

城市中国TM 05 [动感]

Urban China

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香港词典

Hong Kong Alphabet

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室内18度：香港的热空间

香港特别行政区
气候：亚热带
七月份平均气温：32
七月份平均湿度：87%
每平方米平均空气污染：120

香港的城市形态描绘出了一幅精确的几何和光学轮廓，这是房地产投机、商业产权租售标准和气候控制交叉作用的结果：退台的塔楼形象、可以出租的底层空间、电梯服务空间的间隔、以及外部反射的玻璃幕墙。从经典建筑学的角度来讲，香港城市环境的决定因素是地缘政治学、地形学、人口统计学和气候的混合。气候可能是与建筑形式关系最小的一个决定因素，但它却是香港决定性的特色之一。香港高密度的居住环境使它成为了人造物的中心：维多利亚港的土地被不断改造，新的居住塔楼形成了建筑地理景观，机械调节的和光学控制的建筑创造出了大量新颖的建筑外皮和室内氛围。

香港的室内环境模仿跨国商业标准所规定的热舒适条件，在输出商品和服务的同时也输送标准的环境。通用室内环境的历史可以追溯到国际式的建筑风格，这种风格的建筑被认为可以满足任何地方的特殊气候条件。Le Corbusier在1930年说道，“每个国家都建造适应自己气候的住宅。在这个科学技术国际通用的时代，我建议一种适用于所有国家和气候的建筑，它具备精确的呼吸功能……空气可以保持在18摄氏度，湿度与气候条件相协调。” Le Corbusier的这种恒温通用建筑的理想是一种乌托邦式的理想——一种人造的优化环境。关于气候的讨论和关于全球化的讨论不可避免地联系了起来。

表面

香港的两种建筑表皮原型显示了它的气候学需要：随处可见的办公楼反射玻璃幕墙和嵌满空调机的居民楼立面。这两种表皮揭示了两种对于热环境的主要策略：光学上的和机械上的。玻璃幕墙通过光学性能反射热带阳光的强烈光线，而机械系统通过热交换来创造和调节室内的热环境。

先决条件

虽然钢框架、电梯和摩天楼的结合是都市生活神话的核心，但空调的作用是绝对不可忽视的。在空调出现以前，办公楼依赖于开窗来采光和换气。空调的发明使建筑的平面尺寸和红线边界更加接近，将建筑体量从自然采光和通风的限制中解放出来。空调对于香港来说是个先决条件。密布的办公塔楼就是一个被楼板分割、被玻璃包裹的冷却塔，而大型商场就是宽敞的冷却房，在这里，空气被监控、过滤、除湿和调节。空调使香港超高密度的都市生活成为可能。

元件

机械系统是建筑内看不见的元件，它被隐藏在百叶之后，占据了建筑隐藏的内部空间。无论是头顶还是脚下，建筑都配备着大量的机械和信息设施。在香港寸土寸金的房地产市场，租售面积争着每一平方厘米的管道空间，设备布置规划被精准地计算着。香港的上海银行是这种隐藏元件规则的一个例外，它有意地把建造系统展示在建筑外部，机械设备被提升到了标志物的地位。

过滤

香港的交通污染和大陆边境的重工业使香港成为世界上空气污染最严重的城市之一，危害性空气质量等级的频率达到了惊人的程度。无所不在的玻璃幕墙将室内空间密封起来，以避免外部有毒气体的侵害。百叶和机械设备形成了室内外的条件界限，两者之间的空气流通被调节和过滤。

解剖

玻璃幕墙是香港商业建筑的普遍立面——它分格的反射表面形成了城市的物质DNA——幕墙单元是香港建筑基本的建筑构件和不可或缺模块。将玻璃幕墙系统解剖，可以发现它的组成层次：

铝、硅和玻璃。

挤压成型的轻质铝材具有中空的断面，它内部轮廓的设计使其可以具备像墙体一样的强度，并可以结合成整体的框架。硅胶集强度和韧性于一体，可以将玻璃和铝框紧密粘接而无需任何机械扣件。硅结构的幕墙使香港的玻璃地景成为可能。幕墙的最外层表面是玻璃装配单元：夹层的、中空的、镀膜的……使其具有不同的特性——热工性能、隔声性能、防暴性能、防尘性能，还能调节视角。一个典型的玻璃装配单元包括两块玻璃和一个铝制间隔，里面密封了少量的空气或是氩气。反射层使玻璃具有反射或过滤阳光的光学性能，低辐射镀膜可以使可见光透过，而屏蔽掉热能。

反射

香港的垂直玻璃地景创造了一种多棱镜和万花筒般的都市主义。中国银行整齐的玻璃表面形成了一种多面有角的形式，反射膜创造了一种选择性的光学外壳，在镜面的折叠中将其周围环境增殖。

由于有大量的色彩可供选择，香港的玻璃塔楼形成了色彩斑斓的天际线。彩色玻璃增加了反光系数，过滤掉了日光辐射。彩色玻璃还会引发大量的联想。远东金融中心金色玻璃的立面就是一个比喻：银行就是一根金条。北角的AIA总部运用多彩的玻璃表面作为香港的绘画隐喻。随意布置的玻璃条带使香港多彩的天际线内在化，将建筑立面变成一幅抽象的拼贴画。

玻璃的光谱特性和机械通风的方式被One Peking Road利用得淋漓尽致，香港的第一座双层玻璃幕墙就出现在这里。幕墙的两层玻璃之间、铝框的宽度内夹着薄薄一层空气，这个空腔在每一层进行流通，使热空气在向办公空间散热以前就被排除掉。双层玻璃幕墙在提高透光率的同时无需增加整体的传热系数(OTTV)。机械性能的提高使这种玻璃幕墙可以具有香港其他玻璃幕墙所不具备的优势：透明。

网络

商场为了经济目的而普遍营造室内气氛。中环的高架步行道零售网络连接着各种各样的建筑，将王子大楼、亚历山大大厦和查特大楼等地标建筑联结成一个知名的零售环境。不同商业设施结合成天衣无缝的零售氛围，凭借的是对于所有天桥统一的美学设计，以及创造了机械调节的稳定小气候——一个密封的空调空间。从中庭到步行桥再到零售商店，消费者拥有连续的恒温密封空间，从而保证了顾客至上的持续气氛和无间断的销售周期。中环将它的零售环境拓展到了热工品牌。

室内溜冰场

九龙的节日大道的娱乐消费网络在一个建筑体量之内，形成了一种连续空间内和可控气候下的消费体验。继Chep Lap Kok机场之后，节日大道拥有香港最大的空调调节的连续建筑单体。这个商场的特色是拥有一个室内溜冰场，在亚热带气候的香港提供了一种冬日的娱乐。节日大道使消费体验的乐趣成为了一种热工乐趣。

山

更接近于完全建筑气候营造的是“雪世界”——一个为Ma Wan设计的冬日主题公园。这个公园将容纳旅馆和温泉设施，它巨大的室内空间将有人造山体和人造气候。参观者将可以一年的任何时候在冰雪覆盖的山坡上滑雪。与香港的迪士尼乐园不同，雪世界主题公园并不是对于已有主题环境的进口。雪世界是完完全全产于本地的，它是香港气候下的主题公园，只不过是反向的：是其气候特征的对立面。雪世界提供了脱离香港气候而享受一种平行世界的机会。雪世界是一种热工旅游。

边界

在香港，气候只是另一个需要被克服、调节和消费的现象。香港的建筑限定了外部环境和巨大而崭新的内部环境之间的边界。它仅25毫米厚的可调节玻璃表皮界定了香港的使用空间。外部环境是不可预知的：热浪、城市微气候、热岛效应以及空气污染。而内部环境是严格调控的恒温恒湿的世界。同时，作为热工空想主义，在建筑创造天气条件下的旅行提供了一个遥远气候环境里的梦想世界。C



18 degrees inside 26 degrees outside

Hong Kong's urban morphology traces a precise geometric and optical contour, a result of the intersection of real estate speculation, commercial property leasing standards, and climatic controls: the setback tower profile, the leasable floor plate area, the lift service interval, the exterior reflectivity of the curtain wall. The formal determinants of Hong Kong's urban landscape, form an alchemical architecture, a mixture of geopolitics, topography, demographics, and climate. Climate is perhaps the least articulated determinant of architectural form, yet it is one of Hong Kong's defining characteristics. Hong Kong's density of habitation make it an epicenter of artifice; new land mass is reclaimed in Victoria Harbor, and new residential towers form architectural geologic formations, while the mechanically conditioned and optically regulated architecture of Hong Kong creates extensive new exterior membranes and vast new interior atmospheres.

Hong Kong's interior environments simulate conditions, defined by thermal comfort zones, that are prescribed by multinational business standards, which export goods and services as well as standard atmospheres. The history of a universal atmosphere dates back to the architecture of the International Style, which promised to deliver architecture from the specifics of local climate. In 1930 Le Corbusier stated, "Every nation builds houses for its own climate. At this time of international interpretation of scientific techniques, I propose: one single building for all nations and climates, the house with respiration exacte... I make air at 18 degrees centigrade and at a humidity related to the state of the weather." Le Corbusier's dream of a universal building with a single temperature imagined a utopian ideal – an optimised and man-made atmosphere. The discourse of climate and the discourse of globalisation are inextricably linked.

Surface

Hong Kong's two archetypal surface conditions reveal its climatological imperatives: the ubiquitous reflective glass curtain walled office building and the air conditioner studded facades of residential structures. The two surface conditions reveal two primary strategies for thermal practice: the optical



and the mechanical. Optical properties of glass curtain walls repel the solar rays of the tropical sun, while the mechanical systems exchange heat to create an interior thermal environments.

Prerequisite

While the marriage of steel frame, the lift, and the skyscraper are central to the mythology of metropolitan life, the impact of air conditioning is no less instrumental. Prior to air conditioning, the office building relied on operable windows for natural light and air. The invention of air conditioning severed the link between the size of the floor plate and the proximity to the perimeter, emancipating building bulk from the constraints of what was naturally illuminatable and ventilatable. Air conditioning in Hong Kong is a prerequisite. The dense stalks of office towers are columns of cool air, separated by floor slabs and sheathed in glass, while the vast shopping malls form horizontal chambers of cool air, monitored, filtered, dehumidified and regulated. Air conditioning makes hyper-dense urban life in Hong Kong possible.

Organs

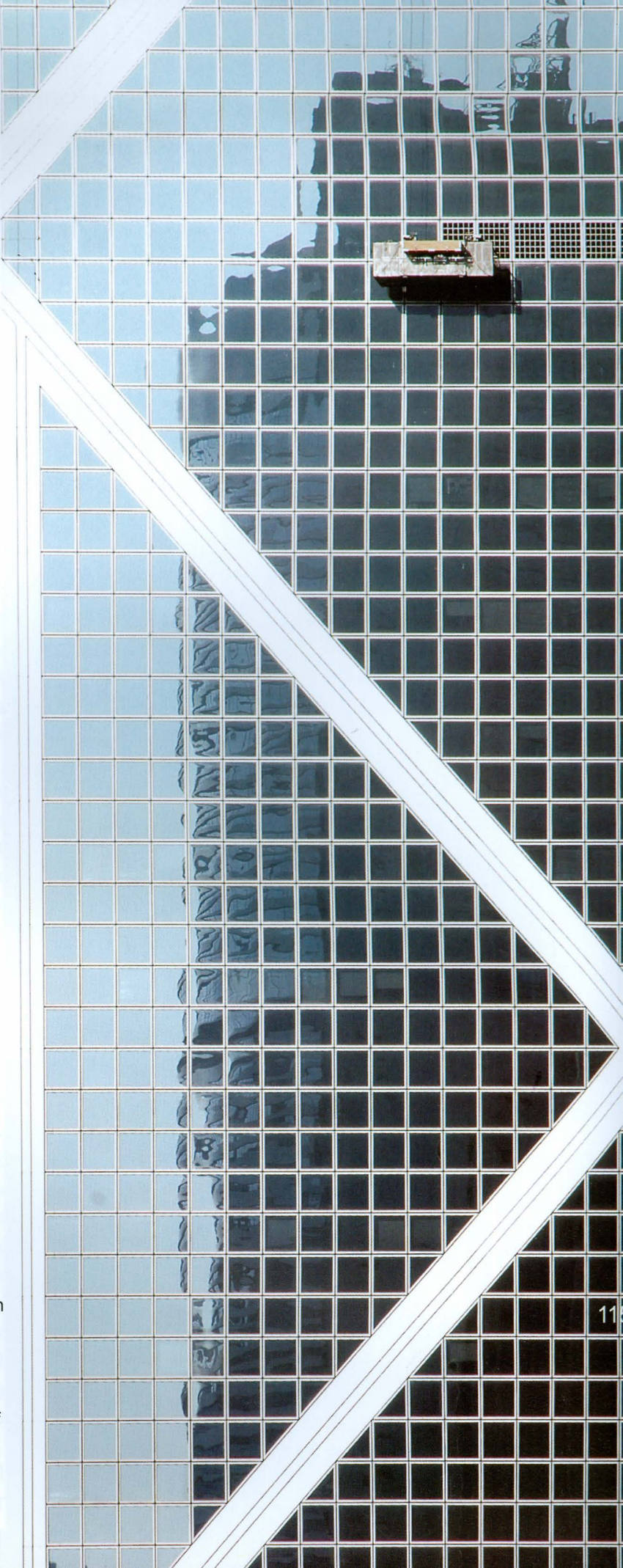
Mechanical systems are the invisible organs of architecture, screened and louvered from view, they feed spaces through architecture's hidden interiors. Running overhead and under floor, buildings are equipped with vast amounts of mechanical and informational infrastructure. In Hong Kong's voracious real estate market, where every square centimetre of duct space is displacing leasable space, the planning of distribution equipment is calculated with exacting precision. The Hong Kong Shanghai Bank is an exception to the rule of invisible organs. Its building systems are conspicuously displayed on the building exterior, and the mechanical equipment is elevated to the level of icon.

Filter

Traffic pollution in Hong Kong and heavy industry across the border in China render the air in Hong Kong among the most polluted, with air quality levels reaching hazardous conditions with an alarming frequency. The ubiquitous curtain wall membrane acts as a hermetically sealed interior to shut out Hong Kong's toxic exterior. Louvers and mechanical equipment form the ubiquitous threshold condition between inside and outside, where airflow between the two realms is regulated and filtered.

Anatomy

The glass curtain wall is the pervasive architectural surface of commercial architecture of Hong Kong- its gridded reflective surface forms the material DNA of the city- the curtain wall unit is Hong Kong architecture's basic building block and





irreducible module. Dissecting the curtain wall system reveals its component layers: aluminium, silicone, and glass. Aluminium extrusions are lightweight, hollow sections whose interior profile is designed to provide the wall thickness for optimised strength and configurations to allow for their assembly into unitised frames. Silicone combines strength and flexibility to adhere aluminium to glass without the need for mechanical fasteners. Structural silicone glazing enables Hong Kong's vitreous landscape. The outermost layer of the curtain wall membrane consists of a glass assembly: interlayers, spacers and coatings that give it specific properties, thermal performance, acoustic insulation, blast resistance, dirt repulsion, and view angle control. A typical glass assembly consists of two lites of glass and an aluminium spacer, which trap a thin sheet of air or argon. Reflective coatings give the glass optical properties to reflect or filter out light, while Low emissivity coatings allow for visible light transmission but resist the flow of heat energy.

Reflections

Hong Kong's mirrored vertical landscape creates a prismatic and kaleidoscopic urbanism. The Bank of China's taut glass facades form a faceted angular form, whose reflective coatings create a selective optical shell, which multiplies its context in its mirrored folds.

Available in a vast array of colours and tints, Hong Kong's glass sheathed towers form a polychrome skyline. The tinted glass increases the shading coefficient, filtering solar radiation. Chromatic associations abound. The gold glass clad Far East Finance Centre in Admiralty is an architectural trope: the bank is a bar of gold. The AIA Headquarters in North Point employs a multicoloured skin as a graphic metaphor for Hong Kong. The randomly distributed striped glass panels internalise Hong Kong's polychrome skyline and retransmit it through a conceptual camouflage skin.

Spectral properties of glass and the mechanical means of ventilation are exploited by One Peking Road, which employs the first double-glazed curtain wall in Hong Kong. The curtain wall consists of a narrow sandwich of air trapped between two layers of glass, separated by the dimension of the aluminium mullion. The cavity is ventilated at each floor, removing the warm air before it radiates heat into the office spaces. The cavity wall allows greater light transmission without increasing the overall thermal transfer value (OTTV). Its mechanically enhanced cavity wall membrane allows the glass skin to be what all other glass in Hong Kong cannot: transparent.

Network

The shopping mall is the widespread application of the

constructed atmosphere as commercial endeavour.

The elevated pedestrian retail network in Central links various properties, including Landmark, Princes Building, Alexander House and Chater House into a single branded retail atmosphere. The assemblage of distinct commercial properties into a seamless retail atmosphere is achieved through aesthetic integration of the design of all the bridges, as well as the creation of a constant and mechanically regulated microclimate - a seamless air conditioned volume of air. Moving from atrium to bridge to retail link, the shopper occupies a continuous hermetically sealed space of invariable temperature, ensuring that the consumerist atmosphere is constant and the shopping spell is unbroken. Central extends its retail environment as thermal branding.

Rink

Festival Walk in Kowloon Tong recreates the retail network in a single volume, assembling a spatially continuous and climatically controlled shopping experience. After Chep Lap Kok airport, Festival Walk represents the single largest continuous chamber of conditioned air in Hong Kong. The mall has the added feature of an ice skating rink, which offers winter recreation in subtropical Hong Kong. Festival Walk recreates a retail experience as thermal entertainment.

Mountain

One step closer to the total construction of architecture-as-weather is Snow World, a winter theme park planned for Ma Wan. The park will include hotels and spa facilities as well as a vast interior chamber, with an artificial mountain and artificial weather. Visitors will be able to ski or snowboard down a snow-covered slope any time of year. Unlike Hong Kong Disney world, the Snow World theme park is not an importation of a pre-packaged theme environment. Snow World is completely site specific. It is a theme park of Hong Kong's weather, inverted: its climatological opposite. Snow World offers the opportunity to escape Hong Kong's climate and occupy a parallel world. Snow World is thermal tourism.

Boundary

In Hong Kong, climate is another phenomena to be overcome, regulated and consumed. Hong Kong's architecture defines the limits between Hong Kong's exterior environment and its vast new interiority. Its regulatory glass membrane, only 25mm thick, defines the boundary of the occupied space of Hong Kong. The exterior is unpredictable: heat waves, urban microclimates, heat island effects, and air pollution inversions. The interior is strictly regulated: conditioned worlds of constant temperature and humidity. Meanwhile tourisms of architecturally created weather supply dream worlds of remote climatological atmospheres as thermal escapism. ©

