

# Ground Folds 大地的皱折

中文版

韩国C3出版公社 | 编  
大连理工大学出版社



C3: Ground Folds

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于风军 王洪亮 郑海荣 于慧 李越峰 徐雨晨 辛敏裕 | 译

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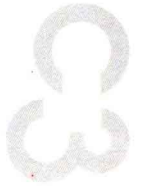
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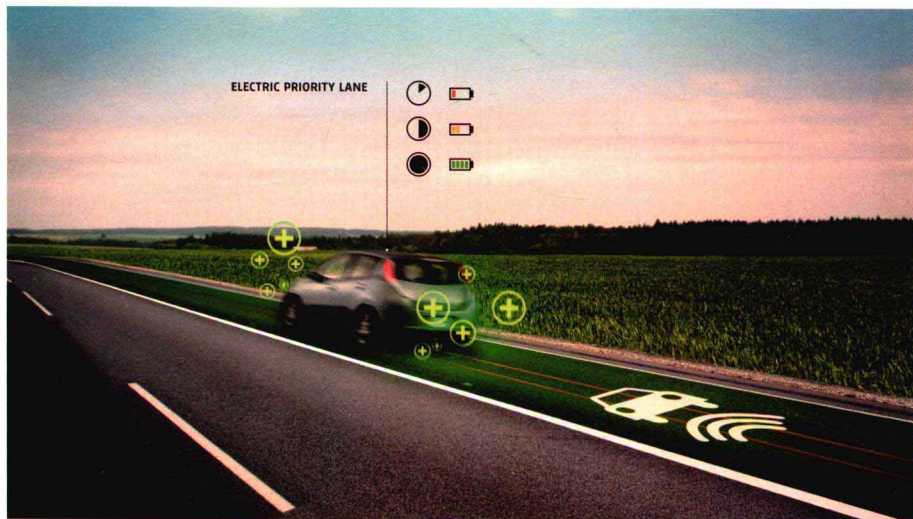
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## 智能高速公路 \_ Studio Roosegaarde



设计师Daan Roosegaarde喜欢创新,他和Heijmans Infrastructure公司在“荷兰设计周”上展示了首批“智能高速公路”原型,并且获得了“荷兰设计大奖最佳未来概念奖”。这些智能高速公路将于2013年年中在荷兰全部建成。现在,他们正使用最新技术在欧洲修建第一条“智能高速公路”,这条公路更具有可持续性,也更为安全,更加直观化。

在未来的5年中,一些创新设计,如“黑暗中发光的公路”“动态涂料”“交互灯”“感应优先车道”和“风力灯”等等,都将成为现实。这些创新设计目的在于通过使用符合具体交通情况的交互灯、智能能源和道路标志,使道路拥有更好的可持续性和互动性。

“黑暗中发光的公路”装置的路径经过一种特殊的张紧振子强制振动发光源粉末处理,无需额外照明就能在黑暗中发光。发光粉在白天接受阳光的照射后,在夜间发光可长

达10小时,使夜间道路的轮廓清晰可见。“动态涂料”所使用的涂料会随着温度的变化在路面呈现不同的提示图案,直接向驾驶员提供相关而又充分的交通信息。例如,如果天气寒冷,道路湿滑,路面就会出现冰晶图案。

虽然“动态涂料”和“黑暗中发光的公路”将在明年实现,但是在荷兰南部城市埃因霍温举行的“荷兰设计周”上,“智能高速公路”的雏形已经面向公众开放。

Roosegaarde工作室和Heijmans Infrastructure公司的合作为创新产业和那些渴望创新的跨国公司树立了真正的典范。Roosegaarde工作室的设计和互动以及Heijmans Infrastructure公司的专业知识和技术可谓珠联璧合。尽管两者有天壤之别,但是他们所关注的是过程,而不是产品,而这个过程就是革新荷兰的景观。

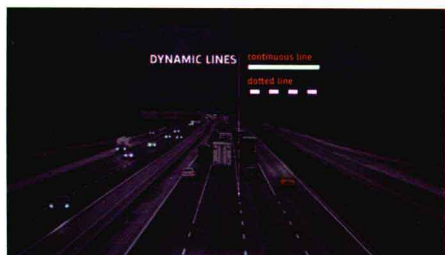
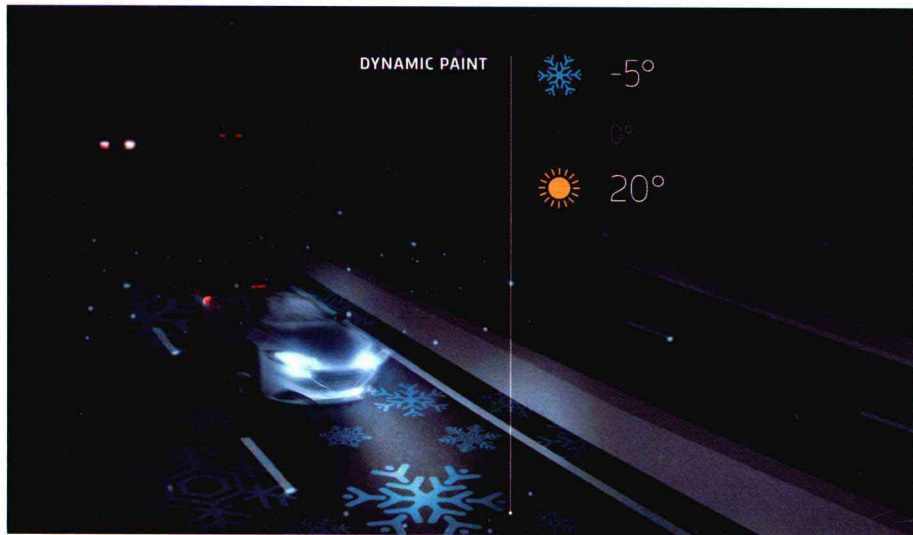
## Smart Highway

Designer and innovator Daan Roosegaarde and Heijmans Infrastructure presented the first prototypes of the “Smart Highway” during the Dutch Design Week. Using the latest techniques, they are building the first “Smart Highway” in Europe, roads that are more sustainable, safe and intuitive. Selected “Best Future Concept” by the Dutch Design Awards, these highways will be realized mid 2013 in the Netherlands.

Innovative designs such as the Glow-in-the-Dark Road, Dynamic Paint, Interactive Light, Induction Priority Lane and the Wind Light will be realized within the following five years. The goal is to make roads more sustainable and interactive by using interactive lights, smart energy and road signs that adapt to specific traffic situations.

The pathways of the Glow-in-the-Dark Roads are treated with a special photoluminescent powder making extra lighting unnecessary. Charged in the day light, the Glow-in-the-Dark Road illuminates the contours of the road at night up to 10 hours. Dynamic Paint, paint that becomes visible in response to temperature fluctuations, enables the surface of the roads to communicate relevant and adequate traffic information directly to the drivers. For example, ice-crystals become visible on the surface of the road when it is cold and slippery.

Although Dynamic Paint and Glow-in-the-Dark Road will be realized next year, the first pieces of the “Smart Highway” are open for the public during the Dutch Design Week in Eindhoven, the Netherlands. The unique collaboration between Roosegaarde and Heijmans is a true example for the creative industry and those multinationals with a desire for innovation. The design and interactivity from Studio Roosegaarde and the specific knowledge and craftsmanship of Heijmans combine the best of the worlds. Despite their big differences, they focus on the process instead of the product and that is innovating the Dutch landscape.





## 场景感应器 \_James Murray+Shota Vashakmadze

在纽约Freshkills公园的水面上下,人与生态能源的关键性互动催生了复杂的“环境流”,使我们不得不提出如下问题,即怎样感应、引导和驾驭生态能源,揭示生态能源相互之间有益的波动。

场景感应器位于两股环境流的交叉点,既连接了两处完全不一样的地貌,同时又将其隔离开来:作为通道屏风,场景感应器驾驭风流穿过潮汐动脉;作为一个优势位置,场景感应器呈现了穿梭往返于公园的行人流。这两个作用合二为一,如同镜子与窗的组合,向Freshkills公园自身反射并展示了其起伏的风光景色。

南北土堤之间形成的生态流通道,是最佳的风流走廊。建筑师设计了一个风映射屏幕来检测和控制利用这一自然通道的能源。两块平板分别与两个土堤喇叭形的基座对齐排列,横跨这个垃圾填埋场的山帽之间,与塔的高度一样,耸立于吃水线之上,从而不会破坏当地生态系统。

通道屏幕组成了嵌板的框架,嵌板可以随风自由弯曲,独立做出反应,同时,作为一处场地,可以展示出更大规模的风流。屏幕像素成为揭示风的变幻莫测和反映能量收集波动的指数。每面反光金属网嵌板都与压电线相互交织,能把动能转换成电流。游客垂直于通道屏幕来进行移动,穿过公园唯一一座桥时所做的机械力通过压电换能器来捕捉,并把行人流嵌入在生态场景中。

在一个春日,通过这些交互过程所发的电足以满足1200户人家的用电需求。

当夜幕降临,通道屏幕之间由灯组成的网格将取代日光的反射,显示出白天所生成的能量。现有的桥成为不断被照亮的风流经过的有利位置,而场景感应器则提供了分布在网格结构内部边界的情景片段。这些透视点通过光线网格来切开路径,把风流的覆盖物横跨其上,它们交织在一起,使这片景观极具意义。

场景感应器的众多功能作用,如在透明和不透明间转换、在明暗之间转换、在反射和折射间转换,使其具有镜子与窗口的双重身份。作为镜子,它可以监视能量收集方面的振幅,并把振幅投影到周围景色的倒影上。然而,作为窗口,它勾勒出原本看不见的景色,把短暂的纹理有形化,为欣赏Freshkills公园的优美景色提供了前所未有的角度。

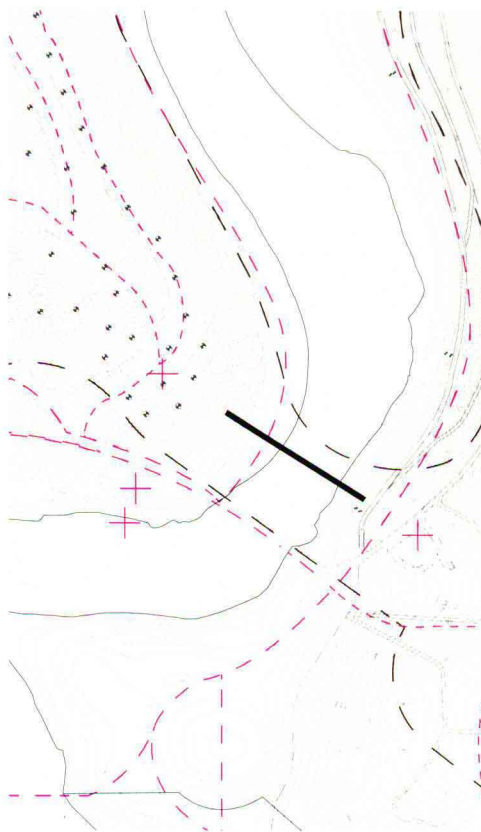
### Scene Sensor

Key interactions of human and ecological energies, above and below the surface of Freshkills, drive complex environmental flows, allowing us to question how to sense, channel, and harness their energies, revealing their interconnected fluctuations in beneficial ways.

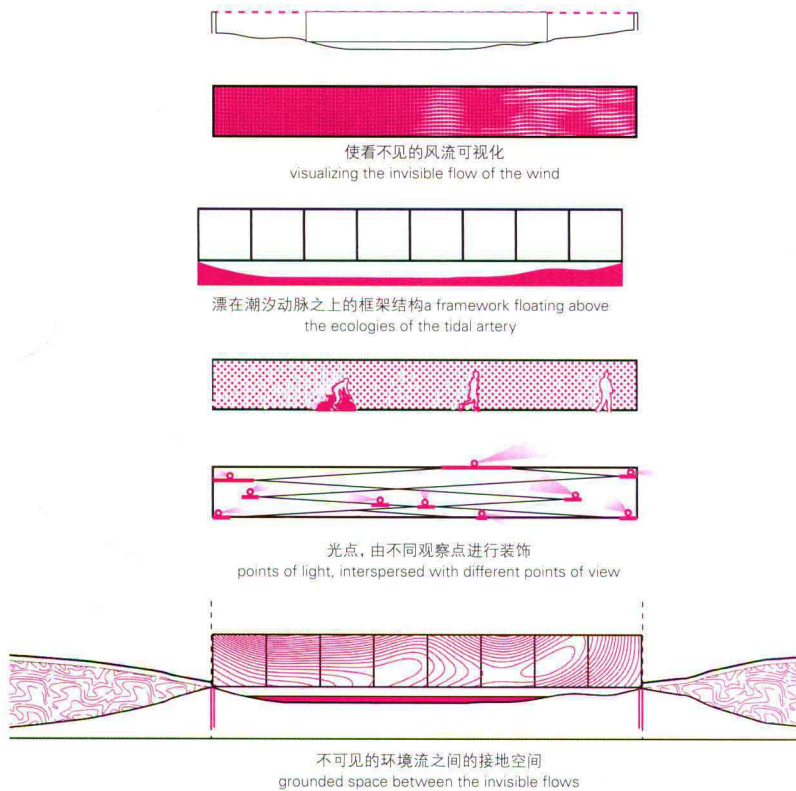
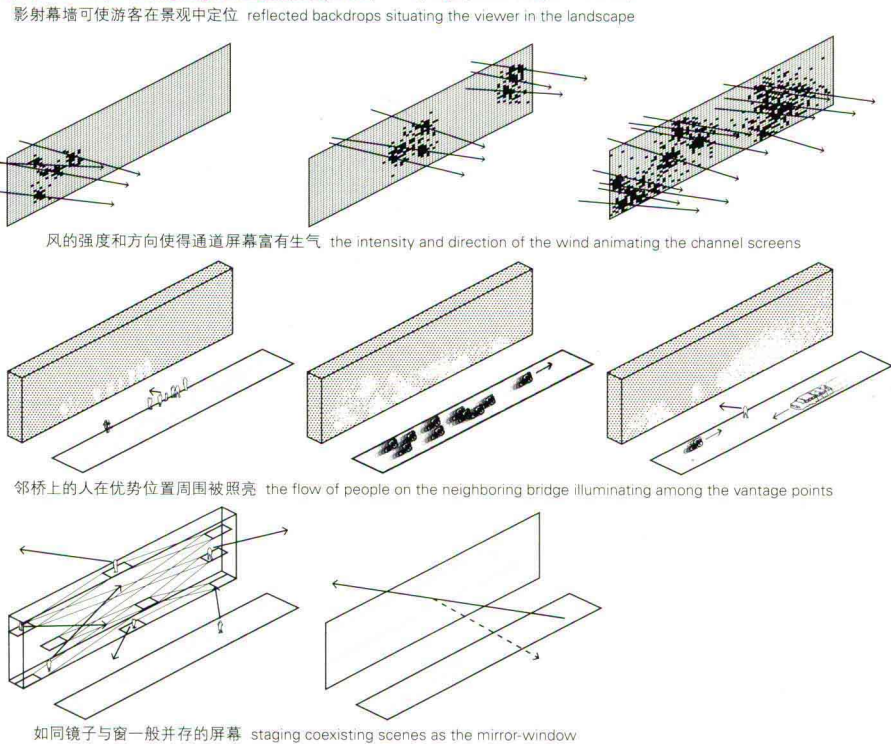
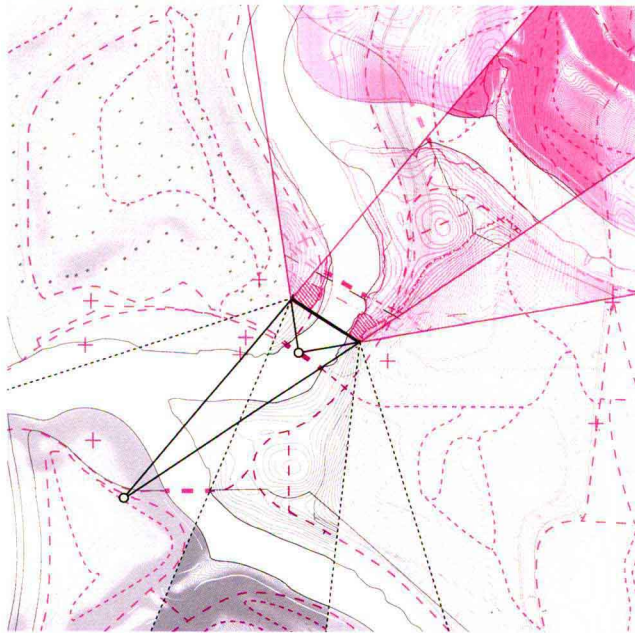
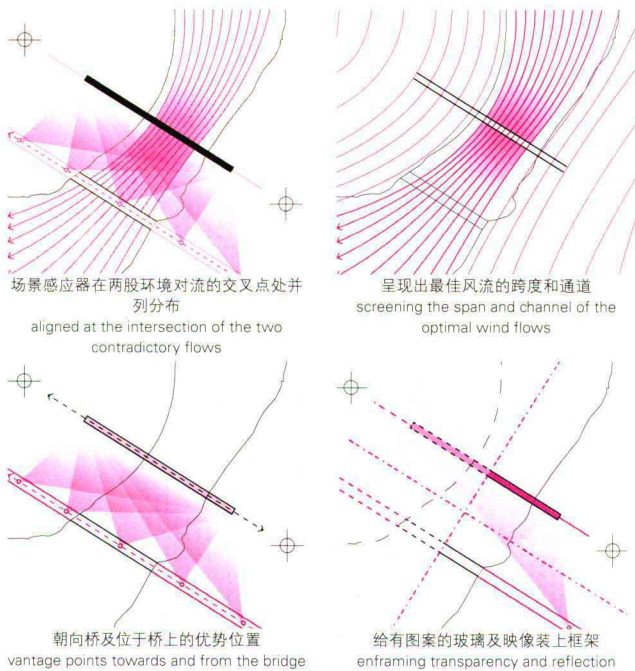
Scene Sensor situates itself at the intersection of flows joining and separating opposing landforms: as a channel screen, harnessing the flows of wind through the tidal artery, and as vantage points, staging crosswise pedestrian flows through the park, the two acting in combination as a

mirror-window, reflecting and revealing the scene of Freshkills' fluctuating landscape back to itself.

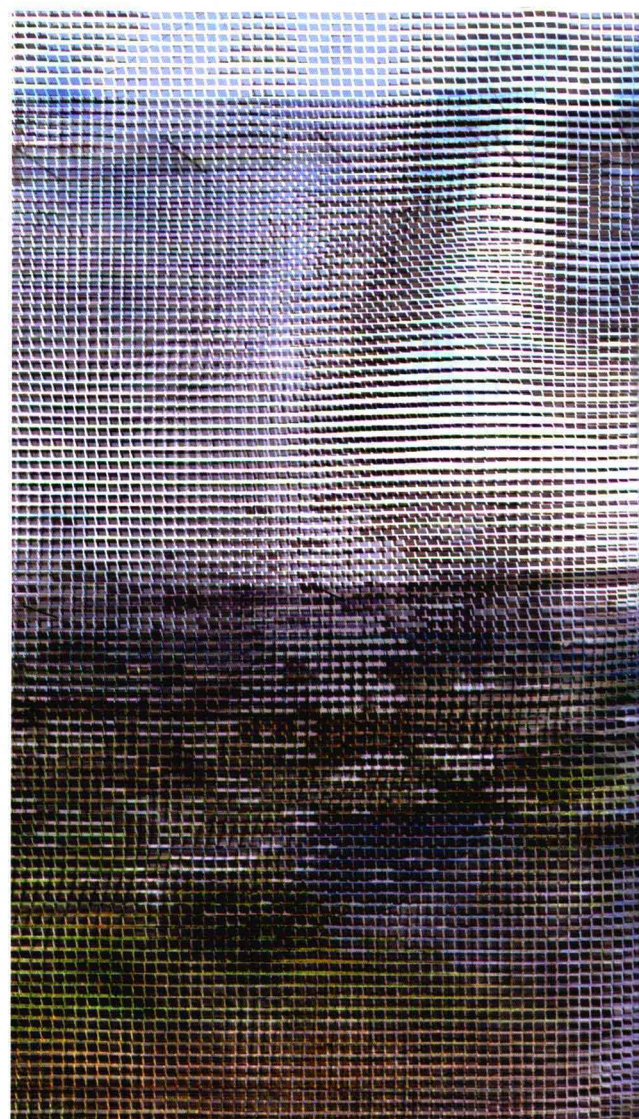
Between the north and east mounds a channel of ecological flows defines a corridor of optimum wind flow. To sense and harness the energies inherent to this conduit we propose a wind mapping screen. Two planes, aligned to each mound's flare



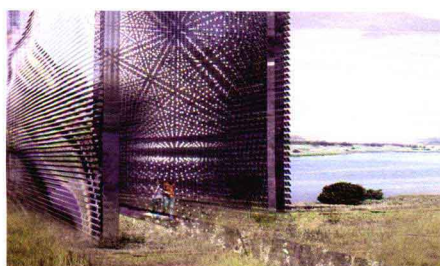
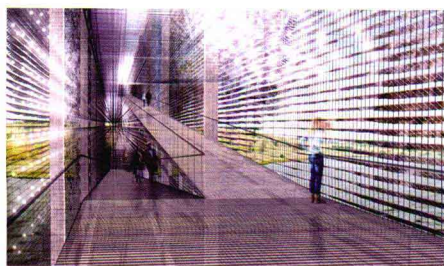




项目名称: Scene Sensor  
地点: Atlanta, USA  
建筑师: James Murray, Shota Vashakmadze  
用地面积: 400,000m<sup>2</sup>  
建筑面积: 1,800m<sup>2</sup>  
总楼面面积: 3,000m<sup>2</sup>  
设计时间: 2012







station, span the width between the landfill caps and reach the height of the towers, lifting above the waterline without disturbing the local ecosystem.

The channel screens compose a framework for panels free to bend with the wind, reacting individually while articulating larger scale flows as a field. The pixels become an index that reveals the shifting winds and maps fluctuations in the resolute collection of energy. Each panel of reflective metallic mesh, interwoven with piezoelectric wires, transforms forces of motion into electrical current. Perpendicular to the channel screens, the movement of visitors across the park's only bridge presents a

mechanical force to be harvested through piezoelectric transducers, embedding pedestrian flows within the ecological scene. On a spring day, the energy collected through these intersecting processes would be enough to power twelve hundred households.

As evening sets in, a mesh of lights between the channel screens replace reflections of the daylight, displaying a memory of the generated energy. The existing bridge now operates as a vantage point for the constantly illuminated wind flow while Scene Sensor affords discrete views ramping within and along the meshwork. These perspectival points carve paths through

the mesh of light, situating an overlay of flows above and across, woven together to make sense of the landscape.

Scene Sensor's impositions of shifting transparency and opacity, light and darkness, and reflection and refraction stage a doubled identity of the mirror-window. As a mirror, it monitors oscillations in energy collection and projects them onto a reflection of surrounding sights. Yet as a window, it frames the unseen, materializing ephemeral textures while affording unprecedented apertures into Freshkills' scenery.





## 沃勒小溪 Michael Van Valkenburgh Associates

沃勒小溪是一条狭窄的城市河岸走廊，蜿蜒曲折2414m，流经奥斯汀市中心。多年来，小溪本身饱受侵蚀、外来物种入侵和洪水之苦，从物理上和文化上与周围的城市分隔开来。2011年，一条新的隧道开始在小溪下方建造，这会有效地将113 312m<sup>2</sup>的城市用地从泛滥平原上移走，保持常年水流不断，并且防止进一步侵蚀。

获胜的提案把经过工程改造后、修建了隧道的小溪看成是奥斯汀丰富城市生活不可或缺的生态系统。设计理念是将全新的沃勒小溪进行扩建，使其延伸至公园链（嵌入五个相连的区域：格子区域、小树林、隘路、庇护所和汇合点）中。

### 格子区域

六座轻质易安装的人行桥组成格子结构，横跨沃勒小溪入口，形成了公园链的最南端。格子结构位于湖和小溪之间的狭小空间内，是市中心、奥斯汀东部以及人行道和自行车道之间至关重要的绿色纽带，为城市居民提供了一套全新的散步、跑步、骑自行车、社交和通勤的生活方式。

### 小树林

如果说呈线性连为一体的格子结构鼓励人们前前后后、上上下下地运动的话，那么小树林就是一个露天“房间”，为人们提供了一处停下脚步的小憩之所。小树林里的橡树郁郁葱葱，充满活力，从街面到小溪种满了整个斜坡。人们在这儿举行各种各样、精彩纷呈的社区活动，包括电影之夜、露天市场和户外展览等，这些活动有的是有组织有计划的，也有自发性的。

### 隘路

隘路位于整个公园链的中心，是沿沃勒小溪两岸新开发的区域，这一新区域的开发得益于隧道工程消除了洪水的威胁。以前住

宅的阳台如沸水锅一般，酷热难耐，现在，住在面向小溪的住宅里的住户可以利用这一新的机遇，到户外坐坐、在小溪两岸现存的建筑中建造零售和艺术空间。

### 庇护所

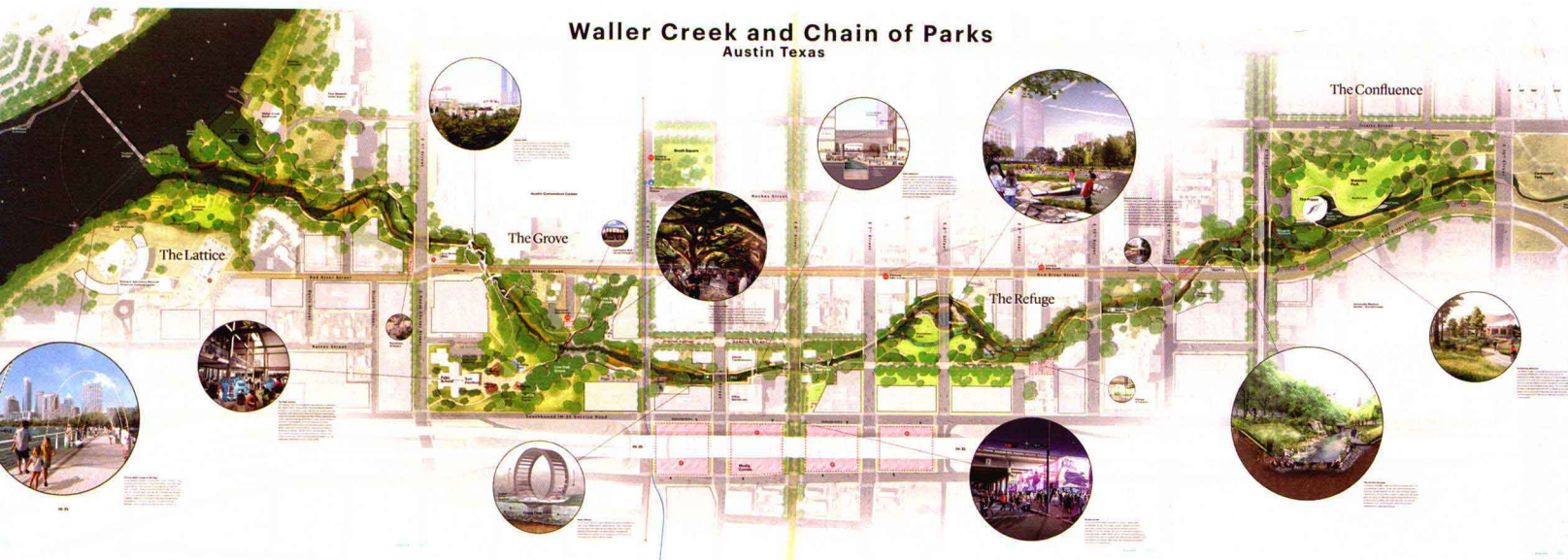
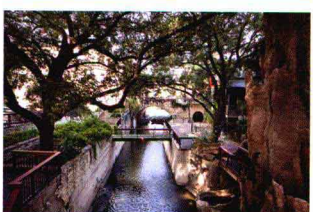
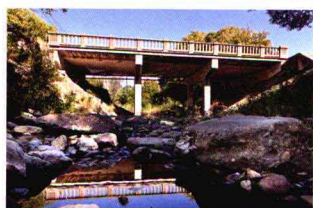
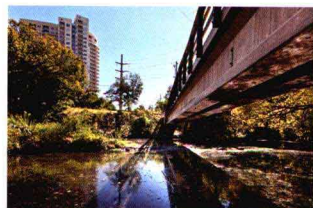
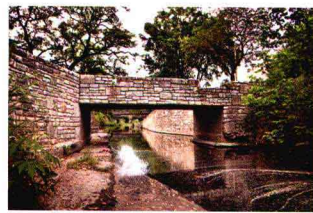
栖息地庇护所成为独具特色的典范，告诉人们新的城市基础设施可以保持而不是削弱它所在的自然环境的质量，并且向人们呈现发现和探索的独特机会。桥的码头被设计建造成一台“生态机器”，用来处理来自于路面和相邻发展区域的雨水，然后再把雨水排入湿地栖息地。湿地栖息地位于一座雕塑式的建筑内，里面可以举办许多当地教育项目开展的小溪栖息地探索活动。

### 汇合点

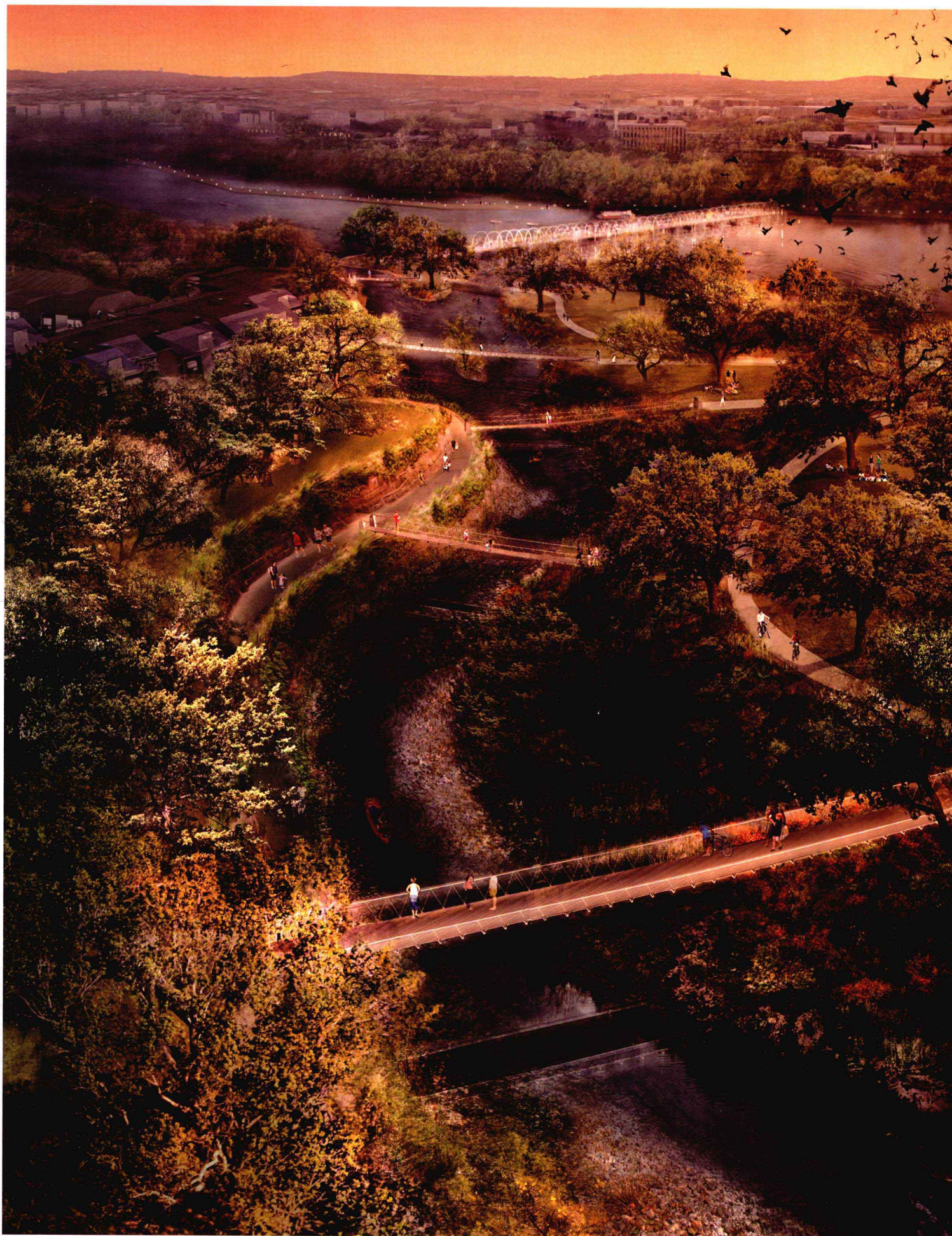
公园链中最后一环是汇合点，既是对沃勒小溪隧道的呼应，也使沃勒小溪隧道以一种完全不同的方式与周围景观融为一体。隧道引水渠的混凝土叶片用作漂浮在水面上的新草坪的支承结构，如果不是这样重建这片公共区域，它就会被隧道工程吞噬了。

连接公园链每个环节的是小溪两岸本身，小溪两岸早已经留下了奥斯汀城市建筑的有形历史。耐用的生物工程技术将应用于小溪两岸的改造，过度生长的外来入侵物种将被消除、当地原生植物将会重生，沃勒小溪将以全新面貌迎接城市居民。

项目名称: Waller Creek  
地点: Austin, Texas, USA  
总景观设计师: Michael Van Valkenburgh Associates  
总建筑师: Thomas Phifer & Partners  
景观建筑师: dwg.  
城市设计及规划师: Greenberg Consultants  
桥梁设计及结构工程师: HNTB  
经济开发师: Development Strategies  
当地土地使用及分区: Metcalfe, Wolff, Stuart & Williams  
公共空间管理: ETM Associates LLC  
艺术家: Oscar Tuazon  
设计时间: 2012









## Waller Creek

Waller Creek is a narrow urban riparian corridor that meanders for 1.5 miles through the downtown of Austin. Over the years, the creek itself has suffered from erosion, invasive species, and flash flooding, and has been physically and culturally isolated from the city around it. In 2011, construction began on a new tunnel beneath the creek that will effectively remove 28 acres of the city from the floodplain, maintain constant water flow, and prevent further erosion.

The winning proposal seeks to understand the engineered post-tunnel creek as an ecological system that can be essential to the great city life in Austin. The design concept expands a renewed Waller Creek into the Chain of Parks embedded in five connected districts: the Lattice, the Grove, the Narrows, the Refuge, and the Confluence.

### The Lattice

A lattice of six lightweight and easily deployable trail bridges spans the mouth of Waller Creek and forms the southernmost link of the chain. Situated at the liminal space between the lake and creek, the lattice becomes a vital green link between downtown, east Austin, and the hike and



旧剖面图1 section\_old 1

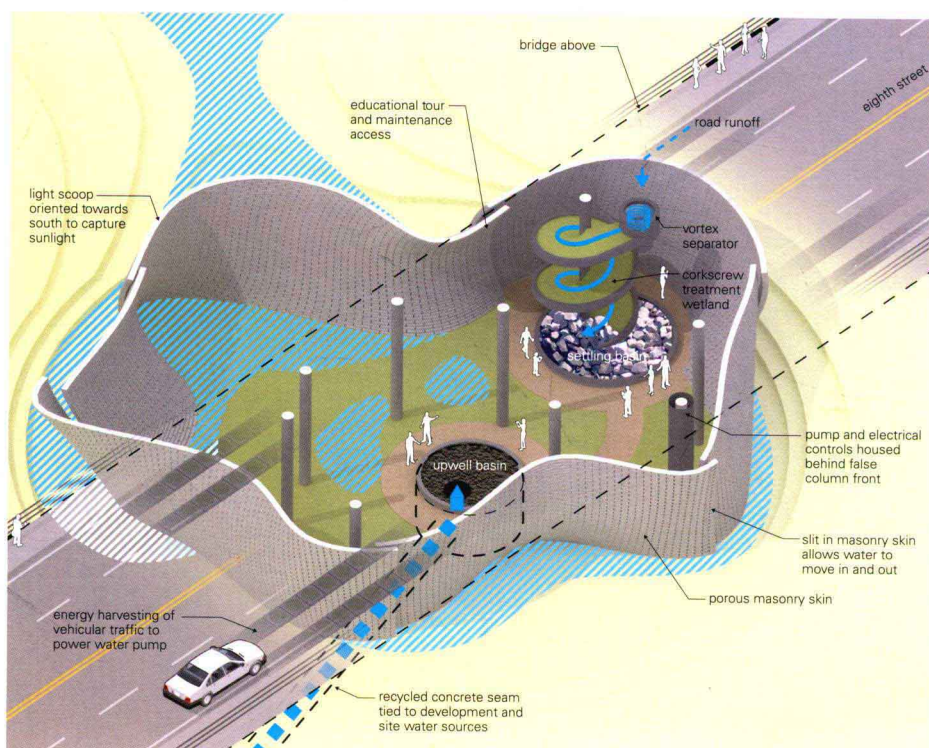
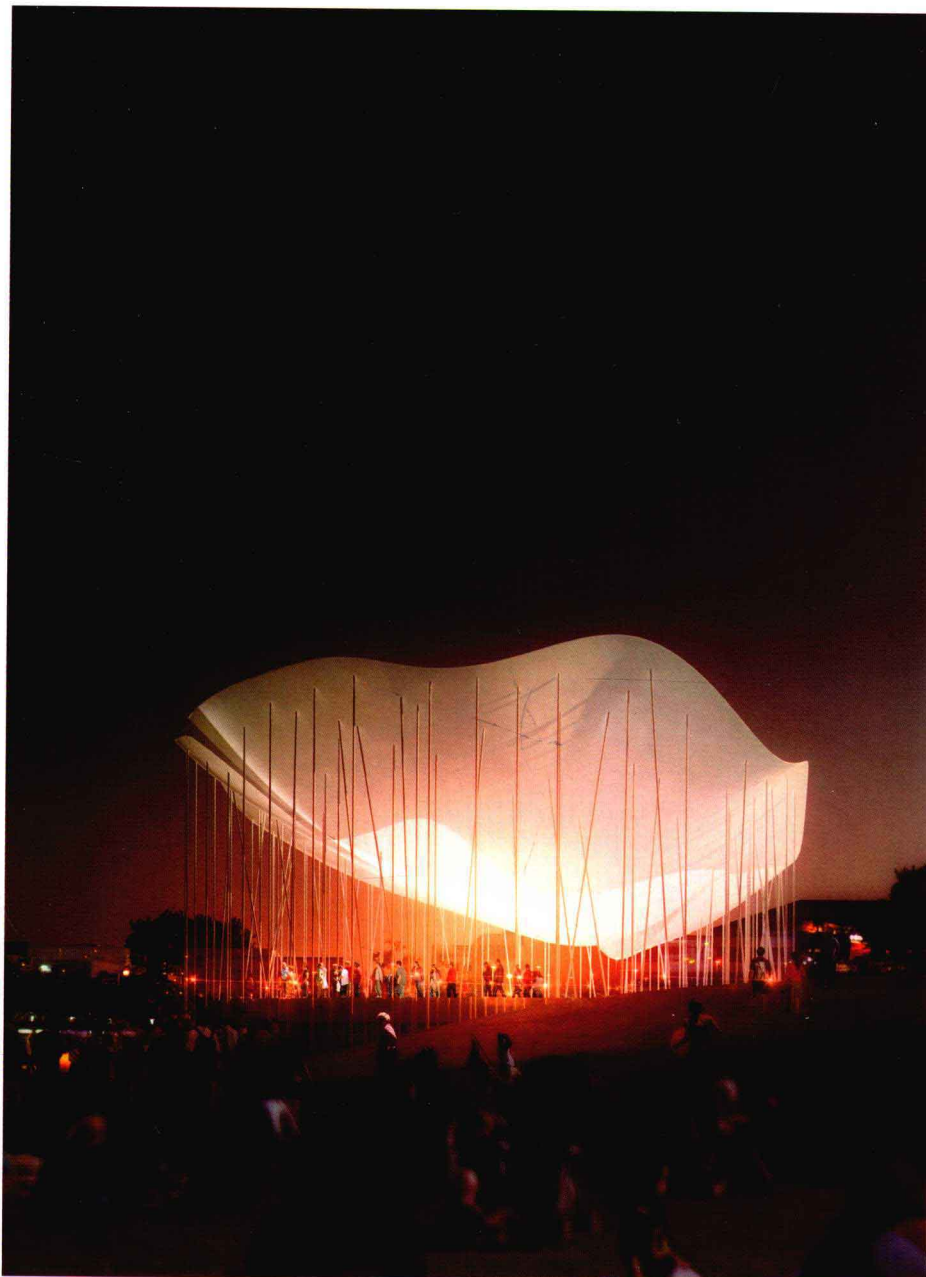


旧剖面图2 section\_old 2



新剖面图 section\_new





bike trail, and inspires an entirely new set of rituals for walking, running, biking, socializing and commuting.

### The Grove

While the linearly connected pieces of the lattice encourage movement forwards, backwards and above, the grove offers a place for pause in the form of an open-air "room". A new grove of the living oaks fills a broad slope descending from street level to the creek. The grove hosts a tremendous variety of community programs, both planned and spontaneous, including movie nights, open-air markets and outdoor exhibitions.

### The Narrows

At the center of the chain lies the narrows, an area of new development along the banks of Waller Creek, enabled by the tunnel project's elimination of the threat of flood. Following the cues of the boiling pot balcony, creek-facing properties may make use of new opportunities for outdoor seating, retail and art spaces within the existing architecture lining the creek.

### The Refuge

Presenting a unique opportunity for discovery and exploration, the habitat refuge offers a distinctive model for the way in which new urban infrastructures can sustain rather than weaken the natural environment in which it sits. The bridge pier is engineered as an "ecological machine" that treats stormwater from the roadway and adjacent development before discharging it into a wetland habitat, alluringly housed in a sculptural structure that hosts explorations of creek habitat led by local educational programs.

### The Confluence

Also responding to and engaging the introduction of the Waller Creek Tunnel into the landscape, but in a wholly different way, is the final link in the chain, the confluence. The concrete vane for the tunnel approach channel is used as a structural support for a new lawn that floats out over the water, reclaiming parkland that would be otherwise lost to the tunnel project. Connecting each link of the chain are the banks of the creek itself, which have inscribed upon them the physical history of the city-building in Austin. Durable bio-engineering techniques will be employed along the banks of the creek, and the removal of overgrown invasive species and regeneration of a native plant palette will open up the creek to the city.



打破墨守成规的居住方式

# Breaking Stereotypes of Living

潜水员的玻璃屋/Naf Architect & Design

瓷玩偶工作室/UID Architects

户田屋/Office of Kimihiko Okada

Tenjinyama工作室/Ikimono Architects

打破墨守成规的居住方式/Silvio Carta

Glass House for Diver/Naf Architect & Design

Atelier-Bisque Doll/UID Architects

Toda House/Office of Kimihiko Okada

Atelier Tenjinyama/Ikimono Architects

Breaking Stereotypes of Living/Silvio Carta



房屋往往都是在无形的“盒子”中设计出来的，这个无形的“盒子”反映着设计习惯、地方法律法规或设计建筑指南等。避开“常规”的结果常常会使设计项目价值倍增，并且一般来说，会得到房屋的最终使用者的积极肯定。但是什么样的房子是“普通”的房子？“普通”房子与“奢华”房子有什么区别？另外，设计师的工作，无论是从专业角度来说还是从智力水平来说，都充斥着不断的挑战：既不能对自己的所有设计想当然，也不能生搬硬套（设计、建筑结构、规范标准的）相关规定。有的人也许会说，好的指导思想就是选择两个极端的中间位置；而有的人就是否应该把设计习惯和规章制度作为建筑师解决问题的工具提出疑问，也许这个问题可以换种方式表述：如何打破限制我们“居住空间”的僵化思想？设计师往往按照固定模式或者过于简单化的居住理念来勾画普通住宅。在设计房屋之前，设计师应该去询问，并更加仔细考虑人们真正的（多种多样的）生活居住方式。人们在过去、现在的需要和对未来的憧憬所形成的范式和模型之间不断变化中寻求平衡，想要充满活力而不是一成不变地生活着。因此，如果人们随着时代的变化每天都在重新思考和重新确立新的生活方式，我们每天都生活在其中的房子为什么就应该停留在一个先入为主的想法中呢？

下面呈现给读者的一系列设计展示了如何处理好房屋设计的主要思想和人们对房子的固定思维模式的可能性，使读者清晰无误地了解到，设计师并没有把生活看作是固定不变的人类活动。

类型和模型的定义及其应用一直以来都是建筑设计行业至关重要的方面。几个世纪以来，建筑师们通过定义原型和建筑类型学，已经渐渐习惯接受空间特征、形式和用途之间的某些核心关系。

某些固定“形式”，或更确切地说，某些与建筑用途相关的一套套正规拘谨的特征，甚至在今天仍是设计行业的

Houses are often designed within an invisible box reflecting design habits, local regulations or handbooks' indications. To escape "normal" results often becomes an added value to the project and it is in general considered positively by the final users of the house. But what are the extents of a "regular" house project? And what does it differentiate from an "extravagant" project? Moreover, the work – both professional and intellectual – of a designer consists of a continuous challenge between the fact of not taking anything from granted about his/her design and yet following (design, constructive, normative) rules. One may argue that a good direction is a middle position between the two poles. Others can raise the question of interpretation (of design habits and rules) as the solving tool for architects. Perhaps the question can be reformulated by tackling the clichés that frame our "living spaces". The image of the common house is often conceived by following a fixed or oversimplified idea of living. Before containing space, the actual activity of living (in all its varied manners) should be questioned and more carefully considered. People conduct their lives dynamically, in a continuously changing balance between paradigms and models from the past, current needs and future ambitions. Therefore, if the act of living is being reconsidered and reestablished everyday, according to the change of times, why should the house – accommodating the living within physical boundaries – be anchored to a preconceived idea? The presented projects display a range of possibilities of dealing with the main idea of the house and its stereotypes, offering clear reconsiderations of living as not fixed human activity.



一项重要参考。设计手册和设计指南就是显而易见的例子，它们向学徒建筑师描述了如何设计医院、博物馆和房屋等。这些“如何设计”的圣经（常常以建筑标准和地方法规来支撑）明确地解释说明了如何根据建筑的最终用途来进行设计。房间的大小和数量、空间的分配和固定元素（走廊、前厅、楼梯）之间的距离等都是书中所讲的设计应该考虑的一些基本参数。换句话说，设计应该按照手册中所讲的所有数据和指示去做。私人住宅的标准化布局就是这一现象的典型例证。私人住宅（至少）包括卧室、起居室、厨房和卫生间，外加入口、前厅和存储区等服务性空间。这种标准化设计是基于这样一种理念：建筑最终使用者对建筑的要求基本上大同小异，因此建筑物是可以预见的。虽然按图索骥的指南设计法有许多可取之处（如设计和建设所需时间相对较短、普遍可行、广泛的市场认可度和相对经济），但是人们对这一问题多加思考后，也许就会得出完全不一样的结论。

也许有人会说，设计指南书籍的多数读者没有批判性地对待书中所提供的数据和所列举的现象。从这一方面来看，我们可以看出设计师如何几乎毫无意识地把自已的设计置于一个固定的框架之内。这一

框架的标签就是“优秀建筑的规则”，它列举了一整套大家普遍认为设计这类建筑应具有的建筑特征。这样的设计，甚至在其诞生之前，似乎就已经陷入了一个无形的牢笼之中，里面充满了指导方针、规则章程和设计惯例。这些对项目的管理和施工阶段确实有很大帮助，但是也大大地限制了设计创意和创新的维度。预先确定的“建筑参考”最终形成了一系列意料之中的建筑特征，但是现在看来却事先限制了项目的性能。在设计开始之前，实际上就有一个类型理念表明了设计进一步发展的方向，但是与此同时，也减少了更多可能的设计选择。单就住宅设计而言，住宅项目遵循的理念是满足一个“家”普遍具有的所有条件。从一定程度上来说，这一概念是一直以来人们脑海中根深蒂固的住宅样式的结果。大家都知道房子应该是什么样子，不需要任何解释<sup>1</sup>。

然而，尽管一些建筑师把指南里的类型和模型看作是设计的目标（认为如果设计达到了模型中所包含的空间、功能和正式的要求，这个设计就是好设计），认为这样的设计才保险，但是也有一些建筑师只是把那些设计指导方针看作是进行设计工作的起点。实际上，一些

The definition and application of types and models have always been crucial aspects of the architectural profession. Down through the centuries, architects have gradually settled into certain core relationships of spatial characteristics, forms, and uses by defining archetypes and architectural typologies.

Certain fixed “forms” – or better, certain sets of formal characteristics related to use – represent an important reference in the design profession even today. A clear example is found in the form of design manuals and handbooks which describe to apprentice architects how to design a hospital, a museum, or a house. In such “how-to” bibles it is clearly explained (often with support from construction standards and local regulations) how to execute design based on final use. The size and number of rooms, spatial distributions, and mutual distances between fixed elements (corridors, anterooms, staircases) are some of the basic parameters around which one is told how the design should be conceived. In other words, the design should comply with all the data and indications found in the manual. A demonstration of this phenomenon may be found in the standard layout of private houses, which includes (at minimum) sleeping rooms, living rooms, kitchen and toilet, plus such service spaces as entrances, vestibules and storage areas. This design standardization is grounded in the idea that all requirements of a building's final users are largely held in common, and are thus predictable. Although the handbook approach

has much to recommend (including relatively short time required for design and construction, general feasibility, wide market acceptance and relative economy), a more speculative side of the question exists which may allow for a reversal of this point of view. It can be argued that most readers of design handbooks do not receive the data and phenomena those books provide in a critical manner. Viewing the matter from this perspective, one may see how the designer positions his or her project, almost unconsciously, within a fixed framework characterized by the “rules of good building”, meaning a set of architectural features which are commonly considered to work for the type of building being designed. The project, even before its birth, appears to have already been forced into an invisible cage made of guidelines, rules and design habits which will most assuredly help the design process through its regulation and construction phases, but which will also significantly limit its creative and innovative dimensions. Predefined “design references”, resulting in a set of expected architectural features, are now shown to be constraining the project's performance, ex-ante. Prior to the project's commencement, there is in fact a typological idea which shows the direction for the design's further development, but which at the same time diminishes its potential alternatives. To focus this argument on residential design, the project of a house follows the idea that we all have of a “home”. To a certain extent this conception is the



建筑师在设计中使用有时被称作“发散思维”<sup>2</sup>的思维模式。解决问题的方法（被叫做“聚合思维”）是基于对特定问题最有效的解决方法的研究，而发散思维则是对特定问题同时探索多种可能的解决方法，因此需要重新设定特定问题的最初情况。在这种情况下，没有明显解决办法的问题会促进整个问题的重新形成。

把发散思维应用于房屋设计使人们对“居住”（相对于仅仅占据房子而言）真正意味着什么有了更广泛的思考，为关于居住的新一轮思考提供了空间，也为这一主题提供了更广泛的方法。人们呆在自己住处这一行为不再是想当然的，而是根据其多方面的含义进行了重新思考。出现的新问题是：现在人们究竟是怎样生活的？呆在住所里的时间有多少？对住处究竟有何要求？

房子不再是为承担居住活动功能而安排得井然有序的空间；它是居住者性格特征的体现（居住者的理想抱负、恐惧、对世界和社会的真知灼见），因此对房子的设计也成为建筑师不断探求建筑师职业的界线和意义的机会。这一设计方法的主导理念在于我们对房子共有的印象不再是我们居住生活的唯一可能形式。

result of a consolidated image of the house which has been built throughout history. The idea of the "shape" a house should have is commonly shared and requires no explanation<sup>1</sup>.

However, while some architects perceive the handbook typologies and models as a destination (the project is well designed when it meets the spatial, programmatic and formal requirements contained in the model) and as a safe place to land, others consider those guidelines to be merely a starting point for their work. In fact, some architects appear to use what is sometimes called "divergent thinking"<sup>2</sup> in their projects. While a problem-solving approach (referred to as "convergent thinking") is based on research into the most effective solution to a given problem, divergent thinking explores a range of possible solutions at the same time, thus resetting the original scenario of the given problem. In such cases, problems with no apparent solution may facilitate the reformulation of the entire problem.

Applying divergent thinking to a house project allows for the emergence of broader reflections concerning what "living" – as opposed to merely occupying a house – really means. Such an approach makes way for a new set of speculations on living, resulting in a wider approach to the topic. The human act of staying in one's own place is not taken for granted, but is reconsidered along with all its manifold implications. New questions emerge: how do people really live nowadays? How many hours do they spend in

本书中展示给读者的设计是对设计模型和建筑类型的被动接受所做出的具体回应。

潜水员的玻璃屋由一家叫作Naf Architect & Design的日本工作室设计，可以看作是重新探索房屋的通常定义的一次尝试。玻璃屋完全忽略了房屋建筑构件在预想中可能形成的结构：通常墙所起的作用现在被一堆混凝土砌块和直立玻璃平面之间的缓冲空间取代，玻璃墙架构出室内空间。屋顶构件也没有覆盖整个房子，只在屋顶主要支撑结构上铺设了部分屋顶。各种各样的人行步道和直立的玻璃平面界定了室内和室外的空间，区分出起居空间和天井，使露台成为室内外空间的中间地带，房子由一些通常不被人熟悉的元素构造（室外所使用的材料是用于港口和工业环境的典型材料）。玻璃屋不是一个封闭的空间，看起来像是镶嵌在一个由一系列随机堆放的混凝土砌块围成的空旷空间里。另外，各种房屋建筑构件组成的结构也允许房屋有一定的不确定性。在“普通的”房子中，墙的顶部与屋顶的衔接应该是连贯一致的，但是在Naf Architect & Design工作室设计的玻璃屋中，金属横梁从屋顶向前伸出，搭在混凝土砌块上。房子的外层防护通常都会

their living space? What do they really ask of their place?

The house is no longer an organized container of activities related to living; it is the expression of the persona of the inhabitant (with his/her ambitions, fear, vision of the world and society), and it has thus become an occasion for the architect to continually question boundaries and the meaning of the architect's profession. The leading idea of this design approach is that the shared image we all have of the house is not the only possible formal response to the question of how we live.

The projects presented in this issue offer a concrete reaction to the passive acceptance of design models and construction types. The *Glass House for Diver*, designed by the Japanese studio Naf Architect & Design, can be seen as an attempt to explore afresh the common definition of the house. The Glass House neglects the expected configuration of a house's constructive elements: the function normally performed by walls is here "obtained" by means of a buffer space between the piled concrete blocks and the vertical glass surfaces framing the inner spaces. The roof elements do not cover the entire area of the house, but only partially follow the main supporting structure of the ceiling. The varied pavements, along with the vertical glazed surfaces, establish what is interior and exterior, differentiating the living spaces from the patios and marking the terraces as in-between spaces. The program of the house is thus hosted within elements that are normally unfamiliar