Title:	**Grounded Development an Essential Protocol for Tallness**
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Subjects:	Architectural/Design Building Case Study Urban Design
Keywords:	Landscape Mixed-Use Social Interaction Urban Design
Publication Date:	2016
Original Publication:	Cities to Megacities: Shaping Dense Vertical Urbanism
Paper Type:	1. Book chapter/Part chapter 2. Journal paper 3. **Conference proceeding** 4. Unpublished conference paper 5. Magazine article 6. Unpublished

Grounded Development an Essential Protocol for Tallness

"扎根式"开发模式， 建筑之高的基本原则

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Francisco Gonzalez-Pulido is a Mexican architect noted for his expressive design and progressive approach. Currently, Gonzalez-Pulido is Chief of Design and Co-Owner at JAHN, Chicago. He joined the firm in 1999 and over the next decade he became Design Partner to Helmut Jahn. In 2012 Gonzalez-Pulido renamed the company to JAHN, and founded RAAD focused on technology and design research. Francisco's work ranges in varied building typologies with a strong emphasis on the design of skyscrapers and airports worldwide. Among his signature projects are The Shanghai Financial international Center, Diablos Stadium , Veer Towers, Japan Post and Leatop Plaza.

弗朗西斯科·冈萨雷斯-普利多是墨西哥裔建筑师，并因其富有表现力的设计和先进的方式而著名。现任芝加哥JAHN建筑事务所首席设计师和联名业主。他于1999年加入德国建筑师赫尔穆特·扬创立的墨菲/杨（Murphy/ Jahn）建筑事务所，后任设计负责人并于2009年成为扬的首位合伙人，2012年将事务所更名为JAHN。弗朗西斯科的项目设计经验涵盖各类建筑，主要包括摩天大楼和全球机场。在他名下设计的项目有上海国际中心、Diablos体育场、威菲双子塔、日本邮政和利通广场。

Abstract | 摘要

Tallness is superficial, unless it is literally and physically rooted to the dynamics of context and culture. Tallness has become relevant as our instrument to track technological progress and innovation in many fields, but paradoxically also banal as a visual symbol of a "brand." This paper explores the idea of developing density by creating places first. Too often, skylines are responsible for branding a City but not necessarily for creating a place. In this sense the concept of "grounded development" can bring the energy to turn a place into an experience. Such urban interventions should be the horizontal protocols that precede the "Vertical." The current models of development are usually image and profit driven, heavily focused on objects. This archaic model does not provoke organic development but simply promotes vertical density, while artificially increasing land values. Density has become a synonym of inaccessibility; tallness should be uniting us, not segregating us.

Keywords: Façade, Sustainability, Tall, Technology, Urban Design, and Urban Habitat

"高"是浅薄的，除非它确实根植于丰富的环境和文化中。当在许多领域不断发生技术进展和创新时，"高"的使用越来越多。但矛盾的是同时它也成为了平庸"品牌"的一个视觉符号。 本文探索了通过创造场所来发展高密度的想法。天际线作为城市的品牌是常见的，但这并不能创造一个场所。在这个理解之下，"地面发展"的概念可以创造能量，同时将场所转变为体验。城市的应该水平发展在前，竖向发展在后。当前发展的模式是图象式和受利益驱动的，过分注重于形体。这种过时的模式并不能形成动态的发展，而只是简单的要求竖向的密度，人为的增大土地价值。高密度成为了不可接近的代名词。"高"应该带来的人与人间的融合，而非分隔。

关键词：幕墙，可持续性，高，技术，城市设计，城市人居

Introduction

Henri Matisse once wrote, "Beware of easiness" in reference to his efforts of not exposing the hard work behind his creations, hoping that his simplicity and apparent easiness will only carry a message of happiness and lightness.

In architecture, easiness is not the work of one, and simplicity is difficult; every step taken towards the realization of space to house the smallest of functions requires significant involvement and thought, and its impact is always bigger than can be foreseen.

In building the modern city, tallness has become the "easy" and ultimate choice in developing density. However, "easy" tallness has often turned into a superficial act when is not "grounded" to the dynamics of context and culture. On the other hand, tallness has been instrumental in developing building technology, innovation and displaying the state of the art of a nation.

Grounded Cities can be just like people, sensible and with a good understanding of what is important. The alignment of all

前言

亨利-马蒂斯曾表示自己会尽力不暴露艺术创作背后的种种艰辛、而更希望作品中的简练和表面的简单能给人带来愉快轻松之感的，他曾写道：艺术创作要做到简单！

在建筑设计中，简单并非一人可达之事，而要做到简练更加困难；为实现容纳即使是最小功能所需的空间而采取的每一步都需要深入的参与和思考，而其产生的影响往往也远大于最初的预计。

在现代城市的建设中，追求建筑之"高"已然成为高密度发展中"简单"而终极的选择。不过，未能"扎根"于周边环境和文化动态而一味追求高度的做法常常流于表面。另一方面，建筑高度指导建筑技术的发展和创新以及体现国家一流水准方面有具备一定的意义。

扎根式城市就像人一样，理智且能准确地把握重点。在设计临界城市体量时，对所有约束建筑设计的内力和外力进行统筹一致的安排尤为重要。在此背景下，许多城市管理者，尤其是在发展中经济体中，选择支持品牌建筑设计（不总是扎根式设计模式）作为吸引人气的商业模式。这种

the external and internal forces that govern architecture is particularly important when designing critical urban mass. In this context, many city leaders, especially in developing economies, have chosen to support branded architecture (which is not always grounded) as a business model to attract people. The formula is relatively simple, get a name, build a building and they will come.

They are not alone; the world's endless appetite for newness feeds the machine. In our hedonistic worlds it has become imperative to travel far to visit "some fashionable building" to fill out the personal checklist and to continue the collecting and sharing of instagrams and twitters on a subject that will vanish from our memories faster than we can remember, unless it is connected with an extraordinary encounter and followed by an emotional experience.

The Background Research

Emotional experiences, NYU researchers say, have the power to consolidate and strengthen our initially weak memories of inconsequential details. The same researchers tested the memory of a group who was asked to remember images through three different runs. For the first run, no instructions were given to the participants; on the second run, images were followed by a little electro-shock; and on the third run, participants were asked to remember the images they were viewing. After completing the experiment, the researchers tested participants' memories. As expected, the participants were better able to remember the images seen while receiving a shock than the images viewed without the pain.

What is surprising, though, is this: the participants also remembered the earliest images – those viewed just before they received a shock – better than the shock-free images they were told to remember during the third run. Importantly, this better memory was only seen after a delay. The participants were able to recall these ordinary, unemotional memories because subsequently they had become linked to emotional learning, the researchers say. And, the necessary delay suggests that our memories are able to retroactively process and resort storage to enhance memory.

In the fall of 1998, while I was a Graduate Student at GSD, someone came to give a lecture based on the findings of his research in the field of urban design. He and his team had travelled around the world and photographed (with a really wide angle lens) a broad sample

of urban experiences: plazas, gardens, yards, monuments, world famous places and buildings, a beach, a mountain top, a sidewalk with lush trees, a couple fishing on a lake, a flock of seagulls, and, of course, contemporary architecture (whatever that was or meant back in 1998). The collection of images was presented to focus groups throughout the United States, which represented an ample social, educational and economic cross-section. The groups would stare at the images for a very short period of time and almost simultaneously rate each one individually on the scale of 1 to 10 based on one parameter: likeability. The criterion was not to let them stare for long, but enough to grab an emotion. No rationalization, just pure instinct.

The result was appalling: contemporary architecture did not make the cut. The choices were: red picket fence, white chair facing the garden, blue ocean, trees, sand and sun, and yes in some cases some grand historic plaza or building that is stored in the hard drive of the collective memory and has been certified unanimously as being a wonder, such as the Eiffel Tower, The Colosseum or Venice as a whole. Regardless of the group's mix and background, the study was remarkably consistent in the results.

In this context, Matisse was right: easiness is not conducive in creating a place, unless is only apparent; in contrast, the magnetism of simplicity comes from its authenticity. And of course the power of authentic experiences produces long-lasting emotional relationships that we carry in the subconscious.

Architecture has to be "grounded" in order to be impactful. In this sense, tallness, if needed, must emerge from the "ground." Among Architects, we often hear about the importance of the design of towers as they hit the ground. But in actuality, that, in fact, is the most important thing. Our fascination with "show" and celebrity has brought cities into a critical state in which newness is not so new, and what we desire as we know, is not what we need. And to make things worse things keep just hitting the ground instead of emerging from it.

To elaborate on the argument of "grounded development," three recent projects have been chosen, all of them under construction. What these projects try to demonstrate is the fact that linkage to context, culture, function and locality is not only influential but also by far more important than the buildings themselves, and how the idea of "grounded development" is an essential protocol for tallness.

做法相对简单：插上品牌的标签，起一栋楼，人气爆棚。

有这种想法的不单是他们；人们无止境的喜新厌旧心理推动这架机器不停转动。在这个享乐至上的世界里，长途跋涉去参观"某个时尚建筑"以完成个人愿望、然后继续在instagram和推特上收集和分享那些从我们的记忆中转瞬即逝的事物，似乎是不能免俗的一件事；除非这种做法真的能使人们见识非同寻常的事物，并在随后能得到相应的情感体验。

背景研究

纽约大学的研究人员表示：情感体验能巩固并增强人们对最初无关紧要的细节的模糊记忆。这些研究人员对一个小组进行了记忆测试，要求他们分别记住三轮测试中的图片。第一轮测试未给予参与者任何提示，第二轮展示完每张图片后，对参与者进行轻微的电击，第三轮展示完每张图片后，仅要求他们记住看过的图片。研究人员随后测试了参与者的记忆。不出所料，参与者更能记住那些带来疼痛感的图片。

尽管如此，令人吃惊的是：参与者对最初一轮图片（遭遇电击之前看过的一轮图片）的记忆优于最后一轮图片。重要的是，这一更好的记忆要经过一段延迟才能显现出来。研究人员表示：参与者之所以能回忆出这些普通的、无情感色彩的记忆，是因为他们随后与情感学习产生关联；而必要的延迟说明，我们的记忆可以追溯式地处理和修复存储以加强记忆。

1998年秋，当我在哈佛大学设计研究生院攻读研究生课程时，有人来做了一次讲座，介绍他在城市设计领域的研究成果。演讲者和他的团队走遍世界各地，拍摄了各种各样的城市体验样本（用真正的广角镜头），包括广场、园林、庭院、纪念碑、世界著名场所和建筑、长凳、山峰、绿树成荫的人行道、湖畔垂钓的夫妇、一群海鸥以及现代建筑（所有这些都指的是1998年），在美国各地向不同社会、教育和经济层次的重点人群展示这些图片。每组人员短时间凝视图片，根据喜欢程度，按1–10分，同时对每张图片逐一打分；评分准则是看图时间不能过长，能抓住情感即可；抛弃理性，只凭直觉。

结果令人震惊：现代建筑未能入选。人们选择的是：红色尖桩篱栅、面朝花园的白色椅子、蓝色大海、树木、沙地、太阳，以及那些存储在集体记忆硬盘中的伟大的历史性广场或建筑、以及公认的世界奇迹，如埃菲尔铁塔、罗马斗兽场或威尼斯。尽管每个群体的组合和背景大相径庭，但研究的结果却惊人的一致。

Figure 1. Main View (Source: JAHN)
图1. 主视图（来源：JAHN）

Shenzhen North Plaza

The project originated as the key urban development around Shenzhen North Railway Station in the district of Longhua just about 9.3 km from the downtown area of Shenzhen. The whole site is divided into three parts: the high-speed rail station house, East Plaza, and West Plaza. The total land area extends about 650,000 square meters, with a construction area of about 400,000 m2 (Figure 1).

Key aspects:

1. Layering of urban linkages and a multilevel Forum open 24/7 (Figure 2).

The podium building was developed as a series of interdependent layers around a central space. The strategy was to connect first to the existing/external urban flows and to develop an internal network that would seamlessly blur the boundaries of public and private space. Maintaining a low building profile was important to reinforce the idea of community and develop a sense of place. At the ground, the porous plan opens in the east–west direction. At the second level the flows are re-directed north–south connecting the towers, the station, the plaza and the north lot, while at the top level the sense of direction was purposefully diluted. The idea was to create an upper ground-floor through and open terrace with few pavilions. The concept was not to force the flows up from the ground, but up and down from the middle. In that sense each level of the podium became the "ground floor" of its own context: The first level for the pedestrian flows along Mintang Road; the second level for the train station's in- and out-flows; and the third floor for residents and office users. The most important aspect of this idea was to create value everywhere and challenge the notion of the hierarchical value of retail based

在这种情形下，马蒂斯是对的，简单并不利于场所的创造，除非只是要创造一种场所的表象；相反，简约的魅力源自真实。当然，真实体验的力量能形成隐藏在人们的潜意识中的、持久的情感联系。

建筑需要"扎根"，才能具备影响力。因此，即使是我们不得不追求建筑之"高"，这一追求也必须从"地面"开始。我们常听到建筑师谈论塔楼落地设计的重要性。但实际上，这才是最重要的事情。我们对"炫耀"和"名气"的迷恋，已经把城市带入了一个危险境地，新鲜感转瞬即逝，我们知道我们所渴望的并非我们的实际需求，更糟的是：我们只是让建筑落地而不是让建筑从地面生长起来。

为了论证"扎根式开发"的观点，我选取了三个近期在建的项目。这些项目旨在说明：项目与周边环境、文化、功能和项目所在地的联系不仅可以体现建筑的影响力，同时比建筑本身更为重要；且"扎根式开发模式"如何成为建筑高度的基本原则。

深圳北站广场

本项目位于龙华区，距深圳市区仅9.3公里，定位为深圳火车北站周边的重点城市开发项目。整个用地分为三个部分：高铁站、东广场和西广场。总用地面积约为65万平米，建筑面积约为40万平米（图1）。

要点：

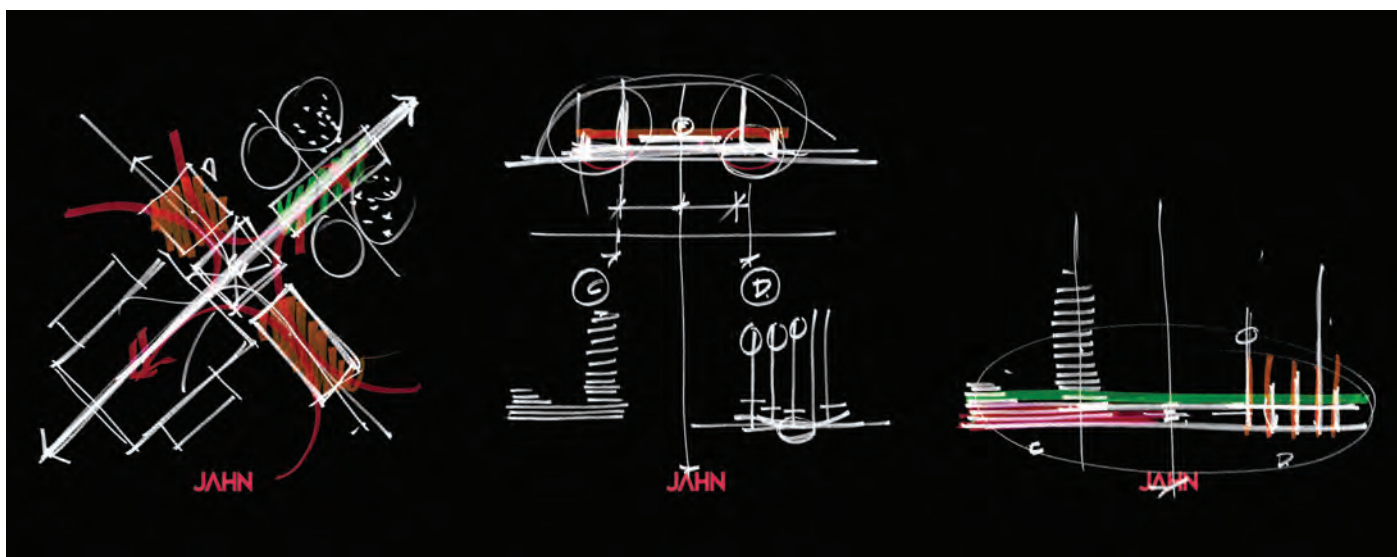1. 层次化的城市联系以及全天候开放的立体广场（图2）

裙楼设计为围绕中央空间的一系列共生层次。设计策略首先是联系现有/外部城市流

Figure 2. Francisco Gonzalez-Pulido, sketches (Source: JAHN)
图2. Francisco Gonzalez–Pulido草图（来源：JAHN）

Figure 3. Southeast aerial view (Source: JAHN)
图3. 东北鸟瞰图（来源：JAHN）

on location.

2. The breakdown of the building mass into vertical neighborhoods with a public space component (Figure 3).

The towers' massing was broken into four 50-meter segments with the idea of reinforcing the concept of layering and stacking while creating vertical neighborhoods. The atria of each segment shift 90 degrees every 50 meters while providing a public amenity in which knowledge exchange is the main function. The ground level of each atrium is equipped with a small amphitheater to host cultural and social events within the different office communities. The façades of each building segment are based on different grid patterns to reinforce the stacking of the volumes and the shift of the atria. At the ground is a grid pattern, and as the building gains height the presence of glass is incremental. The specification office approach as opposed to headquarters opened opportunities to plan unique layout configurations, enriching the diversity within each building segment.

3. The creation of a cohesive image that reinforces the idea of the whole over the single parts (Figure 4).

The vertical presence in this project has one primary goal: providing a vertical sign to the

线，同时形成一个内部网络，自然地模糊公共空间和私人空间的界限。保持较低的建筑高度，对于提升社区感、营造场地感极为重要。首层采用通透的平面，朝东西方向打开。二层则对人流进行重新引导为南北向，联系了塔楼、车站、广场和北地块。顶层的方向感被有意弱化。设计旨在通过开放的露台和极少量的亭台营造出一个抬高的首层。设计构思并非强迫人流自下而上的流动，而是从中层进行或上或下的流动。从这一意义而言，裙楼的每层都

成为自身环境中的"首层"。首层吸引沿民塘路的人流，二层供进出高铁站的人流使用，三层针对居民和办公用户。这一设计理念的重点在于随处创造价值，挑战了以位置作为标准的商业层次价值观。

2. 将建筑体量分解为带有公共空间的竖向小区（图3）。

塔楼体量被分为四段，每段50米，旨在强化层次和堆叠的设计理念，同时营造竖向小区。每段的中庭每50米旋转90度，同时提供了一个公共社交空间，主要用于知识交流。每个中庭的首层设置了一个小型的阶梯礼堂用于在不同的办公小区中举办文化和社交活动。每一建筑分段的立面基于不同的网格模式，强化体量的堆叠和中庭的旋转。底层采用一种网格模式，玻璃面积随着建筑的升高而增加。办公区类似总部办公，采用独特的平面布局，丰富每一建筑分段中的功能空间。

3. 打造一个有凝聚力的形象，强化项目的整体性（图4）。

打造本项目竖向形象的首要目的是为地面体验提供一个竖向标识。规划分区导则中包括一座200米高的塔楼，对干预措施形成了不恰当的限制；业主的项目构想是形成一个建筑群：北侧设置具有鲜明竖向意象的标志性塔楼、4层的大型购物中心和南端100米高的住宅塔楼。

挑战这些基本设定难度极大；层次和堆叠的概念颠覆了业主的设想，突破了城市肌理的规划。本项目作为商业开发项目的组成部分，预计于2018年竣工。令人欣慰的是大部分设计理念得以实施。不过，项目的最初设计理念最近遭到了不可逆转的修改，尤其是南塔，这些决定无疑都是基于对利润、市场研究和文化感知而非城市设计原则的考虑而做出的。

Figure 4. Northeast street view (Source: JAHN)
图4. 东北街景效果图（来源：JAHN）

ground experience. The zoning guidelines framed the intervention incorrectly, and with the inclusion of a 200-meter tower within the guidelines, the client conceived the projects as a complex conformed by a signature tower on the north side with a strong vertical aim, a large four-story retail mall and a 100-meter residential tower on the south end.

It was difficult to challenge those fundamentals; the concept of layering and stacking was counterintuitive to the clients' vision and contrary to the proposed urban grain. Completion is expected in 2018 and considering that this project was part of a commercial development, it is remarkable to see most of the ideas come to fruition. However, the project has recently suffered irreparable alteration to its original concept, especially the south tower, and as expected, all those decisions were driven by profit, market studies and cultural perceptions not sensible urban protocols.

Q-14

This project is located in Shanghai south of the EXPO campus; the area has been developed rapidly in the course of 10 years as a new business district, with a very strong focus on mixed-use development. The client was the mastermind behind Pudong's master plan. This brought significant advantages to the project, especially in the context of creating a large network of urban spaces linked through simple yet effective landscape strategies to promote vast pedestrian connectivity (Figure 5).

Key Aspects:

1. Two or three tower approach (Figure 6).

The proposed massing concept challenged the urban guidelines, through arduous negotiations with the city and in strong partnership with the client, a two-tower configuration was proposed. The footprint of a potential third tower was substituted by a series of pavilions with smaller footprints that promoted natural flows, increased the green ratios and created a unified experience along its central axis. The plan configuration is essentially a reversed mirror along the north–south axis. The towers anchor the development in opposite corners and the pavilions thread the street wall through a series of gates, screens and bridges, creating a strong sense of identity and seclusion once inside.

2. The central axis is replaced by a backyard (Figure 7).

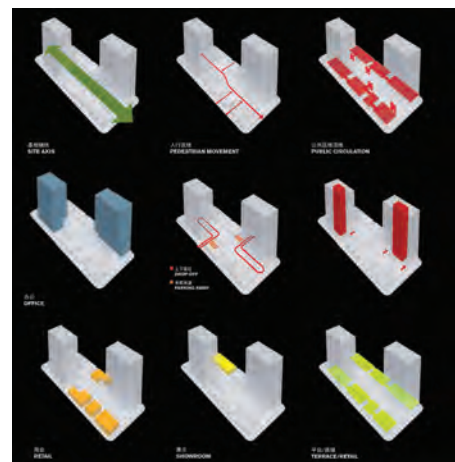Figure 5. Southeast view (Source: JAHN)
图5. 东南方向效果图（来源：JAHN）

Figure 6. Traffic and use diagrams (Source: JAHN)
图6. 交通与使用分析图（来源：JAHN）

Figure 7. Site Plan (Source: JAHN)
图7. 场地规划图（来源：JAHN）

Q–14

本项目位于上海世博园以南；该地区经过10年的快速发展后，已然成为一处新的商务区，尤其注重综合开发。业主曾主持浦东的整体规划。这是项目的一个重大优势，尤其是通过简单有效的景观策略打造城市空间网络、促进大范围步道联通方面（图5）。

要点

1. 双塔楼方案或三塔楼方案（图6）。

设计方案中的建筑体量概念突破了城市设计导则。经与有关部门的艰苦协商、以及与业主的紧密合作，最终提出了双塔楼的布局方案。在该方案中，原来第三栋塔楼的基底上后来修改为设置了一系列基底面积较小的亭馆建筑，强化自然流线，提高绿地率，打造沿中轴线的统一体验。平面布局实质上是沿南北轴线形成翻转镜像。两栋塔楼呈对角设置，亭馆建筑通过一系列的大门、幕墙和连廊串联成街墙，打造出强烈的认同感和自成一体的氛围。

2. 以后院代替中轴线（图7）。

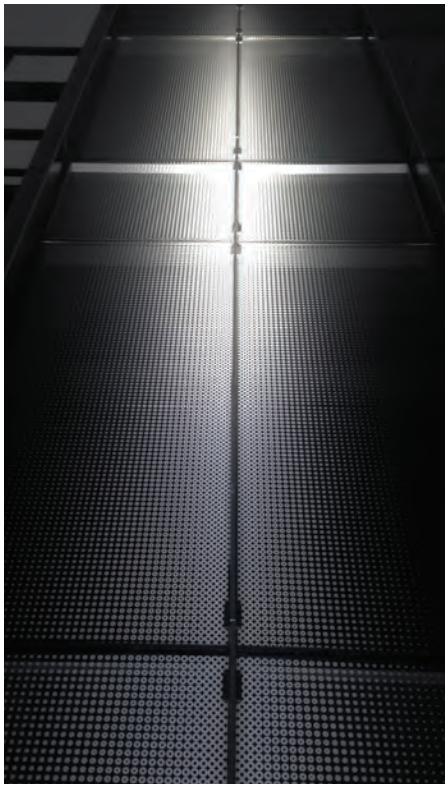中轴线无疑是协商给城市设计带来的意外收获。不过，设计难点在于脱离于零售建筑的商业功能之外的低调内敛的体验。为实现这一目的，采取了以下颠覆性的

Figure 8. Visual façade mock-up (Source: JAHN/FGP)
图8. 视觉外立面实物模型（来源：JAHN/FGP）

The central axis was certainly an urban bonus of the negotiations. However, the challenge was to design a humble experience removed from the commercial functions of the pavilions. To achieve that, something radical had to be done:

- First of all, no shop would have its main entrance from the central axis. The idea was to keep the street busy and the center quiet.

- Retail flows would be maintained in the outer ring of the development, not only on the ground floor but also on the upper level, promoting connectivity among the pavilions and through the towers.

- The landscape design would be more informal, with grasses, ivy, little flowers and even horticulture. In other words, it should negate the prominence of the central axis and turn it into a backyard while promoting the essence of urban life among users and neighbors. The white chair facing the garden, remember?

3. The Bamboo Garden as the unified message of a new urban setting (Figure 8).

Façades carry a big responsibility in telling the story of a building. They are not only a skin, but an expression of a building's function,

its orientation, and its response to energy considerations. They should also show an attitude to the sensible use of materials and technology. In this case the façade had a tight budget and an ambitious agenda. A complex of articulated massing and great consistency necessitated a façade that would strengthen the whole and tell a unified story of its reason for being. The idea was to photograph bamboo gardens, digitize those images and wrap the buildings with that imagery in the form of pixels. From a technical perspective the concept was to use a ceramic frit on the façade panels to represent the branches of the bamboos in pixel form and use the graphic as an opportunity to reduce direct solar heat gain through the glass while providing passive shading to the inside spaces.

Through the use of digital tools such as grasshopper, multiple iterations were developed until a rational and cost effective approach emerged in which the façade would have an apparent randomness yet get built with only 28 different panels. Multiple visual mock-ups were built to test the effect of the frit both from the inside and outside conditions and under different day lighting and artificial lighting scenarios. Controlling reflectivity was an important aspect of the design, since we had to be sensible to the residential communities within a radius of 500 meters.

To respond to that requirement it was critical to find the right balance between clear glass and frit density, especially when the use of glass in the spandrels was important in order to achieve the overall image of the complex. In addition to that, the inclusion of stainless steel vertical fins on the south and western façades of the towers had to be part of the response. The exterior aluminum vertical mullions on the eastern façades are designed as plates, while the southern façades are designed as T shapes; the fins are coated in black to reflect the frit of the façade on the surface and resolve the disruption in the perceptual continuity of the pattern.

Diablos Stadium

This is the only project in which tallness is not part of the program, yet its success could create a precedent to the development of significant future density in the area.

The project called for a 13,000-covered-seat stadium with 3,000 additional seats along a berm. The location offered interesting opportunities to develop a significant piece of urban infrastructure, much more than a stadium, a baseball park. The site is located in

做法：

- 首先，不在中轴线上设置商铺的主入口。这一做法旨在保持街面繁华而中心宁静。

- 将商业人流控制在项目的外圈，不仅是首层，也包括上部楼层，加强亭馆之间和亭馆与塔楼间的连通性。

- 景观设计更为随性，采用草地、藤蔓、小花甚至引入园艺；换而言之就是弱化中轴线的特点，将其改造为一种后院的感觉，在项目用户和邻里之间强调都市生活的本质。还记得那把朝向花园的白色椅子吗？

3. 以竹园作为新城市环境的统一语汇（图8）。

外立面承担着讲述建筑故事的重任，它不仅仅是建筑的表皮，更是对功能、朝向的表达以及对节能的响应，同时还体现出对材料和技术的合理使用。本项目的外立面预算吃紧，但目标远大。精心组织的建筑体量和高度的一致性需要一个能强化整体感、讲述同一个故事的外立面。设计构思是将拍摄的竹园图片数字化，通过像素点用影像覆盖建筑。从技术的角度来看，这一做法是在幕墙面板上实施彩釉，以像素的形式体现竹枝，并利用图像减少玻璃的直接日照得热，同时为室内空间提供被动遮阳。

借助数字工具，如grasshopper，进行多种尝试，直到产生一个合理而经济的方案：外立面看似随意，但只用了28块面板就搭建完成。设计过程中进行了多次视觉建模以测试室内、室外，以及自然光和人工照明场景中的呈现出的彩釉效果。设计重点之一在于控制反射率，因为我们要考虑到项目对半径500米范围内住宅小区所产生的影响。

满足这一要求的关键在于平衡透明玻璃和彩釉密度，尤其是窗间墙的玻璃使用对于实现建筑群整体形象而言至关重要。此外，塔楼西、南立面上的不锈钢竖板也作为响应要求的一部分予以考虑。东立面上的室外竖向铝竖框设计成板状，而在南立面上却被设计为T型，竖板被喷涂成黑色，表面反射外立面的彩釉部分，同时确保了图案的知觉连续性。

Diabolis体育场

这是唯一一个没有考虑建筑高度的参考项目，但是该项目的成功会为这一区域未来的高密度开发开创一个先例。

项目拟沿着河道建设一座设有13000个室内座位的体育场。这一地理位置有利于这

Figure 9. Overall site plan (Source: JAHN)
图9. 场地总体规划图（来源：JAHN）

the eastern part of Mexico City, very close to the actual Mexico City Airport and contained in the historic complex of Magdalena Mixhuca, which was the stage of the 1968 Olympic Games.

In 2015 Formula One returned to Mexico and our project site ended up contained within the racetrack on the Southwest boundary. The neighboring community is known among locals as one of the most segregated, and hence dangerous, areas in Mexico City. The state of the Olympic infrastructure is dilapidated, a master plan has been proposed to re-generate the area, and Diablos Stadium constitutes the first step into the realization of that vision (Figure 9).

Key Aspects

1. Deconstructing the bowl (Figure10).

The most important design concept was to abolish the traditional American Model and to re-invent the baseball stadium as a building that can be porous and democratic – a building that could simultaneously be focused on the field and on the community, with one eye on the game and another eye on the city. The strategy was to deconstruct the mass into eight pyramids that will establish the organization of the plan while housing all the support functions. In this project the built space and the un-built space are equally important in achieving a highly interconnected

一大型城市基础设施的开发；与其说这是一座体育场，不如说是一个棒球公园。项目用地位于墨西哥城东部，确切地说紧靠墨西哥城机场，涵盖Magdalena Mixhuca这一历史建筑群，这是1968年举办奥运会的场所。

2015年一级方程赛车重回墨西哥，我们的项目场地最终涵盖了西南侧边界的车道。相邻的社区在当地人眼中是墨西哥城贫富差距最大因而也是最危险的区域。昔日的奥运场馆设施破败不堪，为此特针对这一区域的复兴提出了一个总体规划，而Diabolis体育场是实现这一宏伟蓝图的第一步（图9）。

要点

1. 解构巨碗（图10）。

最重要的设计概念是摒弃传统的美洲模式，重新打造一座通透和民主的棒球体育场建筑，一座可以同时照顾到体育场地和当地社区的建筑，同时兼顾体育和城市两个方面。所采用的策略是对建筑体量进行解构，分解成8个金字塔结构，形成总平面的组织结构；金字塔结构内部则设置所有的配套功能。在这一项目中，建筑空间和非建筑空间在实现高度互联互通的物理和视觉体验方面具有同样重要的意义。屋顶沿着体育赛事的方向展开，强化进出这一建筑群的自然行人流线。金字塔群支撑着10个屋顶遮阳蓬其中的8个。在大型屋顶下方的空间上是露台，强化建筑的城市体验，与体育场周围的活动在视觉层面实现了联系。在一级方程赛事期间，这些露台是最佳的观赏座位区域，而在棒球赛季可以容纳非常规的摊贩零售点，甚至可以在没有比赛的时候出租供私人活动使用。

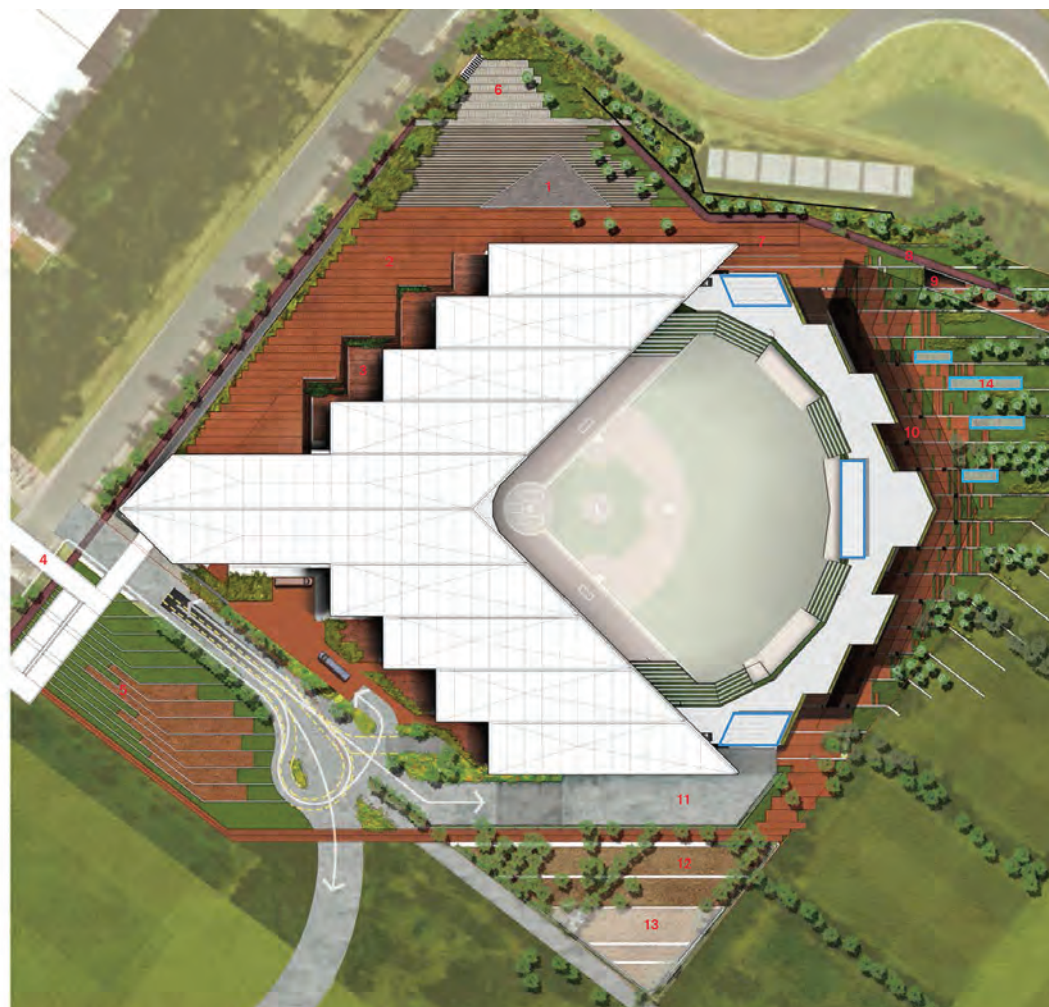Figure 10. Aerial view (Source: JAHN)
图10. 鸟瞰图（来源：JAHN）

Figure 11. Landscape / roof plan   (Source: JAHN)
图11. 景观 / 屋顶规划（来源：JAHN）

experience both physically and visually. The roof follows the direction of the game and strengthens the natural pedestrian flows in and out of the complex. The pyramids support eight of the 10 roof canopies. Terraces crown those spaces right under the grand roof, enhancing the urban experience and connecting them visually with everything else that happens around the Stadium. During Formula One events, they will become prime seating areas, while during baseball season they could host informal vending carts or even can be rented for private events during the off-season.

The main concourse is a ring that continuously links the procession through the park while offering very different experiences along its path. Family terraces, opportunities for dinning, retail, and kids playgrounds would all be included, but most importantly, without being contained or segregated from their surroundings.

1. Grand spaces and the community (Figure 11).

A critical aspect for the success of this project was the integration of the community in the

design process and ultimately the operation. Mexico is a place of grand scale, home to the world's second largest soccer stadium (Azteca), the world's largest public plaza (Zócalo), one of the first candela macro-structures (Palacio de los Deportes), and of course the largest University campus in Latin America (UNAM). All these are places of great urban significance and historic weight. Estadio Diablos had to be part of that legacy, which is not simply a question of scale. In reality these are places where the people come together to celebrate and to mourn; these places provide the stage for the great collective. In that sense, open space is essential in Mexican culture and often takes a lead role over the building.

The open spaces in Diablos are grand in scale and program; they are inclusive, open to everyone, and accessible to all. The idea was to design a series of grand spaces around the perimeter of the building that could promote memorable urban experiences:

• From the north: the grand entrances

• From the east: the mega-plaza, the Mexican steps, and the Hall of fame

主广场是一个环形，将公园内的一系列设施联系起来，同时在其沿途提供不同寻常的体验。家庭聚会露台、聚餐场所、零售场所、儿童游乐区域，更重要的是，所有这些设施都无需封闭或与其周边环境隔离开来。

2. 大型空间与社区（图11）

本项目成功的关键在于将在项目设计过程以及其后的项目运营中与社区的结合。墨西哥拥有众多大型建筑，如世界第二大足球场（阿兹特克）、世界最大公共广场（宪法广场）、最早的烛光巨型建筑之一（马德里体育宫），当然还有拉美地区最大的大学校园（UNAM）。所有这些场所都有着重要的城市影响和历史分量。Diabolis体育场必须成为这一传统的一部分，不仅仅是在建筑尺度方面。在实际生活中，人们在这些地方集合举行庆祝和哀悼仪式，这些场所为大型集体活动提供舞台。在这层意义上，开放空间是墨西哥文化中的必要元素，通常占有比建筑更重要的位置。

Diabolis体育场的开放空间在尺度和功能上都是宏大的：包容各种功能、向所有人开放、所有人可达。项目的初衷是围绕这一建筑设计一系列大型的空间，催生人们难忘的城市体验。

Figure 12. Night view (Source: JAHN)
图12. 夜景（来源：JAHN）

- From the south: the berm gardens with public batting cages and the market.

- From the west: the urban farm and a bio-digester.

The open space had to be programmed to integrate the community and promote social, cultural and economic exchange.

3. Triple-zero, the first in Latin America (Figure 12).

In a project of this scale and inherent to its function, water, waste and energy are critical concerns. The project has been designed to accomplish a triple-zero by:

- Installing a bio-digester on site to process all the organic waste and produce electricity

- Installing PV Panels as the roof covering of batting cages and retail pavilions on the berm

- Storing storm water through the canopies, which is considered potable, and using it for all domestic uses.

But most important is the aspect of social sustainability. Diablos Stadium would be a melting pot for the rich culture of the city – a place for sports, but most importantly, a place for education on cultural, social and environmental issues. It would be an open place for economic opportunities and entrepreneurship in the most basic services; a new house for Diablos (the Hell, as the press calls it); and hopefully a home for the Mexicans who have lived there and have been neglected.

In the context of tallness in the urban environment I can not think of a rower that will have such a profound impact on a urban setting as Diablos Stadium will have on its community. With an investment of only USD$60 million, this might as well represent the intersection of social enterprise and architecture. No single structure in this project will have a skyline presence, but from above it will be the largest PTFE roof in Latin America, "covering" much more than just a game.

Conclusion

More and more often, skylines are responsible for branding a city but not necessarily for creating a place. Our urban and architectural interventions on the ground-plane and lower floors carry the greatest of responsibilities in energizing a place and turning it into an experience. The Place Vendome without its obelisk would lack a center, but the obelisk alone would be a just a trophy. The horizontal protocols that precede the "vertical" are critical to developing long-lasting urban experiences. In that sense Diablos Stadium could be the metaphor of the lobby for tallness.

The current models of development are usually image and profit driven, heavily focused on objects not on experiences. This archaic model does not provoke organic development but simply promotes vertical density while artificially increasing land values. Density has become a synonym of inaccessibility; density has made living in cities like London, New York, Singapore and Hong Kong unaffordable. City interventions in relationship to zoning are critical to supporting the creation of sensible urban program. Tallness should be uniting us and not segregating us.

- 从北侧：大型入口

- 从东侧：大型广场、墨西哥台阶和名人堂

- 从南侧：有向公众开放的练球区和市集的河滨花园，

- 从西侧：城市农场和生物消化器

开放空间的设计应整合整个社区，并提升社交、文化和经济交流。

3. 拉美地区首个三零项目（图12）。

如此尺度的一个项目，其本身的功能用水、产生的垃圾和需要的能源也是重要的考虑事项。本项目设计的目标是现实"三零"：

- 安装一个生物消化器，处理所有的有机垃圾并发电

- 安装PV面板屋顶，覆盖河滨的练球区和零售摊点

- 通过遮阳蓬收集暴雨雨水，使之用于饮用和所有家庭用途。

但最重要的一点是社会可持续性层面。Diabolis体育场将会成为城市中多彩文化的一个大熔炉。这是一个体育运动场所，但最重要的是，这同时也是一个教育场所：文化、社会和环境问题的教育场所；一个促进最基本服务和相关创业的开放式场所。这是Diabolis（媒体所称的 "地狱"）的新家，希望也是居住在那里但长期以来一直被忽视的墨西哥人的家园。

在城市环境不断竞高的背景下，我想象不出哪一座高楼大厦对城市环境的影响，有Diabolis体育场对所在社区的影响更深远。

这个总投资只有区区6000万美元的项目也将成为代表社会企业和建筑行业结合的典范。这一项目中没有任何建筑会形成天际线，但是从空中俯瞰，项目上方覆盖的是拉美地区最大的PTFE屋顶，而屋顶下方的内容则远非是一场体育赛事。

结论

虽然天际线对打造城市形象具有日益重要的意义，但却未必有利于场所的创造。我们对于地面和较低楼层的城市和建筑

干预的最大意义在于：为一个场所注入活力，将其变成一种体验。缺少方尖碑的旺多姆广场将失去核心，而独自存在的方尖碑就只是一座胜利纪念碑。水平开发的原则先于竖向开发的原则，这对于打造长久城市体验至关重要。从这种意义上来说，Diabolis体育场可隐喻为高层建筑的大堂。

现有的开发模式通常服从于对项目形象和项目利益的考量，主要侧重物体而非体验。这种陈旧的模式无法实现有机发展，只能单纯地增加竖向密度，人为提高土地价值。密度成为了障碍的代名词；密度使

生活在伦敦、纽约、新加坡和香港这些城市中的人们不堪重负。与分区规划相关的城市介入措施对于支持城市功能的合理开发至关重要。建筑高度的作用应该是团结而非分离。

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