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Vertical Reality – How To Design Viable Vertical Urbanism

垂直现实——如何设计真实可行的垂直都市

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Paul Scott joined Make in 2005 to lead the practice's Birmingham studio and oversee the construction of The Cube.

Based in London, his current projects include two 265m residential towers in Mumbai; an office tower in Sydney; and 40 Leadenhall Street in London, known as "Gotham City."

He regularly speaks at conferences, including Municipalia in Mumbai and Ecobuild in London, and is an external examiner for The University of Nottingham's Sustainable Tall Buildings Masters course.

While at Foster + Partners, Paul worked on two of the world's most iconic tall buildings – 'The Gherkin' in London and the Commerzbank Headquarters in Frankfurt.

Paul Scott 于2005年加入Make建筑事务所，成为伯明翰工作室的负责人，其间监督了"立方体"项目的施工阶段。

撤回伦敦后，他现在负责的项目包括两栋位于孟买265米高的住宅、一栋位于悉尼的办公楼，以及被称为"高潭城"的伦敦利德荷街40号。

他经常于不同的会议上演讲，包括孟买市政院，伦敦生态建筑展，并被外聘为诺丁汉大学可持续性高层建筑硕士课程的考官。

在福斯特建筑事务所工作期间，Paul参与了两栋世界著名的高层建筑——伦敦的瑞士银行总部"小黄瓜"和法兰克福的德国商业银行总部。

Abstract

In many ways, the technical design of tall buildings is straightforward. The real challenge is how to create successful vertical urbanism that forms part of an adaptable and authentic city. This paper tells Make's story of designing vertical urbanism in India and Malaysia, marrying technology and anthropology to create authentic places for people to live now and in the future. To ensure all aspects of urbanism were considered, Make adopted an alternative approach of engaging a Think-Tank comprising a team of people who professionally consider the future from a diverse range of perspectives.

Keywords: Future, Spaces, Places, High-Rise, Vertical, City

摘要

从很多方面来看，高楼大厦的技术设计都是简单明了的。真正的挑战在于如何创造成功的垂直都市，为建成真正的，拥有适应性的城市出一份力。本文将讲述Make事务所在印度和马来西亚设计的垂直都市的案例，通过将技术与人类学相结合，为人们创造出今天与未来真正的人居环境。为了确保都市生活的各个方面都会被考虑周全，我们另辟蹊径，聘请了众多的专业人士组成一个智囊团，他们将从不同的角度思考未来。

关键词: 未来、空间、场景、高层、垂直、城市

Rethinking the Design Team:

All great cities are multi-faceted, balancing stimulation with comfort. These basic factors are enhanced by the location of the city and the character of its citizens.

The essence of any city comes from the combination of three factors:

- Its people – their culture and history.
- Its fabric – the spaces and buildings.
- Its geography – the local terrain and climate.

These factors change in proportional influence between one place and another, resulting in character differentiation between cities rather than a universal solution that is rolled out across the board.

Designers tend to concentrate on geography and fabric, assume people will naturally inhabit the cities they create and hope they become places brimming with life and personality. For the cities of the future this approach presents a huge risk, as the way we interact socially is changing fast and unpredictably in an increasingly digital environment.

Make initiated the formation of a Think-Tank comprising a team of advisors who professionally analyze the future in their

反思设计团队:

所有伟大的城市都具有多面性，在积极奋进与舒适安逸之间找寻平衡。这些基本因素又通过城市的地理位置和民风得到了加强。

任何城市的精髓都是以下三个因素的组合:

- 市民 – 他们的文化与历史
- 构筑物——空间和建筑
- 地理环境 – 当地的地形与气候

这些因素在不同的地方具有不同程度的影响力，使城市之间呈现出差异化特征，因此没有一种解决方案能够通用。

设计师往往倾向于关注地理环境和构筑物，他们想当然地认为人们将居住在其所创造的城市中，并希望这些城市能够成为洋溢着个性和生活气息的地方。这种方法对于未来城市而言蕴藏着巨大的风险，因为在日益数字化的环境中，我们的社会交流方式正在以无法预知的方式快速变化着。

由Make组织发起的智囊团，包括在他们的事业领域从事预测工作的顾问，将与由建筑师、工程师、估价师和置业分析师等成员组成的传统顾问团队相互协作。

智囊团成员是根据各自专业领域内挑选出来的，由他们组成的团队通过提供多元化的意见影响未来城市的设计。与传统的观

respective fields, to work in collaboration with a conventional consultant team of architects, engineers, cost planners and property analysts.

Members of the Think-Tank were selected for their expertise, creating a plural group that offered a diverse range of ideas to influence the design of a future city. Uninhibited by preconceptions, the specialists included:

- A film maker, a sci-fi illustrator and a computer game designer, who collectively considered the possible image of the future city.
- An anthropologist, who advised how people might respond to future vertical urbanism
- An astronomer, who defined the role science will have shaping our future on earth.
- A futurologist, who predicted potential trends in technology.
- An environmentalist, who questioned how society needs to change to have a future at all.
- A communications strategist and a social media expert, who contemplated how people will communicate in the future and the emergence of virtual cities.

The Think-Tank's discourse was captured and analyzed to inform the design brief for the two cities (see Figure 1).

Be Open-Minded about Future Vertical Urbanism:

The Think-Tank gave the design team much to consider, which is summarized as follows:

- Is a city's identity, life and principal activities more important than its buildings?
- Is space "soft" and subject to change?
- Are everyday activities and experiences key to making urbanism "real" for people?
- Has social and digital media transformed the way people interact?
- Can future urbanism be real and virtual at the same time?
- How precious are human and natural resources?

Rather than launch straight into the design process, the team spent time developing a program to:

- Define the two future cities in terms of their principal activities and differentiators.
- Design future cities which appeal to permanent residents, as well as those who visit and stay for business and vacations.

In parallel, a manifesto helped focus the team to create a master plan for each city to be:

- A global place known to everyone.
- An inspirational place to live, work and visit.
- A place at the forefront of innovation.
- An exemplar city that influences the world.

Figure 1. Project team structure: The design team's relationship with client and Think-Tank
图1. 项目团队结构:设计团队与业主和智囊团的关系

念截然不同，这些专业人士包括了:

- 电影制作人、科幻插画家和电脑游戏设计师，他们共同勾勒出未来城市可能的样子。
- 人类学家，就人类可能会对未来垂直城市做何反应提出建议。
- 天文学家，界定科学在构建地球未来方面的作用。
- 未来学家，预测未来科技发展的潜在趋势。
- 环保人士，针对社会应如何进行变革，才会拥有未来的问题提出质询。
- 沟通战略家和社交媒体专家，关注人类未来将如何沟通以及虚拟城市的出现。

我们收集了智囊团的论述并进行分析，从而得出两座城市的设计任务书 (见图1) 。

用开放的思维设想未来垂直都市

智囊团为设计团队提供了许多思考的内容，具体归纳如下:

- 是否一座城市的个性、人们的生活与主要活动比它的建筑更重要?
- 空间是否"柔软"而可变化的?
- 日常生活和体验是否对于塑造人们对都市生活"真实感"至关重要?
- 社交与数字媒体是否正在改变人们互动的方式?
- 未来都市是否可能同时具有真实性和虚拟性?
- 人类和自然资源到底有多宝贵?

首先团队应着力制定计划，而不是直接进入设计阶段，以便:

- 界定两座未来城市的主要活动和差异。
- 设计对永久性居民，以及对商务旅行和假日休闲的游客有吸引力的未来城市。

与此同时，在一项宣言的指引下，整个团队围绕下述目标制定了每个城市的总体规划:

- 使之成为众所周知的全球性城市。
- 使之成为赋予人灵感的生活、工作和旅游之地。
- 使之成为创新的前沿之地。
- 使之成为影响世界的模范城市。

The proposition that Make's future cities may have extended citizenship comprising people who live elsewhere, connected through digital and social media, was explored at length. Creating a digital environment offering knowledge, education, entertainment, information and insight is an intriguing additional dimension to a city's resources. Creating a virtual platform presented an opportunity to make the city accessible to people who don't actually live there - for example, former residents and visitors or those who plan to visit - resulting in it becoming a familiar and aspirational destination.

Digital and social media is making many people's lives more immediate. This immediacy of information and experience is reflected in the design of Make's two future cities, through vertical urbanism that embraces short and long-term change with an aesthetic familiar enough not to be alienating.

To fulfill the appetite for immediacy, cities can change to greater or lesser degrees hourly, daily, weekly, seasonally, annually and from one decade to another, to match changes in residents and visitors. Future vertical urbanism should provide a platform for personal fulfillment. For visitors this may be about doing something extraordinary and for residents about creating a place to forge and develop relationships, friendships, and family life. To satisfy personal long-term fulfillment, cities should be able to accommodate change, delivered through spaces and buildings that are inherently adaptable.

For Make's design of two future cities in India and Malaysia, a set of common values were defined, followed by the identification of differentiating specialties that allow each to develop as individual, unique places.

The common values for both India and Malaysia:

- Provide the highest quality of living.
- Deliver high quality education for all ages, to position the city as a center for excellence in education and sustain population growth.
- Engender serendipity – a place where things happen.
- Establish research and knowledge as the city's primary exports.
- Extend the city's community to give those who reside elsewhere access the city's resources and experiences virtually.

India's differentiating specialties:

- The home of future living specializing in information technology (IT), communication, bio-technology, health and transport.

Malaysia's differentiating specialties:

- The home of future culture specializing in film, art, fashion and design.

With these clear objectives defined and understood, master planning and building design commenced.

Cogent Design Anticipating Change

The master plan for each city defines areas of vertical urbanism, accommodating the demand for central living and working to ensure compact, efficient and characterful cities (see Figure 2).

在Make提议的未来城市中，将通过数字和社交媒体将居住在不同地方的市民联系起来，这一主张得到充分的研究。创建一个数字环境，提供关于知识、教育、娱乐、信息和感悟等资讯，为城市增加一个有趣的维度。建立一个虚拟平台，给并非真正居住在城市里的人——例如前居民、游客或者计划前往旅行的人——提供接触这个城市的机会，让这个城市变成一个熟悉与理想的目的地。

数字和社交媒体使许多人的生活节奏变得越来越快。这种信息和体验的即时性也反映在make设计的两座未来城市上，垂直都市将能同时包容短期与长期的变化，这将形成一种新的审美观，而不会造成疏离的陌生感。

为了满足即时性需要，城市可以每时、每天、每周、每季、每年甚至每十年做出或大或小的改变，以配合居民和游客的变化。未来垂直都市应提供一个满足个人发展的平台。对游客而言，可能是做一些非比寻常的事; 对居民而言，则是创造一个培养和发展人际关系、个人友谊并享受家庭生活的地方。为了促进个人的长期发展，城市必须适应变化，并通过具有固有的适应性空间和建筑来实现。

对于Make设计的位于印度和马来西亚的两座未来城市，我们首先确定了一组共同的价值观，其次是差异化特色，允许每座城市发展为独一无二的个体。

印度和马来西亚的共同价值观包括:

- 提供最高的生活质量。
- 为各年龄段人群提供优质的教育资源，使城市成为卓越教育的中心，支撑人口增长。
- 创造奇迹——创新开始的地方。
- 使研究和知识成为城市主要的输出服务。
- 扩大城市的社区，允许居住在别处的居民通过虚拟方式获得城市的资源和体验。

印度的差异化定位:

- 未来的生活之都，专攻信息技术 (IT) 、通信、生物技术、卫生和交通。

马来西亚的差异化定位:

- 未来的文化之都，专攻电影、艺术、时尚和设计。

界定并理解了这些清晰的目标后，就可以开始总体规划和建筑设计了。

可行的设计包含对变化的预期

每座城市的总体规划界定了垂直都市的区域，在满足集中生活和工作需求的同时，确保了城市的紧凑、高效和个性 (见图2) 。

垂直都市以社区的形式集聚，每个社区都有自己的定位，且通过发达的交通设施彼此相连。在定义规划原则的过程中，建立清晰可辨的城市整体框架，创造出独特的都市生活，体现设计的灵活性并促进社区之间的互动。

围绕每个垂直都市集群建立的街道和空间提供了广泛的便利设施，包括商店、咖啡馆/酒吧/餐厅、画廊、博物馆等，这些设施将为在那里生活和工作的人们提供极大的便利。公共空间营造了一种对城市和社区的归属感，而这种感觉又通过嘉年华、节日和游行等活动得到了升华。

Vertical urbanism is clustered in neighborhoods, each with individual identities and connected by excellent transport facilities. The practice of defining planning guidelines to establish design flexibility within an overall vertical urban design framework was put in place to create a clear and legible city, and aid navigation between neighborhoods.

The streets and spaces around each vertical urban cluster offer a broad range of amenities including shops, cafés/bars/restaurants, galleries and museums to enrich the lives of people who live and work there. These public spaces create a sense of belonging to both the place and the community which may be heightened through events such as carnivals, festivals and parades.

The master plan is able to accommodate the needs of a virtual community living around the world. An Innovation Center forms the interface between the real city, its citizens and the virtual community. Through this portal, the virtual community is able to enjoy continual access to activities, simulations and entertainment environments (such as gaming) available in the real city. This interaction is essential to ensure the real and virtual places can evolve in a non-prescriptive way, allowing every digital user to make their own choices – similar to a playground that encourages inventive play, rather than a theme park that predetermines the user's experience.

The individual buildings use time as a major design principle, to allow adaptation as the needs of individuals and society evolve. Developing a "long life, loose fit" approach, the concept of reuse and remixing was developed so that the structure – comparable to a car chassis common across different models – is designed to incorporate different components and Façades which may be easily reconfigured over time (see Figure 3).

Differentiation is essential to ensuring the success of both cities. Each is expressed distinctively in response to location, program and local anthropology, while maintaining common DNA. Diversity is celebrated in the design of the high-rise buildings and their public spaces. The towers define each city, while the sites of social interaction – the streets, squares and plazas – become places that ensure the successful integration of vertical urbanism into the city.

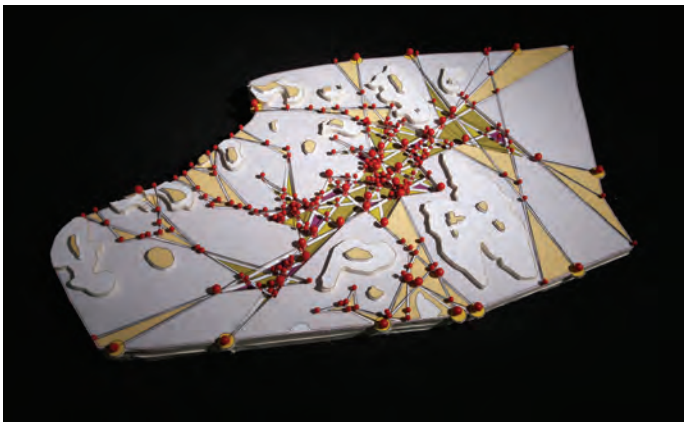

Figure 2. Kuala Lumpur master plan: Buildings are concentrated in valleys with high-rise clusters where two or more join
图2. 吉隆坡规划: 建筑主要聚集在山谷中，其中有两栋或多栋连接在一起

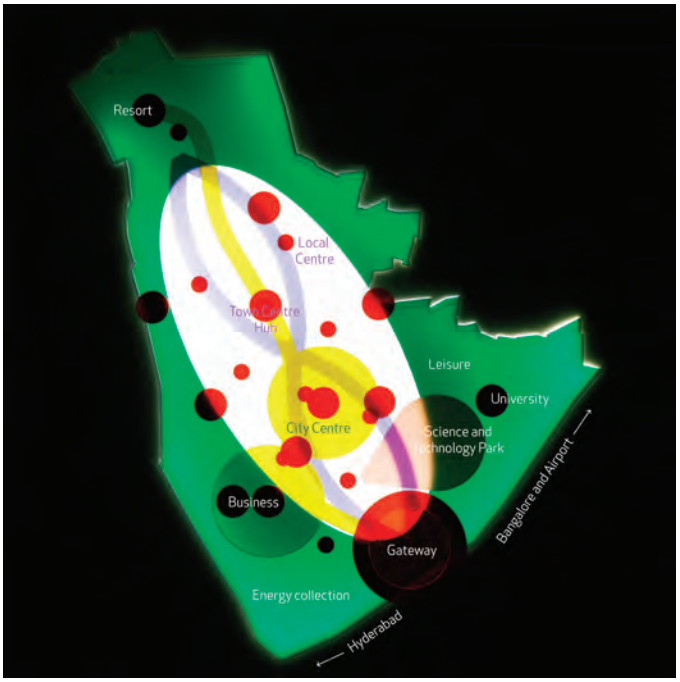

Figure 3. Bangalore master plan: The master plan creates a compact linear arrangement of neighborhoods each defined by clusters of tall buildings creating a clear and legible city
图3. 班加罗尔规划: 总体规划创建一个紧凑线性布局，群聚的高层建筑定义一个清晰可辨的城市

Case Study – Future Vertical Urbanism, Bangalore, India

Approximately 30% of India's population lives in cities and Bangalore is the country's third largest. Its growth rate over the last decade is 38% and typical of Indian mega-cities, it has developed a series of urban corridors supporting satellite neighborhoods connected by high-quality infrastructure.

Benefitting from a moderate climate resulting from its high altitude, Bangalore is India's "Garden City" and was until recently largely known as a place of retirement. The city has reinvented itself as the country's "Silicon Valley", which has led to the mass migration of IT professionals shifting the demographic towards younger people with a very cosmopolitan outlook.

Bangalore is home to the largest number of rupee millionaires in India, who are leading an aspirational trend to live and work in environments that reflect "New India". While great value remains in India's existing cities, it is recognized that many are blighted by poor roads and traffic congestion, pollution, unreliable electricity and water supplies, and

总体规划应该可以适应分布在世界各地的虚拟社区的需求。创新中心构成了真实城市、市民和虚拟社区之间互动的窗口。通过这个门户，虚拟社区能够不断参与真实城市中提供的活动、模拟和娱乐环境 (比如博彩) 。这种互动对于确保真实和虚拟空间以非强制的方式不断演进至关重要，它使每位数字用户都能做出自己的选择——就像鼓励创造力比赛的游乐场，而不像预先确定用户体验的主题公园。

单体建筑以"时间"作为主要的设计原则，以便随着个人和社会需求的演变进行调整。基于"延长使用寿命、提高适应性"的方法产生了再利用和再混合的结构——概念就如不同型号的汽车使用同样的底盘一样—— 随着时间的推移，将很容易重新配置不同的组件和外立面 (见图3) 。

差异化对于确保两座城市的成功至关重要。每座城市在对待位置、功能和本地人类学问题方面各有不同，同时又保持着共同的基因。多样性在高层建筑的设计及其公共空间中得到了体现。高层界定了每一座城市，反映了城市的价值观，而社会互动的场所 (街道、广场等) 则成为标志性地点，用以确保高层生活成功融入城市。

Figure 4. Existing Bangalore site: Set on a plain and adjacent to the highway connecting Bangalore and Hyderabad, the site offers opportunity to create a master plan free of physical constraint
图4. 班加罗尔基地: 设置在毗邻班加罗尔和海得拉巴的平地，基地为创造一个自由而无约束的规划提供机会

skilled labor shortages. This has generated an appetite to create new cities built on the country's traditional values – notably family and faith – that reflect India's global economic position, with infrastructure to match.

Connected to Bangalore and its airport by a new highway, Make's future city is based on IT commerce and high-tech products required for us to live now and in the future. The city was considered likely to succeed as a truly digital city, given the context and culture of Bangalore's established IT-based industry (see Figure 4).

The high-rise buildings are clustered in neighborhoods on a relatively flat site. One of the city's high-rise residential buildings in particular represents "New India" and vertical urbanism in a single building. The tower, known as "Sunrise", symbolizes the source of energy for all life on earth, while encouraging healthy lifestyles and wellbeing through the quality of the residences, balanced with fantastic multi-level amenity spaces (see Figure 5).

The curved form of "Sunrise" naturally creates a variety of triple-aspect apartment typologies and the location of the circulation cores ensures all central apartments are dual-aspect, without any overlooking, to optimize its linear plan. Amenities of varying scales, from community facilities, family areas, contemplative personal spaces and viewing galleries, are located throughout the building to encourage social interaction and extend the domestic space. Significantly, the top of the building is a communal area, reflecting a socially inclusive culture and offering those who live at the lower levels the opportunity to enjoy the sensational experience offered at the crown.

Everyday interactions, activities and experiences are key to successful vertical urbanism and public spaces can truly cement the link between "the city" and "the citizen". "Sunrise" coherently demonstrates the principle that single high-rise buildings can be vertical urbanism in their own right, as the building's communal areas mirror the city's ability to create social cohesion through public space (see Figure 6).

Indian residences tend to be designed from the inside out and are often subject to extensive renovation and remodeling. The strength and clarity of "Sunrise's" curved building form allows for diversity within the residences and the potential for adaptation to suit future demands built-in to the design from the outset. The result is a high-rise tower which embodies the notion that vertical urbanism should invite rather than dictate and is both a process and a product (see Figures 7 and 8).

Case study – Future Vertical Urbanism, Kuala Lumpur, Malaysia

Classic Malaysian cities are generally defined by their central public space (the istana); the mosque (the masjid); wet and night markets; and Chinatown, which is the traditional commercial hub. The aspirational residential areas are known as kampungs, a term applied to either a village or an urban neighborhood typically characterized by generous space for dwellings.

Figure 5.Sunrise: The tall building's distinct profile places a sculptural form on the skyline the perception of which changes when viewed from different locations with the city
图5. 日出: 高层建筑的鲜明轮廓让城市天际线呈现出宏伟的雕塑感，当观察者处于城市的不同位置时，对它的感受也随之改变。

Figure 6. Sunrise: The curved shape presents a receding façade line from street level that does not overwhelm
图6. 日出:弯曲的边界形态使得外立面从街道界面不时退后，避免了压迫感的产生。

案例研究–未来的垂直城市，印度班加罗尔

印度约有30%的人口生活在城市中，而班加罗尔是印度的第三大城市。在过去10年中，班加罗尔的入口增长率为38%，是典型的印度特大型城市。该市建立了一系列城市走廊，支持通过优质基础设施相连的卫星城。

班加罗尔因高海拔带来的温润舒适的气候被称为印度的"花园城市"，近来更成为颐养天年的首选之地。经过改革，如今的班加罗尔已成为印度的"硅谷"，吸引了大批IT专业人才向此地迁移，让本地青年有更加国际化的视野。

在印度各城市中，班加罗尔的百万富翁 (以卢比为单位计算) 人数最多，他们在象征着"新印度"的环境里过着令人羡慕的生活。虽然在印度现有的城市中依然蕴藏着巨大的价值，但不得不承认许多城市已经在道路狭窄、交通拥挤、污染、电力和供水不稳定、熟练工人短缺的环境下呈现萎靡态势。由此产生了一种诉求: 在该国传统价值观——尤其是家庭和信仰——基础上建立新型城市，体现印度的全球经济地位，并辅以配套的基础设施。

Modern Kuala Lumpur has evolved from the traditional Malaysian city described above, with the adoption of high-rise living in lieu of traditional low-rise kampungs and an enthusiasm for prestige projects which have become a source of national pride.

On the southern outskirts of Kuala Lumpur is the new city of Shah Alam and a multi-media super-corridor connecting two other new cities of Putrajaya and Cyberjaya. These developments were intended to redefine Malaysian urban modernity and boost economic output through the concentration of related business and educational activities. However, all three cities have proved unappealing places to live, attracting commuters from Kuala Lumpur rather than permanent residents. Amenities are disparate and based on the use of cars, bicycles or public transport rather than the needs of pedestrians. Ultimately, the conservative architecture has proved unpopular and alienated many younger Malaysians, for whom these cities were originally intended.

Make's city enjoys a similar geographic relationship to Kuala Lumpur as Shah Alam, Putrajaya and Cyberjaya and follows a comparable program. Following analysis of these cities, Make established a simple agenda for success:

- Be fun and stimulating.
- Align with resident and visitor values.
- Present great employment and education opportunities.
- Offer a fresh start.

Located on a site comprised of valleys, Make's future city maximized the limited areas of level ground with clustered vertical urbanism. Through the reinterpretation of traditional neighborhood kampungs and the incorporation of generous public space within its vertical

Figure 7. Sunrise: The typical floor plan delivers a high density layout with a high proportion of truly dual and triple aspect residences that do not overlook
图7. 日出:典型户型图提供了一个高密度的布局，同时大部分住宅拥有双面、三面采光，且不产生对望

Figure 8. Sunrise: The curved edge naturally creates diversity in residency size and typology
图8. 日出: 弯曲的边界自然的划分了多种住宅面积与类型

Make 的未来城市通过新建的高速公路与班加罗尔及其机场相连接，经济基础为IT商务，并专门从事高科技产品的设计和制造，满足人们目前及未来的生活所需。鉴于班加罗尔以IT为基础的行业布局，该市很可能成为真正的数字化城市 (见图4) 。

高层建筑群集中分布的社区位于一块相对平坦的基地上。其中一座高层住宅楼是"新印度"与垂直都市的代表。这座建筑被称为"日出"，象征着地球上所有生命的能量之源，同时鼓励健康生活方式，提供卓越的住宅质量以及多层次便利设施空间的相互平衡 (见图5) 。

"日出"的曲线外观天然形成了多种三面体的公寓类型，而交通核心的位置确保了所有中央公寓的双向性，不造成任何对视，从而优化了建筑的线性平面。不同比例的便利设施，包括社区设施、家庭区域、个人思考空间和观景画廊等，分布在建筑的各处，以鼓励人们进行社会互动并扩大居家空间。值得一提的是，建筑的顶层是一片公共区域，使生活在低楼层的人们也有机会享受高层带来的美好体验，体现了一种社会包容性。

日常的互动、活动和体验对于垂直都市的成功非常关键，城市的公共空间可以真正地加强"城市"与"市民"之间的联系。"日出"清晰地体现了单栋高层建筑可以独立成为垂直都市。建筑的公共区域反映出城市通过公共空间创造社会凝聚力的能力 (见图6) 。

印度的住宅倾向于由内到外的设计，经常需要大量的翻修改造。"日出"曲线型的建筑形式兼具力度和透明度，住宅内允许多样性的存在，可以从最初阶段便在设计中照顾到可能的调整，适应未来需求。由此设计的高层建筑体现了一种观念，即未来的垂直都市应该是开放式的，而不是封闭式的; 它是一种过程，同时也是一件产品 (见图7、8) 。

案例研究——未来的垂直都市生活，马来西亚吉隆坡

典型的马来西亚城市通常都具有以下特征: 中央公共空间 (王宫) ; 清真寺 (礼拜寺) ; 传统市场和夜市; 唐人街，即传统的商业中心。人们梦寐以求的住宅区被称为"村庄"，既可以指乡村，也可以指城市社区，通常都有宽敞的居住空间。

现代化的吉隆坡由上述的传统马来西亚城市发展而来，它用高层住宅取代了传统的低矮村庄，并积极开展一系列已成民族自豪感源泉的著名项目。

在吉隆坡的南部郊区是规划建设的莎亚南市 (Shah Alam) 和一条多媒体超级走廊，连接着新建城市布城 (Putrajaya) 和赛城 (Cyberjaya) 。这些开发项目旨在重新定义现代马来西亚的城市，通过相关商业和教育活动的集中提高经济产出。然而，事实证明这三座城市都不是有吸引力的居住区，只能吸引一些吉隆坡的上班族，无法留住永久性居民。便利设施分布不平衡，主要以汽车、自行车或公共交通为基础，不能满足行人需求。最终，保守的建筑日益不受欢迎，更与其最初目标群——马来西亚青年人拉开了距离。

Make 的未来城市和吉隆坡的地理位置关系与莎亚南、布城和赛城相似，因此遵循了类似的方案。依照对这些城市的分析，Make 建立了一项简单的议程以期获得成功:

- (让城市)有趣和刺激
- 符合居民和游客的价值观。
- 提供大量就业和教育机会。
- 创造崭新的开端。

Figure 9. Existing Kuala Lumpur site: The valley bottom creates a sinuous development zone, with natural areas of intensity where valleys join
图9. 吉隆坡基地现状: 山谷底部创造了一个蜿蜒的发展区域，在山谷连接处自然而然成为高密度区。

urbanism, a remixable city – one that may change its appearance over time while retaining its structure – was considered viable (see Figure 9).

In line with the city's cultural events schedule, the public spaces that form an essential part of Malaysian life are connected to the city's social and digital networks. Embedding adaptability into the design of the public buildings and spaces offers the opportunity to change their appearance and function in accordance with crowd-sourcing and a city-wide "Wiki" – a web-based platform that allows the community to control parts of the city.

Transferring the collective responsibility of public space to the community is an innovative way of differentiating Make's future city from the three nearby less popular cities, by engaging its citizens and sustaining a vibrant cultural life.

By advocating a bottom-up rather than a top-down approach, the population can determine the character of their city, rather than be dictated to.

The city's position as the home of culture is demonstrated in a pair of residential towers with a remixable aesthetic. The structure of both towers is a chassis onto which lightweight skins may be applied and changed over time, in part or entirely. This approach allows the buildings to successfully adapt and evolve, as user and cultural demands dictate and remodeling is required. Responsive Façade systems are an additional layer that may be added to each building typology, offering variable environmental control and a programmable aesthetic (see Figures 10 and 11).

Communal garden spaces are located at regular intervals throughout the towers to ensure any residence is no more than four stories from open space, and referencing the kampung tradition which is so valued in Malaysian culture (see Figure 12).

Conclusion

Make's experience led to the following conclusions:

Citizens will increasingly demand immediacy from future vertical urbanism in terms of use and fulfillment, within an environment which is not so unfamiliar that it is alienating. It will always be the case that the ability to participate in everyday activities and experiences is critical to making a city authentic for people.

Considering adaptability – the ability for buildings and spaces to be remodeled without rebuilding – is an effective way of achieving vertical urbanism that responds to changes in society. Creativity and self-expression are natural human desires and can be encouraged through remixable building and public space design, influenced by the community utilizing digital and social media.

Cities can have extended virtual communities – people who do not live there but follow the life of the city and are connected to its events

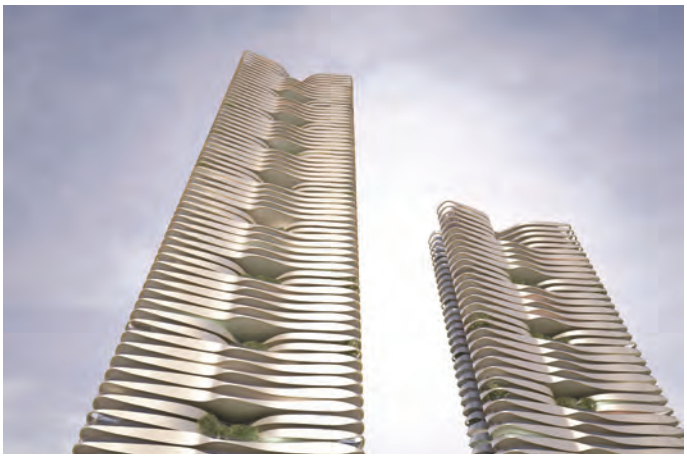

Figure 10. Vertical public space: A pair of towers with clear expression of vertical public space and ability to change the façade aesthetic over time
图10. 垂直公共空间:一对塔楼，有明显的垂直公共空间，以及未来可根据审美而改变外立面

Figure 11. Street level: The base of each tower engages the street through shops, cafés, bars, restaurants, galleries and museums etc. to nourish the people who live and work in vertical urban clusters. Social interaction is critical to the successful integration of high-rise schemes into the city
图11. 街道层面: 每栋塔楼底层通过商店、咖啡馆、餐厅、酒吧、画廊和博物馆等与街道发生关系，从而为居住在垂直都市的人们提供养分。社交是成功整合高层建筑与城市的关键。

Make 的未来城市基地位于一片山谷间，通过集中开发垂直都市，最大化地利用有限的平地空间。通过对传统的村庄社区模式和公共空间的重新诠释，将其包容至垂直都市中，一个重组过的城市—— 主体架构不变，其外观随时间不断演变—— 被视为是可行的 (见图9) 。

根据该市的文化活动安排，作为马来西亚人核心生活部分的公共空间与该市的社交网络和数字网络相连。公共建筑和空间设计中内置的适应性可以根据"众包"和覆盖全市的"Wiki"改变其外观和功能。"Wiki"是一种网络平台，社区可以通过它控制城市的各个部分。

将公共空间的集体责任转移给社区，以这种创新性的方式将Make设计的未来城市与周边三个缺少吸引力的城市区分开来，既提高了市民的参与度，又能保持充满活力的文化生活。

通过采取自下而上而非自上而下的方式，人们可以自主决定城市的个性，而无需一味遵循他人的安排。

该市作为文化之都的地位在混搭的审美观中得到了印证。两座大厦的结构就像一个底盘，其上可以覆盖轻盈地表皮，并且随着时间的推移能够全部或部分改变。利用这种方法，建筑可以成功地调整和演变，满足用户和文化需求，必要时还可进行改造。反应式立面系统可以作为额外的一层添加到每种建筑类型中，在提供各种环境控制的同时，还确立了一种可再设计的审美观 (见图10、11) 。

Figure 12. Remixable towers: The towers may be connected through intermediate decks, interlinked with public space, creating linear high-rise development that may be remixed over time
图12. 混合功能的塔楼:塔楼可通过中间层相连或连接公共空间，创造出的线性高层建筑可能会随着时间推移而成为多种功能的混合体。

and activities through digital and social media. The presence of a parallel virtual community can actually sustain the future city, making it an aspirational and desirable place to visit and reside in.

Public space defines the urban experience, engendering a sense of belonging to the city as a place and community. This principle should extend to the design of future vertical urbanism; the components on the street that generate social cohesion should also be incorporated in the high-rise buildings, to bond the citizen with the city.

Ultimately, the design of future vertical urbanism should reflect the concept that cities are both processes and products that continually shift in response to the ebb and flow of the population and the economic landscape. Those responsible for commissioning the design process must welcome an anthropological approach and recognize that planning for change from the outset will deliver sustainable, adaptable vertical urbanism that evolves with its citizens.

Make's experience in summary:

- Future vertical urbanism represents an accelerated version of normal urban growth – therefore, design strategies should reflect the notion of starting from scratch.
- The design and planning process should prioritize the importance of everyday activities and experiences in making vertical urbanism appealing for people.
- A formulaic approach to the design of buildings and spaces in vertical urbanism can lead to unpopular places.
- Extended virtual communities should be embraced – people living elsewhere who are connected to the city's events and activities via digital or social media, making it an aspirational place to live, work and visit.
- Cities are not static but are constantly evolving in response to the ebb and flow of their population, economies, new technologies and climate change. They are always "works" in process.

公共的花园空间以一定的间隔分布在整个大厦内，以确保任何住宅和开放空间的距离都不会超过四层，体现出马来西亚文化中非常重要的村庄传统 (见图12) 。

结论

根据Make工作过程的经验得出以下结论:

在垂直都市里，市民处于熟悉而没有疏离感的独特环境中，将会对其使用和发展反馈的即时性要求越来越高。要为人们创造一个真正的城市，关键始终在于参与日常活动和体验的能力。

考虑到适应性——通过更新建筑与空间的模式而非重建，可以有效地实现垂直都市，使之随着社会的发展逐渐变化。创造力和自我表达是人类自然的愿望，可以通过可再混合的建筑和公共空间设计得到鼓励，并由社区通过数字和社交媒体进行影响。

城市可以拥有延伸的虚拟社区——人们虽然不住在城市中，但都过着城市的生活，并通过数字和社交媒体参与各种事件与活动。平行虚拟社区的存在实际上有助于维持未来城市的生存，使其成为旅游和居住的梦想之地。

公共空间定义了城市体验，产生出对城市作为一个地方和一个社区的归属感。该原则应延伸至未来垂直都市的设计中; 在街道中产生社会凝聚力的那些部分，也吸纳到高层建筑中，使市民和城市联结起来。

最后，未来垂直都市的设计应体现城市既是一个过程也是一个产品的概念，这一概念随着人口和经济格局的不断变化。负责设计过程的人士必须采纳人类学方法，认识到从一开始便将更新变化纳入规划中，才能创造可持续的、适应性强的垂直都市，并使城市和市民共同发展。

根据Make工作过程的经验得出以下总结:

- 未来的垂直都市代表了在正常城市增长基础上高速发展的模式，因此，设计策略需要体现重新开始的概念。
- 在设计与规划过程中，日常活动和体验应作为优先考虑的因素，这样才会真正吸引人们。
- 将建筑与空间设计公式化，将导致其成为不受欢迎的地方
- 需要发展延伸的虚拟社区——住在其他地方的人们也可以通过数字与社交媒体参与城市的事件与活动，使城市成为生活、工作和旅游的梦想之地。
- 城市并不是静止的，而是根据其人口、经济、新技术和气候的改变做着潮汐般的变化。它们总是在"发展"过程中。