To meet the imperative of radical cost constraints; savings on construction and operational costs by all-inclusive rationalization and standardization, in order to lower initial capital investment costs and thus rents.
b. To provide the largest possible number of truly "minimum" apartments, while at the same time maintaining minimum standards of health, safety, and comfort.
c. To adapt the complex to the unfortunate orientation of the site. For this reason, some of the competitors chose the solution of a closed block; the site made it impossible to consider row housing. The jury favored an open-block solution and decided to award the first prize to a half-open-block solution by J. K. Říha.
d. To abandon—for the time being—the whole idea of a consistently executed solution for the collectivization of housing, because it was claimed that the inhabitants of these apartments are not yet culturally ready to accept such a lifestyle; to create instead an opportunity for the gradual development of collective ways of living in these buildings (this requirement was actually included in the competition program).
e. To solve the floor plans of the apartments in such a way that needy tenants lacking adequate financial resources to procure new furniture suitable for the small size of the new apartments would be able to move in with their old furniture.

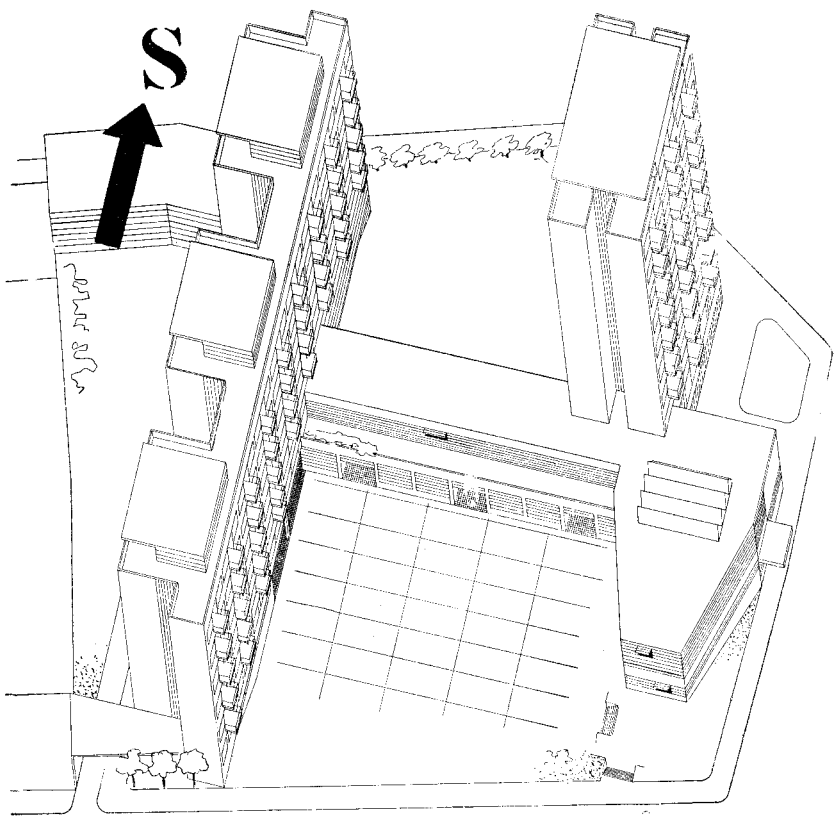
An examination of the competition program and its conditions reveals that the project was large enough to justify the inclusion of collective services: as mentioned earlier, a minimum of about 400 inhabitants is considered cost-effective for such a purpose. Merely including a common laundry and bath by no means makes for proletarian or socialist housing. Much more important is to liberate women from kitchen work and to relieve them from the supervision of children by establishing common dining facilities and children's homes. The competition conditions did include the provision of a common dining facility, designed to double as a cooperative restaurant to serve clients in the nearby neighborhood. On the down side, its size was overestimated; the dining facility would be frequented by only a small number of tenants, because many would be employed too far away from home to be able to use it during their lunch break, and others may prefer to prepare their own food at home. Still, it may be expected that there would be sufficient demand throughout the day to operate it on a buffet schedule and thus reduce its size accordingly.
The nerve center and the heart of any housing complex that pretends to be a **collective dwelling for the proletariat** and not just another tenement house are its **collective spaces, dedicated to common cultural activities:** workers' club, lecture and theater halls, space for physical exercise, a library, and a children's home. On the whole, their inclusion in

VČELA
Prague 1931



Jan Gillar

Proposal for a collectivized housing complex with minimum apartments. Competition of the Cooperative Society VČELA in Prague, Vršovice.

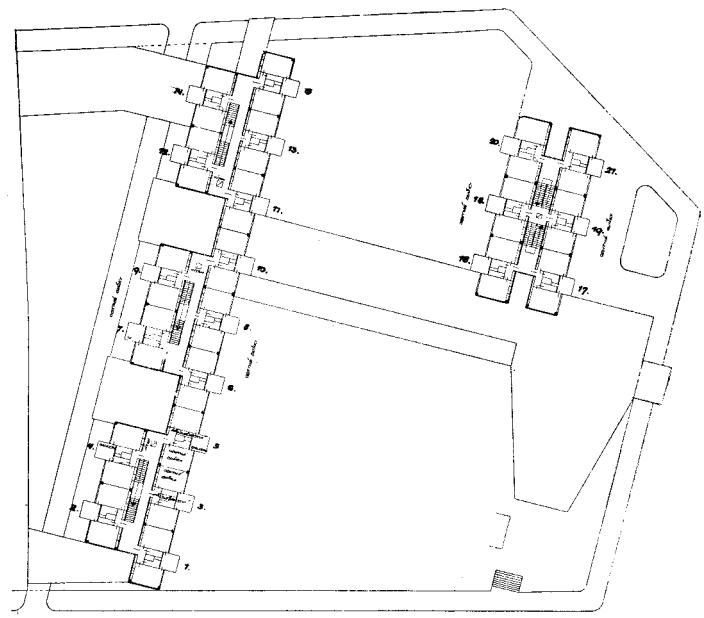


Two housing blocks, children's crèche, general store, baths, laundries, gymnasium, playground. Sunbathing and study rooms on terraces.

Jan Gillar

Proposal for a collectivized housing complex

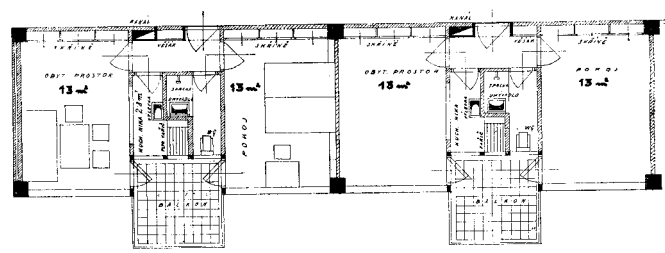
1931
VČELA
Prague



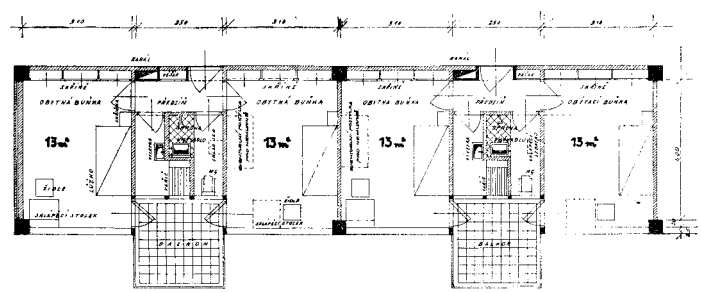
Typical floor. ⟶

Live-in cells

⟶

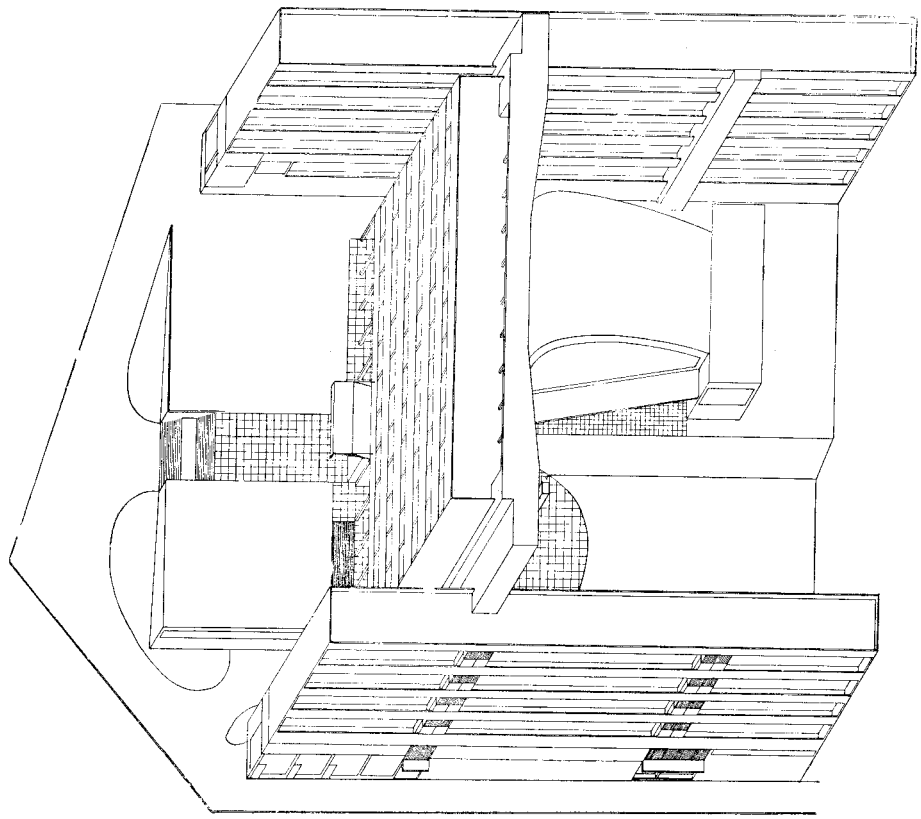


Temporary layout solution: a two-room apartment with toilet and bath. 2–3 beds. Rooms furnished as living room and bedroom.

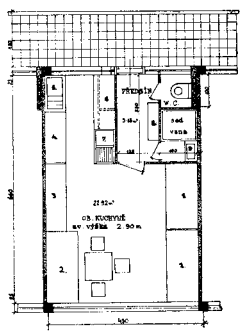


Intended final state: two live-in cells (each 13 m²) with one common entrance and shared bath and toilet for a couple, or for two single individuals.

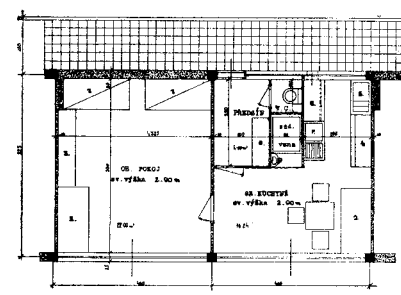
This is the same floor plan as that used for the small apartment colony in Prague-Ruzyn; see page 251.



Open corridor system. Apartments: improved type of live-in kitchen



1.



2.

Josef Havlíček & Karel Honzik 1931

Proposal for a collectivized housing complex VČELA in Prague-Vršovice.

1. One-room unit with 3 beds.

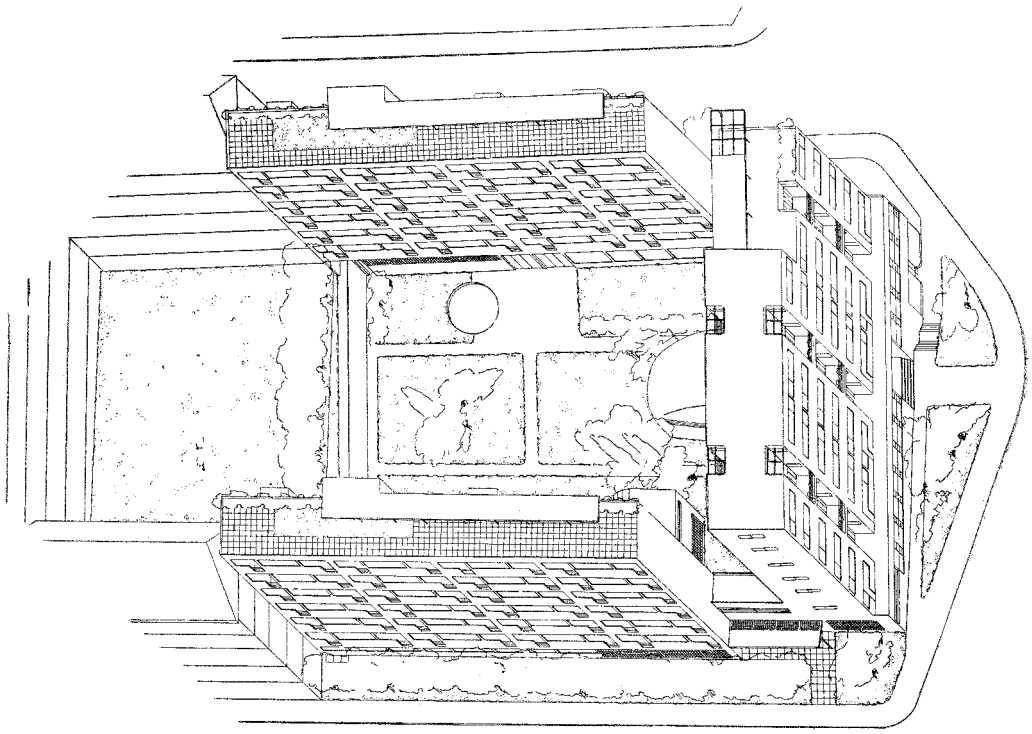
2. Two-room unit with 4 beds.

the project need not lead to higher construction costs, provided that their size is matched by a proportional reduction of the individual apartments from the average space of a small conventional apartment. Calculations show that an allocation of a minimum of 1 m^2 collective space per inhabitant is adequate in most cases. Even though frugality is one of the most important requirements in constructing proletarian housing, vital sanitary services necessary to the development of a healthy collective life must never be shortchanged. Savings can be achieved by other means. For example, a four-story house can do without an elevator. A good overall layout can help a great deal to reduce corridors and stairs, and the "apartment" should be equipped only with the simplest comforts in exchange for more lavish collective appointments. All these stringent cost-cutting measures are legitimate, but the requirements of daylight, ventilation, cleanliness, and culture must never be scanted if we want to produce an authentic proletarian abode, instead of a "Vršovice" [i.e., a slum area in Prague] tenement slum.

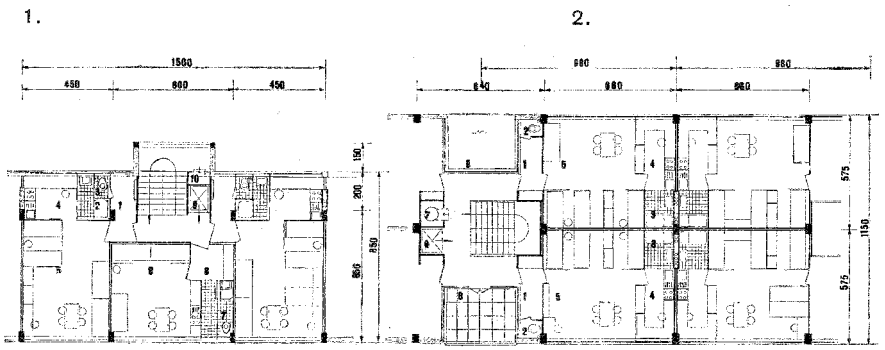
The competition conditions were not entirely devoid of a certain confused and grasping opportunism; in their desire to compromise, they stipulated households with kitchens, with the condition that the designers should include in their plans the possibility of a gradual abandonment of home cooking. On the whole, this has happened only to a small extent. The majority of the competition entries adapted themselves passively to various conventional notions of a "small apartment." Objectively speaking, it would not be honest to ignore the baneful but at the same time financially justified wishes of the tenants to have their own kitchen. Nevertheless, assuming that the competitors had a positive understanding of existing customs, they should have balanced their understanding by applying the principle of negation—that is, the inevitability that the existing state of affairs will eventually be overcome; as a consequence, they should have oriented their solutions toward options for the eventual development of genuine collective forms.

One objection raised against eliminating the kitchen is that socioeconomic pressures, which have lured women away from the family, have been disastrous for male workers, who are now obliged to compete with women for jobs; whereas, if women had been kept in the kitchen with their children, unemployment would have been reduced. Surely such an objection is shortsighted. Perhaps it may carry some weight in times of catastrophic unemployment, but surely it is most unreasonable to assume that workers should fight unemployment by keeping their women in a virtual state of slavery and requiring them to spend twelve to sixteen hours a day toiling away in the household. In fact, the forced exclusion of working women from employment is a typical example of a reactionary social policy. "One of the conditions for the liberation of women is to get women active in production" (Engels). "Generally speaking, social progress can be measured relative to the degree that women have been liberated. Even though other factors exert their influence on political action and its fortunes as well, there is doubtless no cause that is better able to accelerate progress or guarantee failure than changing the lot of women" (Fourier). "It is the kitchen stove, . . . the most pathetic altar, on which the cultural advancement of women has been sacrificed" (Anatole France). It is the struggle for a shorter workweek without cutting pay that ought to be the defense of workers against unemployment, not women's penury.

To deserve its title, today's architectural avant-garde must take the lead in the struggle for new collective forms of dwelling and fight against outdated ideas on the subject of housing, especially against the acceptance of "minimum apartments" with large family rooms, or the cohabitation of two or three generations under one roof. It goes without saying that the collectivization of housing will gain the approval of the broad masses only gradually, and only



VČELA
1931
Prague

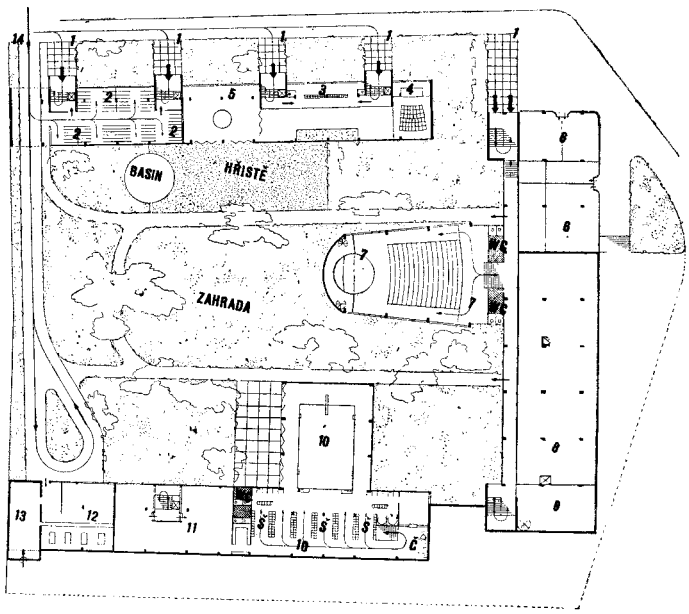


K. Ossendorf—R. Pozemný—A. Tenzer

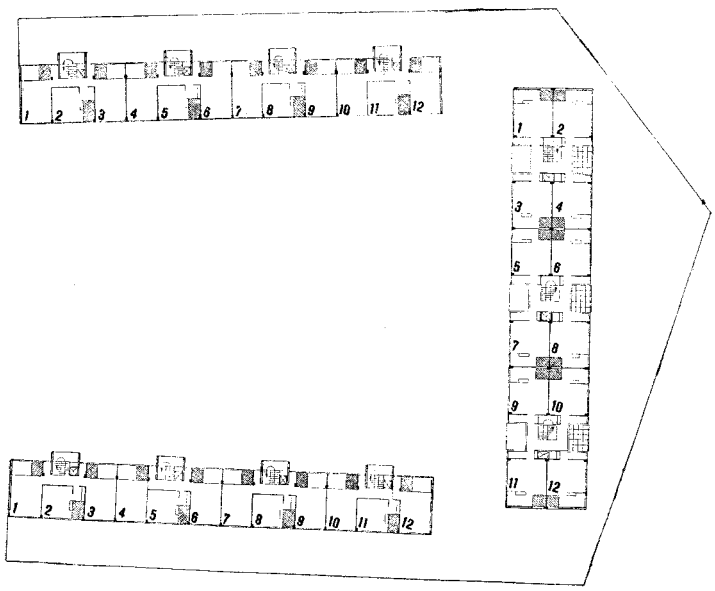
Proposal for the dwelling complex VČELA in Prague.

Floor plans of dwelling units: 1. Type b_1 = 40 m², 4–5 beds, kitchen, bath, bedroom. 2. Type b_2 = 27 m², 2 beds, room with stove and bath. 2. Type a = 40 m², 4–5 beds, kitchen, bath, bedroom.

K. Ossendorf
R. Pozemný
A. Tenzer
1931
Proposal for a dwelling complex VČELA in Prague.



Ground floor.



Floors 2–6.

by way of enlightened propaganda—a propaganda that by the force of its arguments will surely manage to disprove the objections of those who, in the absence of any better ideas, invent endless new reasons for saving the domestic hearth and the double marriage bed, and who are unable to overcome their distaste for a new culture of housing and recognize the full extent to which the disintegration of the traditional family-based household has already progressed in our own day. That household is an institution that must be considered one of the last survivals of woman's servitude in our world. "It would be madness to leave the walls standing and call the remaining structure by the same old name: the plan of a jail is not suitable for a free life" (A. Herzen). Neither is the plan of a petit bourgeois apartment suitable for the working class.

Architecture, in its efforts to deal with the problems of popular housing, must confront unhesitatingly the problem of **creating a new environment for socialist life** and provide the physical setting for a new material as well as cultural era in which a more cooperative spirit will flourish. Architecture's task is to help in the reorganization of both private and public life, which will allow both women and men to become militant and useful creators of the future.

Some dates in the evolution of housing types
1830–1932–?

Worker's housing barracks (live-in kitchen, a room with a stove) at the periphery of the city.



Renaissance-style luxury villa in a garden suburb.

1922–1932–?

Blocks of small apartments, public housing, cooperative housing blocks—modernized rental barracks—minimal household: "a little apartment for a little man."
Or, cooperative colonies of single-family houses and eventually barracks housing colonies.
Modernist luxury villas: Mies van der Rohe, Le Corbusier, Gropius, Mallet-Stevens, Badovici, or . . . in the manner of . . .

. . . minimum apartments of the family-based household type; 20–70 m^2 for one to an infinite number of persons, not fit to satisfy minimum standards of health and decent life. Not capable of providing a socially and psychologically requisite distance between persons and generations.

Axiom:

The minimum dwelling as an abode purged of the family-based household: a personal sleeping cubicle for one adult individual.

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14. the antithesis between city and country

a few citations

The difference between the city and the country is a crude expression of the division of labor, which transforms one person into a circumscribed creature of the city and another one of the country.

Marx

The elimination of the antithesis between the city and the village is one of the first conditions of collectivity.

Marx

. . . the merging of agricultural work with factory work and the gradual elimination of the antithesis between the city and the country.

The Communist Manifesto

The contradictions between the city and the country will wither away. The same people will be employed in agricultural and industrial work, rather than having two different classes perform it.

Engels, *The Principles of Communism*

The building of large palaces as communal dwelling places for citizens working both in industry and in agriculture will combine the advantages of urban as well as village ways of life, while avoiding the defects of each.

Engels, *The Principles of Communism*

Wishing to solve the housing question while at the same time wanting to preserve today's large cities is absurd. The abolition of the antithesis between town and country is no more and no less utopian than the abolition of the antagonism between capitalism and the interests of wage labor. Abolishing these antagonisms is becoming a more urgent practical requirement by the day.

A uniform distribution of the population over the whole territory of a country and the joining of industrial and agricultural production, supported by a corresponding expansion of the means of communication and coupled with the abolition of the former capitalist way of production, is the only possible way to liberate the country population. It will deliver the rural population from the isolation and apathy in which it has been vegetating for centuries. To be utopian does not mean that the complete liberation of humanity will come about only after doing away with the antagonisms between the city and the village. It is utopian only if somebody tries to predict on the basis of prevailing capitalist conditions and apply the means of this or that antithetical development of capitalist society to resolve these conflicts.

Engels, *The Housing Question*

Bourgeois solutions to the housing question founder on the antithesis between city and village. We have arrived at the heart of the question: the housing question will be solved only when the reconstruction of society reaches a stage that will permit the elimination of the antithesis between city and village brought about by the ultimate crisis of capitalist production.

Engels, *The Housing Question*

The elimination of the antithesis between the city and the village is not only feasible but becomes indispensable in the interests of industrial and agricultural production and hygiene.

Engels, *Anti-Dühring*

The first major division of labor, exemplified by the separation of the city from the village, has condemned village settlements to thousands of years of apathy and has damaged the mental development of the country population, while at the same time impeding the physical development of city inhabitants. By compartmentalizing work, man himself has became compartmentalized. The development of any one of his talents has been sacrificed at the expense of all his other physical and mental abilities.

Engels, *Anti-Dühring*

Only by linking together city and country into a unified whole will it be possible to overcome today's poisoning of the air, water, and soil.

Engels

Civilization bequeathed us its legacy in the form of cities, a legacy that it will take a long time to get rid of. But we will accomplish this, even though it will be a long and arduous process.

Engels, *Anti-Dühring*

Only a society capable of promoting in a harmonious manner the development of its productive forces according to a coherent social plan will be able to organize itself so that production can be dispersed uniformly throughout the whole country in accordance with its intrinsic needs and coupled with the preservation and development of other important elements of its productive capabilities. Only by such means will it be possible to eliminate the **antithesis between city and village.**

Engels, *Anti-Dühring*

Cities will cease to exist only after the change in capitalist production methods.

Engels, *The Housing Question*

Manufacturing has provided the basis for the growth of new industrial centers. Steam and the railroads have subsequently completed the separation of the city from the village.

P. Lafargue, *The Proletariat in Physical and Intellectual Work*

The piling up of human masses in cities is inevitable in today's development, and—to a certain extent—they have become the center of revolutionary activities: however, cities will have completed their mission only after the new society has come into existence. They will gradually fade away, as their population will move back to villages, where new communities will arise on the basis of changed conditions, and as industrial production with be merged with agricultural work. And so the democratization of life will finally put an end to the current antithesis between rural and urban settlements.

Bebel, *The Future Society*

Steam, as the principal source of energy, was the technical foundation on which the antithesis between city and village developed during the epoch of industrial capitalism.

N. Meshchariakov

Even if we admit that the large cities of capitalist society have played a progressive role, this does not prevent us from including the prospect of their elimination in our program for abolishing the antithesis between city and village.

Lenin, *1001*

At the present time, when it is possible to transmit electricity over long distances, and when the technical advances in transportation have reached a high level, there are no technical obstacles that would prevent us from putting all the treasures of science and art, which hitherto had been concentrated in a few centers, at the disposal of the entire population, once it becomes dispersed more or less uniformly throughout the land.
The new settlement pattern of humanity, aided by the joining of industry with agriculture and the elimination of the backwardness and isolation of the village from the rest of the world, will eliminate once and for all the antithetical accumulation of vast human masses in large cities.

Lenin

Capitalism has definitely broken the link between industry and agriculture, while at the same time preparing at the stage of its highest development the basic conditions for reestablishing this linkage by a deliberate utilization of science and the application of collective work methods toward realizing a new settlement pattern for humanity, which will eliminate rural despair . . . as well as the unnatural accumulation of vast masses of people in large cities.

Lenin

The inequality between city and village is an unavoidable phenomenon of capitalism, and it tends to persist even during the transition from capitalism to communism. The city cannot become equal to the village, just as the village cannot become equal to the city under the historical conditions of this epoch. By necessity, the city dominates the village. The village necessarily lags behind the city. The question to be asked is, which of the urban classes will be capable of showing the way to the village and what form will such leadership take?

Lenin

The capitalist path followed in the evolution of farming proceeded on the basis of the most profound differentiation of the farming population from that of its city counterpart. . . . [T]his was done in order to make the village dependent on the city, on industry, credit, and so on, all

of which became concentrated in the city, a city ruled by the bourgeoisie, capitalist industry, capitalist credit institutions, and capitalist governmental power. The village had no choice but to yield its fortunes to the city with respect not only to its material but to its cultural life as well.

In contrast, the city in the USSR has another face. Industry is in the hands of the proletariat. Transportation, credit, state power, and so on are concentrated in the hands of the proletariat, and the nationalization of all land holdings is a reality throughout the land. It is for this reason that the city, now ruled by the proletariat, leads the village and that the farming economy is able to follow a different path in its evolution along the path of socialist development, the path of massive collective farm cooperatives . . . and the linking of the farm economy with socialist industry[.]

Stalin, *On the Questions of Leninism*

The question of the relationship between cities and villages has been put on a new basis (in connection with the current pace of the kolkhoz movement), and thus the differences between city and village will rapidly disappear.

This circumstance is of great significance for our entire development. It reeducates the peasant and turns his face toward the city. It prepares the ground for the elimination of the differences between city and village. It inspired the slogan of the Party; "turning our face toward the village," to be complemented by the slogan of the kolkhoz farmers: "let us turn our face toward the city." There is nothing surprising about all this, for the peasant now gets everything he needs from the city: farm machinery, tractors, agronomists, managers, and ultimately direct aid for defeating the kulaks. The old farmer's visceral suspicion of city double-dealers recedes into the past. Instead, the new kolkhos-farmer looks on the city with hope, because it will be the city that will provide him with the real means to produce.

Stalin

A year and a half after delivering this speech, we realize how the **proletarian city is reeducating the village** more and more—reeducating the peasants, building schools, clubs, hospitals, and cinemas. The city workers labor hard to uplift the village to the level of urban proletarian culture.

Kaganovich

We are approaching the elimination of the antithesis between city and village, based not on the liquidation of cities but on their reconstruction as well as the reconstruction of the village in its progress toward a mature urban culture.

Kaganovich, *The Socialist Reconstruction of Moscow*

We are entering an era in which we are beginning to feel our way by concrete actions toward the elimination of the antithesis between city and village, which up to this point has persisted as one of the most glaring iniquities in our country. However, we are now aware of the practical means by which it can and will be reduced. The economic policy that will make this development possible is the establishment of large-scale collective agricultural enterprises throughout the country.

Molotov

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conclusion 15.

the movement for popular housing

Today's architectural avant-garde has indeed arrived at a number of radical solutions and it has realized a number of actual projects for the popular minimum, including some collective houses as examples of a distinct proletarian housing type; such projects have effectively helped revolutionize architectural activity, and thus have raised the problem of housing to a higher level of historical class-consciousness. In addition to their significance for modern architecture, these projects have also fundamentally affected today's class society economically and ideologically, for in its work the avant-garde cannot avoid the task of having to answer questions concerning housing problems during this period of economic crisis and in these depths of a seemingly never-ending housing misery, most glaringly evident in the sanitary and cultural defects of the proletarian districts in our cities. In turn, this confrontation has brought to the fore the question concerning specific housing (and urban) forms capable of being assimilated by proletarian culture in a planned socialist economy. Architecture, which hitherto has served wealthy clients and passively accepted commissions doled out by established authorities, is now taking an active and leading role in the struggle for a new world.

In the past, the architect-cum-craftsman-artist had to perform exclusively according to the wishes of ruling-class clients; now he turns into a collaborator and comrade in arms with the workers in the new world of socialism. However, in assuming an activist role in mobilizing the architectural avant-garde in its initiative to cooperate with progressive social forces and become active in reconstructing the here and now, the architect needs to work with theoretical clarity. During the last decade, best described as a period of the glorification of Americanism, a narrow efficiency-oriented pragmatism—characterized by a superficial empiricism that pretends to have contempt for all theory—has become fashionable among certain groups of modern architects. Some of the best-known works of prominent and influential contemporary architects show the extent to which this efficacious pragmatism has ignored theory. Their lack of a coherent worldview has made them get lost in one blind alley after another, led them to stumble from one contradiction to the next, and rendered them incapable of posing any problem correctly. Instead, they tend to concentrate mainly on the secondary and nonessential aspects of a problem.

Ultimately, practice is only as good as the theory behind it: a hollow theory will always produce hollow results. By and large, modern architects, confronted with the problem of the minimum dwelling and the reality of the crisis of housing and the city, have approached the task theoretically unprepared: their predicament has finally made many of them aware that an architect must become not only a sociologist but an economist to boot. Even that is not enough. The kind of sociology and economics chosen to support modern architectural work needs to be truly scientific, which means that architects cannot remain content with placing their trust in subjective, dilettante, prescientific, or eclectic doctrines, even if these are of modern coinage. To be scientific, the architectural avant-garde must adopt the methods of dialectical materialism and orient its thinking on social issues toward Marxism. The theory of historical materialism has the potential to become a fertile creative method in modern architecture and is well suited to supply the modern architectural movement with a much-needed element of conviction; moreover, it provides a clear direction for action, coupled with an in-depth understanding of relevant problems and their mutual relationships as well as a rational explanation of the root causes of past economic and historical failures.

A clear and solid scientific, social, and political orientation will safeguard the modern architectural movement from the illusion of being able to solve housing problems by relying on ineffective social welfare measures masquerading as phony laws pretending to protect tenants, corrupt building subsidies, and so on, or by building so-called social housing that parades under the banner and sponsorship of various cooperative building enterprises and other public welfare institutions and foundations, which pretend to be working for the so-called public benefit. None of the above has ever proposed a policy that would enable workers to break the vicious circle of the disparity between low wages and high rents. It is demagogic nonsense to believe the current propaganda in the newspapers claiming that the conflicts between the interests of the property owners and those without a place to live can or will ever be resolved with the help of a system controlled by capitalists!

It is of utmost importance that today's avant-garde architects be able to confidently answer all those questions that the workers' movement has so far been unable to deal with in principle or in detail, simply because it had to dedicate all its energies to the struggle for economic and political emancipation. "Housing for the workers" is the slogan that is supposed to address the catastrophic housing shortage in this time of acute economic crisis. It should be heard as a battle cry of all those battling greed and usury, and it will be necessary for modern architecture to endow it with an authentic living content. Even for those who have already joined in the struggle for genuine change, it is not enough to just toe the party line, satisfied to be intimidated by self-important functionaries of various trade unions or cooperative societies who have taken narrow positions. Nor will it do to agree with them and declare that the only two things that the proletariat needs are a day's wage and a place to live, and that everything else is—for the moment—secondary. The real need is to expose the contradictions between the housing needs of the proletariat and the errors of official housing policies and current building practice; to call attention to all the failures and frauds that run unchecked in housing and construction; to show how official and bureaucratic housing solutions must inevitably fail, given the constraints imposed by today's order; and—most of all—to pay attention to the prevailing antithesis between city and country. Everyday experience confirms Engels's assertion that capital not only cannot eliminate the housing crisis but does not wish to do so, even if it could.

The working class cannot be satisfied with the meager official housing relief efforts offered sporadically here and there, nor with the exertions of a few cooperative enterprises. The model of a dwelling for the strata of the subsistence minimum cannot be a modest apartment,

or a one-room tenement with a tiny kitchen, or even a small cottage with a small garden in the country or in the suburbs. In fact, it cannot on principle be a "small apartment," regardless of architectural quality, nor can it be a "small, but humanly decent shelter." Instead, it must be conceived as an **apartment of a positively determined, singular quality,** designed to respond honestly to the social lifestyle and cultural needs of its inhabitants. Currently, any tendency toward the solution of a specifically proletarian housing type is generally labeled as utopian, for the simple reason that opportunism rules supreme in all matters related to housing and that any initiative to change or implement any new idea is seen as fantasy and utopia, supposedly standing in the way of what is presently considered "real" progress.

To repeat: not a conventional room and a kitchen, but houses with children's homes, common dining rooms, and common cultural facilities. That alone represents a correct housing program for the working class. This does not mean that as it now struggles to mobilize its forces, the working class should not insist on pressing its legitimate housing demands even under current unfavorable conditions; yet it should not be content with submitting to the city council or parliament only officially sanctioned requests for the allotment of its share of apartments in public housing. The real task is different: to add up all the currently inadequate or completely ignored housing needs of millions of the poor, to demand that the construction costs for covering these needs be covered by canceling antisocial items in state and municipal budgets, and to insist that the choice of building type not be left to bureaucrats but be determined by those directly affected, with the control over any building program for housing handed over to a council of popular tenant interest groups. Furthermore, rents must be fixed as a reasonable percentage of a worker's wage and the state must provide free apartments in its housing projects for the unemployed, or pay their rent if they live in cooperative or private housing.

These demands can be implemented only by a broad mobilization of the masses and by intensifying the fight against the current housing misery. Whatever the effects of such a radical housing policy may be, they—as is true of any partial solution—cannot be expected to extend beyond the capabilities of today's social order; and this partial solution can be exacted only by the most radical means during this time of crisis and its reactionary political conditions. Other policies that must be considered, together with demands for constructing new housing and other general initiatives for housing reform, are laws protecting tenants, which ought to be framed so that they **shield poor tenants rather than the owners of their apartments,** and mandating the seizure of unoccupied or overly large apartments. At the same time it will be necessary to clarify and promote policies that take a more radical and socially responsible approach to housing, such as the expropriation of land and houses; for it is important to emphasize that the housing question—like all questions of social policy—can be solved once and for all only in conjunction with the reconstruction of all existing economic and social conditions. Any laws and other partial improvements of the housing situation achieved today must be considered as a mere by-product of the class struggle and not as a final solution.

There is actually a contradiction between demanding a radical popular housing policy and recognizing that the housing question cannot be conclusively solved within the framework of the existing economic and social order. Despite everything said above, to formulate programs that combine only partial or tentative solutions is not without merit: the contradictions contained in such programs reveal the incongruous structure of traditional society and thus represent the heterogeneity of the tasks that the new class has inherited from the past. Partial demands and their occasional successes are important only to the extent that sometimes they expose and confront some of the most blatant excesses of capitalist exploitation, and thus help weaken and limit its power. Of course, any genuine social movement will not be satisfied

by these half-measures; it must instead find the key to solving the housing problem by confronting the issue of private property—land and buildings—as well as the socialization of the means of production, so that exploitation will be not just constrained but done away with altogether.
Simply by solving the housing question, we do not simultaneously solve the social question; but by solving the social question (by choosing a revolutionary way out of the crisis, i.e., by expropriating all means of production and nationalizing housing and—ultimately—eliminating the antithesis between city and country), it will be possible to solve the housing question at the same time and as a matter of course. In other words, the housing problem, once recognized as a lesser (but not the least) evil besetting humanity, can be solved definitively and decisively only after the elimination of a more fundamental evil, which is the exploitation of man by man. The struggle to eliminate housing misery is an important element in the historical mission of the working class. It is a struggle waged on fronts both economic (fighting against usurious rent and homelessness) and cultural: at the same time, the call for a specific, new type of dwelling must be recognized as an integral part of the proletariat's general economic and cultural struggle. This is also the reason why every dwelling built by organized workers' self-help or the solidarity of the masses must be recognized as a partial success in this struggle.

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P.S.: A few dates: the book *Nejmenší byt* was written (on the basis of an outline conceived in 1930) during the fall of 1931—that is, in **October, November, and December 1931.** The manuscript was submitted to the publisher in January 1932. During the spring of 1932, the book was sent to the printers and the illustrations were edited. In July 1932 the book was broken up into different sections by the publisher. The illustrations originally selected were reduced to only those considered absolutely essential. The reason given was that if each chapter had been illustrated in detail, the text would have to be published in several separate volumes. Based on these considerations, the author decided not to include any illustrations published previously in his other books.
This, the final version of *Nejmenší byt,* is intended as a monograph of broader scope than other books published to date on modern housing and the culture of dwelling. Its intention is to pose the problem of the minimum dwelling by drawing on the fundamental criteria and high principles of a multifaceted analysis of all the factors that affect the problem of housing socially, economically, technically, architecturally, and culturally. Viewed from such a broad perspective, the subject actually deserves the format of an independent series of special monographs. The requirement imposed on the author by the publisher, of dealing with such a vast subject within the limitations of a single—albeit not exactly slim—volume, necessitated restricting our text, so that each of its chapters is dedicated only to the main characteristics and features of each theme.
The book *Nejmenší byt* is also an attempt to second the work of the International Congresses of Modern Architecture [CIAM]: this is main reason that the terminology used by the publications of the congresses has been adopted in this text as well. For example, the "minimum dwelling" has been defined by CIAM as the dwelling for the **strata of the subsistence minimum.** That phrase is meant to include not only the working class but also other broad segments of the working population, such as today's impoverished middle class and working intellectuals, who—by and large—have the same interests in the matter of housing as does

the proletariat. Of course, even today, one has to differentiate between the housing interests of the workers and the interests of the petite bourgeoisie. Thus it is necessary to investigate the extent to which these interests coincide or differ, while at the same time trying to point the latter in a direction that would bring them into greater harmony with those of the working class. Only then will it be possible to find a way toward a progressive solution and achieve real results. Above all, one must guard against deceptive slogans declaring that the housing problem can be solved by building single-family cottages in garden cities; these slogans are nothing more than products of a reactionary ideology. Even though proven false in the past, they do not cease to appear over and over again in our day: it seems that as the housing crisis gets worse and worse and begins to affect more and more people—including the middle class—the propaganda efforts of the cottage ideology move into high gear, to be exploited by commercial speculation and proletarian demagoguery.

The minimum dwelling as a means to house people living on the level of the subsistence minimum is the answer to a problem that currently affects a majority of the population. Its most mature architectural form is **an apartment in a collective house,** responding to the lifestyle of all segments of the population **where women are integrated into both production and public life.** It is this dwelling type that architects must deal with as a problem of the highest priority and that needs to be publicized most: the shift from an individual to a collective style of life can be accomplished only by reeducation, never by force. It is a **gradual process.** The creation of new, truly collective forms of dwelling is a task to be accomplished by an as-yet unborn future culture: for architects to occupy themselves with the problems of such a new social order and the issue of collective dwellings, investigating the means for their realization today, is significant only to the extent that by recognizing the direction and goal of development they will help influence both current theory and practice, thereby providing a more accurate orientation for actual work. It is for these reasons that the subjects of the **collective house, apartment communes, and a uniformly dispersed settlement of humanity are of topical interest** and immediate concern to the intellectual work of the international avant-garde even today, and that is why these subjects have been chosen as the frame of reference for this book.

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