

城市公共空间环境设计创新途径与导向研究

RESEARCH ON INNOVATIVE APPROACHES AND GUIDANCE FOR URBAN PUBLIC SPACE DESIGN

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摘要

在现今城市建设趋于理性、设计项目紧缩的行业背景下,创新策略成为转“危机”为“契机”之所必需。纵观既往城市公共空间环境设计创新措施,无不与因城市发展演变而出现的政治体制变革、空间环境恶化、社区精神匮乏、城区产业转型、生态功能退化等问题紧密相关。本文针对我国城市公共空间环境建设现存问题,提出强化“用户体验”、回归“城市自然”、跨学科“技术协作”、成本控制“开源节流”等创新途径,以期使当代城市环境设计遵循促进城市人文意识提升与生态环境复兴的可持续发展之路。

关键词

城市公共空间; 创新; 用户体验; 城市生态; 学科交叉

ABSTRACT

For designers suffering from slowed-down urban development and shrinking economics, innovative design can help turn a slow down into an opportunity. As various issues emerge with the development of urban areas, such as the political renovation, spatial environment deterioration, erosion of community spirit, industrial transformation, and ecosystem degradation, innovative strategies can produce better public open space design. This article discusses how enhancing user experience, returning to urban nature, and interdisciplinary technologies can promote social consciousness and revitalize urban ecologies.

KEY WORDS

Urban Public Spaces; Innovative Approaches; User Experience; Urban Ecology; Interdiscipline

1. 不同时期下城市公共空间环境设计创新的诱发因素

1. Catalysts for urban design innovation in different periods

2014年以来，国内建筑、规划、景观设计行业普遍面临着市场乏力、行业萎缩的局面。许多景观设计公司开始考虑自身改革与转型，期待通过有效的“创新”获取重生。回溯既往，思考当下的社会需求，并洞悉未来的景观设计动势，有助于推动景观行业向更成熟、睿智的路径发展。

本文所谈及的城市公共空间包括城市内部的绿地、公园、广场、街道、农田及休闲场地等，其区位特点决定了这些空间从早期城市文明产生之时便与市民紧密联系在一起。这些公共空间是展现城市精神品质的窗口，其形态变迁不仅受审美文化意识形态影响，也与城市社会、经济、政治、生态等多元因素的演进息息相关。

1 城市公共空间环境设计创新的诱发因素

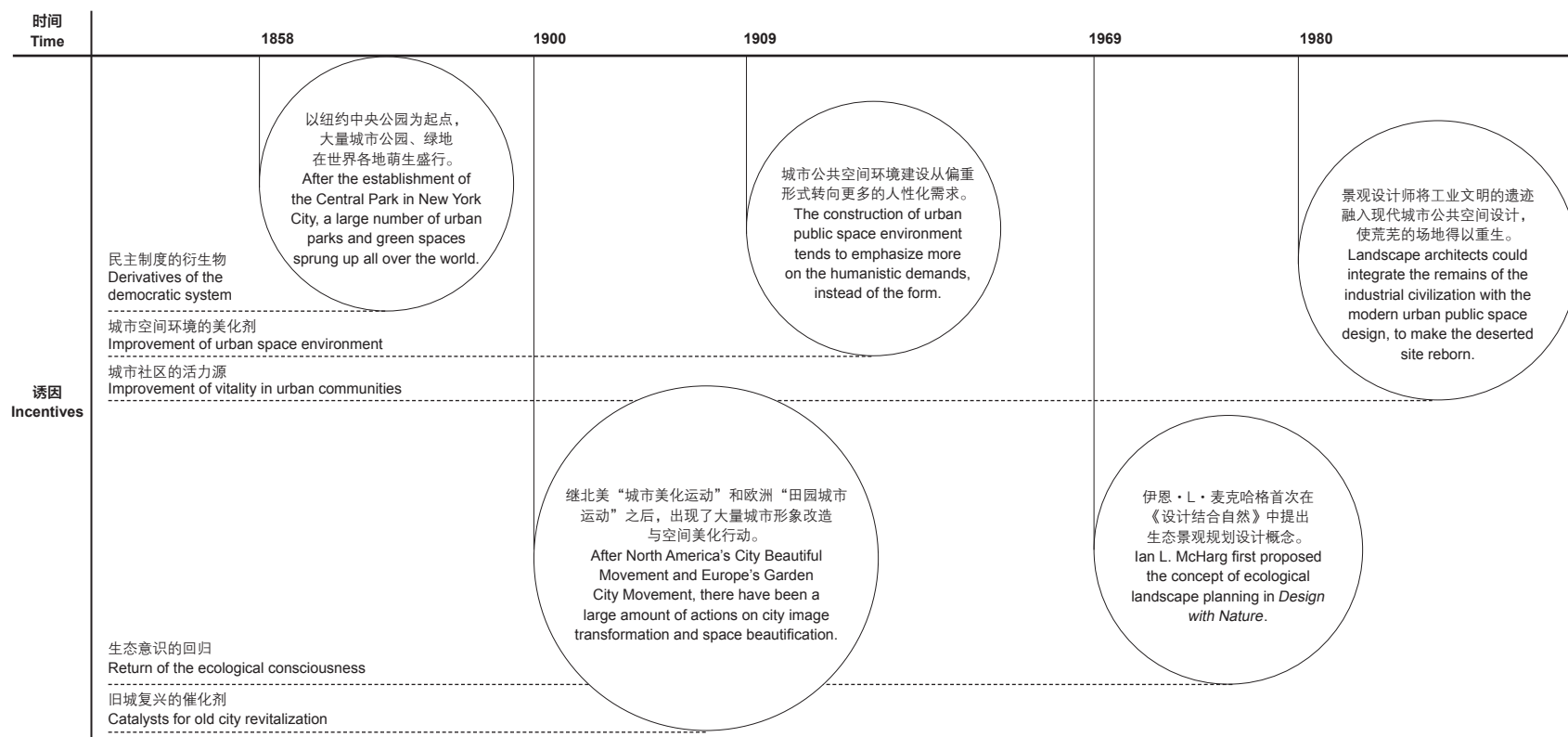
城市公共空间环境设计的创新与城市文化、政治、经济、社会及环境等方面密切相关，自景观设计学学科建立以来，民主制度、城市美化运动、生态环境复兴等因素推动了景观设计的创新（图1）。

Since 2014, industries including architecture, planning and landscape architecture have been confronted with the weakening markets and downturn of the industries. Thus, many landscape architects have attempted to recover their firms with efficient innovation. It is time for the profession to consider the social needs of urban design and to promote landscape architecture as the profession to meet those needs.

Urban public spaces, here, covering the greenbelts, parks, plazas, streets, farmlands and recreational spaces inside urban area, have a long history of citizen engagement. These public spaces indicate the urban spirit, with their morphological changes influenced not only by aesthetical ideology, but also by comprehensive social, economic, political and ecological development.

1 Catalysts for Urban Design Innovation

Innovation in landscape architecture is closely tied to urban culture, politics, economy, society, and environment, as the history of democratic system, City Beautiful Movement and ecological design since the establishment of the discipline have shown (Fig. 1).



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2 创新的途径

创新即运用更好的方法来满足新的需求、模糊的需求或当前市场的需求^[1]。知名策略与创新咨询公司策士近10年的创新实践与调研结果显示,实现创新的决定因素包括:1)切忌治标不治本,2)不要只以一个根源为依据,3)不盲目复制模范案例。结合对城市公共空间环境存在的若干问题和实践经验的分析,本文提出可通过强化“体验型设计”“个性化定制”“技术创新”等方法,来应对社会人文、生态环境、经济成本等方面的问题。^[2]

2.1 以“用户体验”为基础的人文精神提升

美国康奈尔大学的社会心理学教授托马斯·季洛维奇对体验式消费与幸福感受之间的关系进行了系列研究,发现人们在体验活动中获得的乐趣比物质消费更多且更持久;并就此提出,对于有意提升全民幸福度的政策制定者而言,需要将直接投资用于能够提供更多体验式消费的公共项目。^[3]

无论是私家园林的观赏体验,还是公共空间的社交体验,景观设计自其源起即包括视听、园作、交往、娱乐等多种身心体验的交汇,而如今的景观设计也被赋予了更多的人文体验需求。

2.1.1 观景体验

城市园林景观的发展实则是人们在不同时代追求特定环境体验的过程。园林的产生源自园主对景观的观赏需求,园主在其中观赏风景,并通过种植、吟诗、绘画、养育等方式与景物产生互动联系。

当代城市公共空间延续着对观景体验的关注,且外相形式和内涵意义都呈现多元发展的趋势,并出现了参与艺术、交互艺术、数字艺术等多种公共艺术类型,通过设计者及艺术家的巧思妙想带给参与者独特的场景体验。

2.1.2 社交体验

工业革命之后诞生的城市公共绿地,更加注重丰富市民的社交体验:公园中的人成为景观的一部分,人们可以观看他人活动,同时能主动参与群体社交。例如,专长于城市设计和公共艺术教育研究的美国注册规划师罗纳德·李·弗莱明在其《场所营造的艺术:用公共艺术和城市设计来阐释社区》^[4]一书中,介绍了多个美国社区的创新案

2 Innovative Approaches

Innovation is the application of better solutions to new requirements, unarticulated needs, or existing market needs^[1]. After 10-year practices and surveys, the global strategy and innovation consulting firm Strategos has proposed that innovation comes about by 1) looking beyond symptoms; 2) addressing multiple root causes; 3) and criticize best practices. The article sums up several approaches, such as experience design, personalized customization, and technological innovation, in response to social, ecological and economic issues.^[2]

2.1 Human Spirit Promotion through User Experience

Thomas Gilovich, psychology professor at Cornell University, has researched the relation between consumption and happiness, demonstrating that experiential consumption tends to bring greater and more lasting happiness than material consumption. Gilovich concluded that policymakers who are mindful of increasing social wellbeing might direct funding to public works projects that make experiential consumption more readily accessible.^[3]

Landscape architecture is a combination of public and private mind-body experiences, together with the functions of viewing, gardening, communication and recreation. More cultural and experimental aspects of landscape architecture also have been emphasized in contemporary landscape design.

2.1.1 Viewing Experience

Urban landscape architecture is the process of creating specific environmental experiences through time. Gardens, for example, are both a way of enjoying the scenery of nature while also actively caring about nature through actions of planting, chanting, painting, and cultivating.

Contemporary public urban design has evolved to consider the viewing experience as both internal and external to the public and individual. Increasing public art, through participatory, interactive, and media art, can help create diverse experiences.

2.1.2 Social Experience

After the Industrial Revolution, urban public green spaces emerged with the purpose of providing citizens more social experiences, when parks became the space for people to engage with nature and each other. In *The Art of Place-making: Interpreting Community through Public Art and Urban Design*^[4], Ronald Lee Fleming has shown through case studies,

① 更多有关“智能数字站”的信息，请访问<http://www.mathieulehanneur.fr/project/escale-numerique>。

① For more information of "Digital Stopover," please visit <http://www.mathieulehanneur.fr/project/escale-numerique>.

例，并提供了有益的实践信息、成本和政策分析、艺术家采访、不足之处、主要争议及未来策略等，成为了利用公共空间提升社交体验的重要参考。

2.1.3 事件体验

随着体验式消费的持续升温，大众更加关注空间所能赋予个人的特殊体验。若将社交体验视为城市公共空间的一种常态，体育、娱乐、文化、探险等体验活动则成为定期发生的激活事件，将事件体验与公共空间组织整合在一起，是打造活力空间并保持其长期魅力的保障。场地设施的灵活配置是多元化事件组织的前提条件；根据城市背景、场地特征、使用者分析，可为场地制定详尽的事件规划时间表。

2.1.4 定制体验

定制体验活动是以人为本的设计的具体化，规划设计者需深入、细致地考虑特定人群在生理、心理方面的特殊需求。如今，公共空间环境不再局限于赏心悦目的形式，而是能通过定制化设计给人以由生理到心理、物像到精神的特殊体验，例如城市公共空间中的康复花园（疗愈花园）。为满足网络时代使用者的需求，空间中需配有即时上网浏览设施、高速无线网络接入端口、充电设备、移动办公设施，以及提供城市信息服务的智能数字站^①等设施（图2）。

interviews, cost and policy analyses, deficiencies, and controversy and future strategies how social experiences in public spaces can be improved.

2.1.3 Event Experience

Experiential consumption has further engaged the public in the design of urban public space. Integrating events, such as sporting, entertaining, cultural, and exploration events, into urban public spaces could help activate public space. The flexible arrangement of the facilities enables diverse events to happen in the site. It is also essential in making elaborate event plan for specific places according to city context, site characteristics, and user needs.

2.1.4 Customized Experience

Human-centered design advocates for customized experiences and activities, which planners and designers should consider relative to particular social groups' physiological and psychological demands. The public spatial environment is no longer limited to representations of charming scenes. Rather, it is possible to provide users with specific experiences that serve both physical and mental senses, such as healing gardens. In addition, digital stopover^① can be considered as a public facility that allows everyone to benefit from informational screens, plugs, and WiFi connection (Fig. 2).



2. 巴黎城市中的智能数字站

2. Digital stopover in Paris



2 © Mathieu Lehannour

2.2 以“城市自然”为目标的生态意识回归

2.2.1 应对气候问题与生态危机的弹性景观设计

人口高度密集的城市迅猛发展带来了温室效应加剧、生物多样性锐减、极端天气事件频发等问题，并对自然环境造成了巨大影响。可持续设计、低碳设计、弹性城市等概念得到了人们越来越多的关注。

其中弹性发展与可持续发展是契合当今全球环境发展的重要研究方向，一些国际组织应运而生，其中最具影响力的是基于生态学领域的全球组织“弹性研究联盟”^②，它提出“弹性是增强适应能力的关键”。此外，瑞典斯德哥尔摩弹性中心指出，“弹性是指一个系统为了保有主要的功能、结构、特色和反馈不受侵害，所进行的消除干扰、重组并不断变化的能力”；可持续地方政府^③对其的定义则是“弹性是指一个社会或生态系统及其组成部分在短时间内有效应对灾害冲击，通过反应、适应、转变等方式以保留、维持乃至提升其核心功能、结构和特色，并不断发展和改变的能力。”

在城市生态危机中，每个景观规划设计项目（如绿地改造、棕地改建、水系重建等）都是改善场地弹性的过程，即改变、调整原有

2.2 Cultivating Urban Nature

2.2.1 Resilient Landscape Design

Population migration and rapid urban development have increased the green-house effect, reduced biodiversity, and caused more extreme weather events. Thus, concepts of sustainable design, low-carbon design, and resilient city are being discussed more profoundly than before.

Resilient and sustainable development is one of the main research fields in response to global environment. The most influential ecological resource is the Resilience Alliance^②. Based on ecological research, the organization points out that resilience is key to enhancing adaptive capacity. The Stockholm Resilience Center has also shown that resilience is the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks. The Local Governments for Sustainability (ICLEI)^③ has added to these definitions, claiming that resilience is “the capacity of a social or ecological system and its component parts to cope with hazardous shocks and stresses in a timely and efficient manner by responding, adapting, and transforming in ways that restore, maintain, and even improve its essential functions, structures, and identity while retaining the capacity for growth and change.”

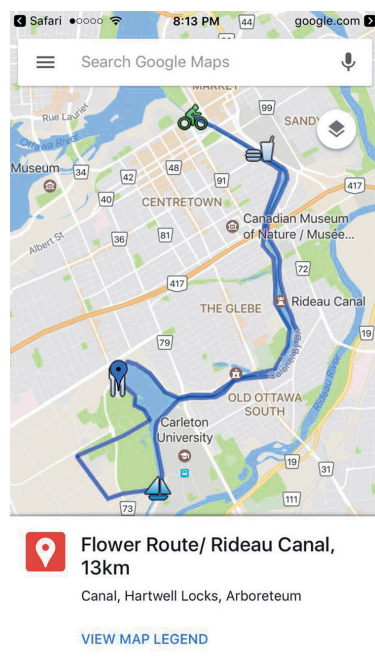
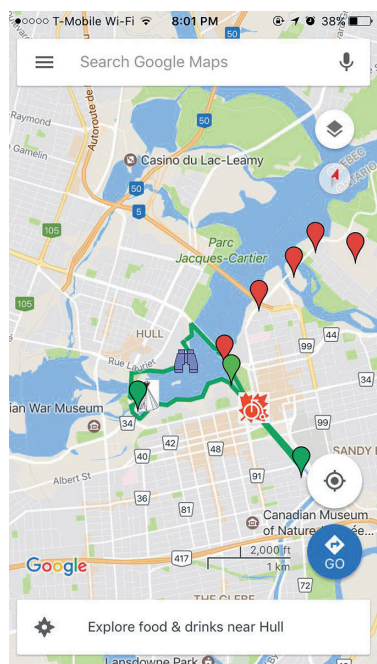
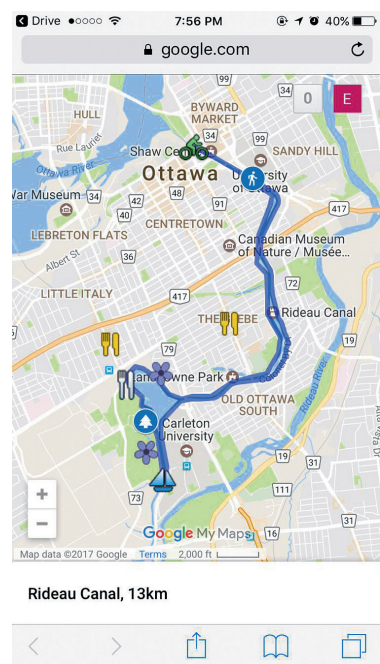
In response, landscape planning and design, including greenfield renovation, brownfield transformation, and water-system reconstruction has sought to improve site resilience through the adjustment of the existing ecosystems, spatial forms,

② 更多有关“弹性研究联盟”的信息，请访问 <http://www.resilience.org>。

③ 更多有关“可持续地方政府”的信息，请访问 <http://resilient-cities.iclei.org/resilient-cities-hub-site/about-the-global-forum/resilient-cities-2011/>，或下载《2011弹性城市大会简报》，下载地址：http://resilient-cities.iclei.org/fileadmin/sites/resilient-cities/files/Resilient_Cities_2011/Briefing_Sheet_Resilient_Cities_in_Brief_20110907_small.pdf。

② For more information of “Resilience Alliance,” please visit <http://www.resilience.org>.

③ For more information of “Local Governments for Sustainability (ICLEI),” please visit <http://resilient-cities.iclei.org/resilient-cities-hub-site/about-the-global-forum/resilient-cities-2011/>, or download the Resilient Cities 2011 Congress Results in Brief at http://resilient-cities.iclei.org/fileadmin/sites/resilient-cities/files/Resilient_Cities_2011/Briefing_Sheet_Resilient_Cities_in_Brief_20110907_small.pdf.



3. 渥太华“租辆自行车吧”应用程序会为用户推荐多条城市骑行线路。图中仅为几例，从左到右依次为：首府运河探险之旅（13km）、渥太华河流之旅（10km）、缤纷花舞之旅（13km，仅春季）。
 4. 位于美国俄勒冈州波特兰市西斯基尤绿色街道的雨水花园。
3. City tour routes by RentABike in Ottawa. From the left to the right: Capital Canal Adventure (13 km), Ottawa River Basin (10 km), and Flower Route (13 km, spring only).
 4. Rain Garden on NE Siskiyou Green Street, Portland, Oregon.

生态关系、空间形式、使用对象等。现今，不少研究者倾向于突破生态和社会领域的“弹性”界定，从更广义的角度谈论“弹性景观”。例如，美国景观设计师协会理事尼尔·柯克伍德指出“弹性景观”不是“单一的设计运动”，不是“固定的原则、规范或规则”，也不是“特有途径或宣言”，而是对传统、文化和自然价值的关注。^[5]

在景观实践中，有很多直接或间接提升公共空间弹性的做法。直接做法包括：将渠化水系改造成具有软质驳岸的自然景观河道，将水泥铺装停车场改造成透水透绿的生态停车空间，将废弃的厂矿旧址改造成独具特色的城市公园等；间接做法指通过城市公共空间景观规划设计，引导人们选择低碳生态的生活方式，如城区内的自行车道、健身步道或其他以非机动车为主的绿道空间设计，鼓励人们放弃机动车出行，以减少大气污染（图3）。

2.2.2 应对资源短缺现状的城市公共空间设计

人口的激增与城市的蔓延使得许多国家的可利用水资源和森林资源等均出现严重短缺的局面。弹性的景观设计可以从如下几个方向对上述问题予以回应。

水资源利用：随着以水资源短缺和水质恶化为特征的水资源危机日趋严重，雨水管理成为了城市公共空间景观设计的重要内容。降落地表的雨水可以经有序收集、过滤，补充地下水或存储备用，而非直

and users. Recently, researchers have started to define resilience beyond ecological and social contexts, offering a more extensive and broader perspective for what a resilient landscape might be. Niall Kirkwood (FASLA) had pointed out that a “resilient landscape” is not a simple design action, or a fixed principle or rule, but an attention to and concern for tradition, culture, and value of nature.^[5]

There are many direct and indirect approaches for promoting the resilience of urban public spaces. Direct approaches include transforming channelized water systems into natural rivers, converting paved parking areas into permeable parking with greenery, and transforming old factories into city parks. Indirect approaches include incentives for low-carbon and green lifestyles, which can be encouraged through specific urban landscape planning and design practices. Improving bike transportation, running routes / trails, and other non-car greenways are examples of encouraging people to reduce vehicle use and help decrease air pollution (Fig. 3).

2.2.2 Design Approaches for Resource Shortages

Population increases and urban sprawl have strained natural resources and decreased forest, land, and water resources in many countries. Resilient urban and landscape design can respond in several ways, including:

Water Management: Attention to water management practices has become an indispensable part of urban landscape design. Instead of draining directly through municipal pipe



接经市政雨水管网排放。这一过程与景观水系设计结合，可形成溪流水景、构造湿地及雨水花园等，不仅能有效减少城市地表径流，缓减洪涝危害，还能打造有特色、有脉络的城市公共空间景观。这类与传统市政工程结合、具有社会及生态可持续特征的多功能景观系统也被称为“景观基础设施”（图4）。

都市森林重建：林地具有美化环境、调节微气候、改善大气质量、防风固坡等生态功能，也是重要的能源供给方。但越来越多的城市原有林地被“钢筋混凝土森林”所取代。现代城市公共空间的“都市森林重建”行动，不仅是对园林树木或乡土植物的种植培育，还包括都市农业、都市园艺等实践，如英国的牛津城市农场项目，其在牛津东部的佛罗伦萨公园地区建立一片面积为1hm²的社区主导型城市农场，通过种植蔬果、开展社区活动、分享技能等，试图鼓励当地的人们融入食物生产过程当中，并推动健康的生活方式和可持续生活^④。类似的还有加拿大温哥华公园委员会食品行动计划，其旨在整合当地食物进入公园休闲系统，将人们对食物的需求内嵌于不同类型的城市空间，以形成当地食品支持系统。^⑤早期的都市造林行动包括美国纽约市的“百万树木倡议”（图5）及洛杉矶发起的在1984年奥运会之前种植一百万株树木的“树-人行动”。此外，世界各地还成立了许多致力于都市森林建设和城市可持续生活的民间组织，如美国旧金山的“都市森林之友”和澳大利亚的“都市造林”，它们都旨在借助普通民众之力推动城市公共空间环境的改善。

2.2.3 应对能源危机的节能与再生能源行动

城市地区的能源消耗占全球能源消耗的75%。在城市公共空间设计中结合可再生能源，能实现直接有效的公众教育和示范作用，帮助公众认识不同地区气候条件，了解太阳能、风能、潮汐能等常见的可再生能源，或者提示公众将农用废弃物、厨余垃圾、干枯落叶、修剪后



networks, rainfall could be collected and filtrated to be stored or to recharge groundwater. If such process are integrated with stream, wetland, and rainwater garden design, surface runoff in urban areas can be reduced. This will help to reduce flooding and create distinctly designed urban public spaces. These multi-functional systems of landscape infrastructure can be integrated with traditional engineering to foster a greater social and ecological understanding of landscape systems (Fig. 4).

Urban Reforestation: Forests plays an important role in urban nature as micro-climate adjusters, atmosphere improvers, erosion protectors, and resource providers. However, original forests are being replaced by forests of steel and concrete during urban development. Urban reforestation in public spaces includes both planting and nursing urban plants or vernacular plants through urban agriculture and urban horticulture. For example, Oxford City Farm, covering a 2.5-acre site, has been transformed into a community-led city farm in the heart of east Oxford, near to Florence Park. Through growing fruits and vegetables, vibrant activities, the farm seeks to engage local people with the processes of food production and promote healthy lifestyles and sustainable living.^④ The Local Food Action Plan of the Vancouver Park Board is another example, which integrates local food into the city's parks and recreational system that gives an opportunity to engage with the community to adapt to the ever-changing needs of the residents of Vancouver to support the local food system.^⑤ The Million Tree Initiative in New York City (Fig. 5) and the Tree-People Action in Los Angeles to plant 1 million trees before the Olympic Games of 1984 are two early examples of urban forestry. Many non-government organizations, such as Friends of the Urban Forest in San Francisco USA and Urban Reforestation in Australia, are also examples of this trend. All are dedicated to urban reforestation and sustainable urban living that draws support from the public and seeks to improve urban public spaces.

2.2.3 Energy-Saving and Renewable Energy Responses

Cities account for 75% of the world total energy consumption. If combined with renewable energy, urban public space design can further serve its educational and demonstration functions by helping the public recognize different types of renewable energy, including solar energy, wind energy, and tidal energy. This may also help encourage the public to change waste into bioenergy. For landscape architects, comprehensive knowledge of the latest technologies, products, and investments in solar energy, wind energy,

④ 更多有关“牛津城市农场”的信息，请访问<http://www.oxfordcityfarm.org.uk/>。

⑤ “温哥华公园委员会食品行动计划”的下载地址：<http://vancouver.ca/files/cov/Local-food-action-plan.pdf>。

④ For more information of "Oxford City Farm," please visit <http://www.oxfordcityfarm.org.uk/>.

⑤ For more information of "The Local Food Action Plan of the Vancouver Park Board," please download at <http://vancouver.ca/files/cov/Local-food-action-plan.pdf>.

5. 纽约都市森林重建计划
 6. 克罗地亚海风琴项目
 7. 克罗地亚“向太阳致敬”互动灯光景观装置
-
5. New York Restoration Project
 6. Sea-Organ in Zadar, Croatia.
 7. Interactive light installation: "Greeting to the Sun" in Croatia.

的冗枝等转化为生物能源。而对于景观设计师而言，通过学习有关太阳能、风能、地热能、生物质能和其他可再生能源的最新技术、产品开发情况、使用成本与融资选项等，亦可在设计实践中占据主动地位。

例如，2005年，克罗地亚建筑师尼古拉·巴希奇在克罗地亚扎达尔的伊斯特拉滨水区大理石台阶下排布了35个长短不一的管道，并在平台表面开凿了两排大小不同的孔洞，在海水不断冲击海岸的作用力下，反映出海浪撞击海岸的不同声响，产生了源于自然、可感应自然的声音装置——“海风琴”（图6）。继此之后，2007年，巴希奇又在海风琴项目场地附近设计了另一处利用再生能源的景观交互装置——

geothermal energy, bioenergy or other renewable energies can help bring about new design practices.

In 2005, in the Sea Organ project, the Croatian architect Nikola Bašić laid out 35 pipes of varying lengths under a marble staircases along the Istarska-waterfront in Zadar, Croatia. The Sea Organ had two rows of pipes with holes of different sizes, and were tuned to make sounds as the waves pushed air through (Fig. 6). In 2007, Nikola Bašić designed another interactive landscape installation called “Greeting to the Sun,” which uses solar energy to display colorful, diversified, and interactive lights



“向太阳致敬”。该装置包含300多块嵌有太阳能电池组件的玻璃面板，铺装成直径22m的圆形。装置白天将太阳光能转换为电能储存，夜间则根据海浪节奏和“海风琴”声响，演绎出色彩丰富、图案多变的互动灯光景观（图7）。

为了最大程度地吸收太阳光且不遮挡视线，最常见的利用太阳能的做法是将太阳能光伏板安装在构筑物或设施的顶部；但诸如“向太阳致敬”这种以非常规方式利用光伏板的创新形式在城市公共空间景观的设计之中正日益增加。2014年11月，在著名画家文森特·梵高的故乡荷兰，建成了世界上第一条夜光自行车道。该自行车道长1km，是设计师丹·罗斯格德受梵高名画“星空”启发而作的作品，其路面的荧光涂层由5万个漩涡状排列的荧光石组成，白天吸收太阳光并充电，晚间发光，不仅可节约电能，还有助于减少城市光污染（图8）。

2.2.4 促进生物多样性提升的城市公共空间环境设计

如今，生物多样性已成为全球范围城市公共空间环境的热点关注议题。生物环境设计的核心原则是鼓励和促进环境中的生物多样性特征。滨水区、雨水花园、生态湿地等是生物多样性设计的主要空间；当这类城市空间与城市生态斑块和生态廊道结合在一起时，空间的连续性也为促进城市生物多样性的提升增加了可能（图9）。

2.3 以“学科交叉”为契机的景观技术创新

面对现今的行业困境，许多设计师不再拘泥于本学科的专业领域，而是主动调整设计战略，在设计实践中与其他学科积极开展合

at night. The installation is made up of 300 glass and solar panels arranged in a 22-meter diameter circle. During the day, the solar panels collect and store energy, and at night the light matches the waves and sounds of the Sea Organ (Fig. 7).

Compared with typical photovoltaic panel installations which tend to hide solar panels out of view, this installation makes solar energy an integral part of the urban public space. In another example, the first luminous cycling trail opened in Eindhoven, Holland, the home of Vincent Van Gogh, in 2014. The one-kilometer-long path is composed of 50,000 stones arranged in the swirling pattern of Van Gogh's "Starry Night." The coated stones gather energy during the day and glow at night. This reduces electric costs and urban lighting pollution (Fig. 8).

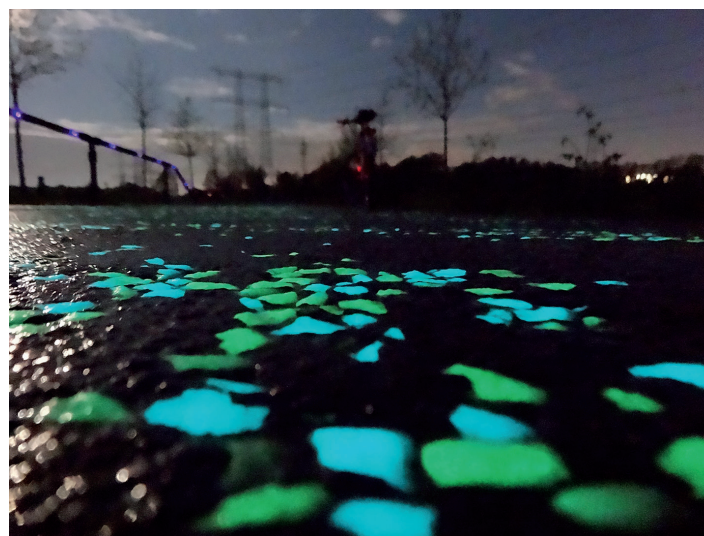
2.2.4 Design to Promote Biodiversity

Designing for biodiversity is increasingly a focus in urban public spaces. The core principle of this type of environmental design is to encourage and promote the biodiversity by advocating for diversified plant varieties. Waterfront areas, rain gardens, and eco-wetlands are increasingly connected to urban ecological patches and corridors. The resulting open spaces promote the urban biodiversity (Fig. 9).

2.3 Technological Innovations and Transdisciplinary Cooperation

Challenged by the deflation of landscape industry nowadays, many designers are increasingly looking to other disciplines for technologies and strategies. In his article of Ten Tenets and

8. 荷兰夜光自行车道
 9. 多伦多蜜蜂城市行动
8. Van Gogh-Roosegaarde cycle path in Netherland
 9. Bee City Canada



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作。正如伊恩·汉密尔顿·汤普森在《景观都市主义的十个原则与六个问题》中所提出，“尽管针对相关专业群落关系的论述不尽相同，研究者们普遍认识到，景观都市主义可能成为打破这些学科界限的溶剂”。^[6]

2.3.1 与最新园艺技术的结合

作为减少城市热岛效应、增加城市绿色空间、加强雨水管理和降低建筑物能耗的重要举措，屋顶花园、垂直绿化及立体绿化成为了许多国家和城市的关注热点。在建筑密度较高的城市，为在有限空间创造更多的自然元素，研究者需展开多种形式的实验与创新。以在生态建筑研究中领先的马来西亚为例，其政府对绿色技术的研发尤为重视，启动了绿色技术财政计划，以支持和提升绿色技术研发及其在城市公共空间中的应用，进而催生了将垂直绿化系统应用于不同类型城市公共空间的研究案例。

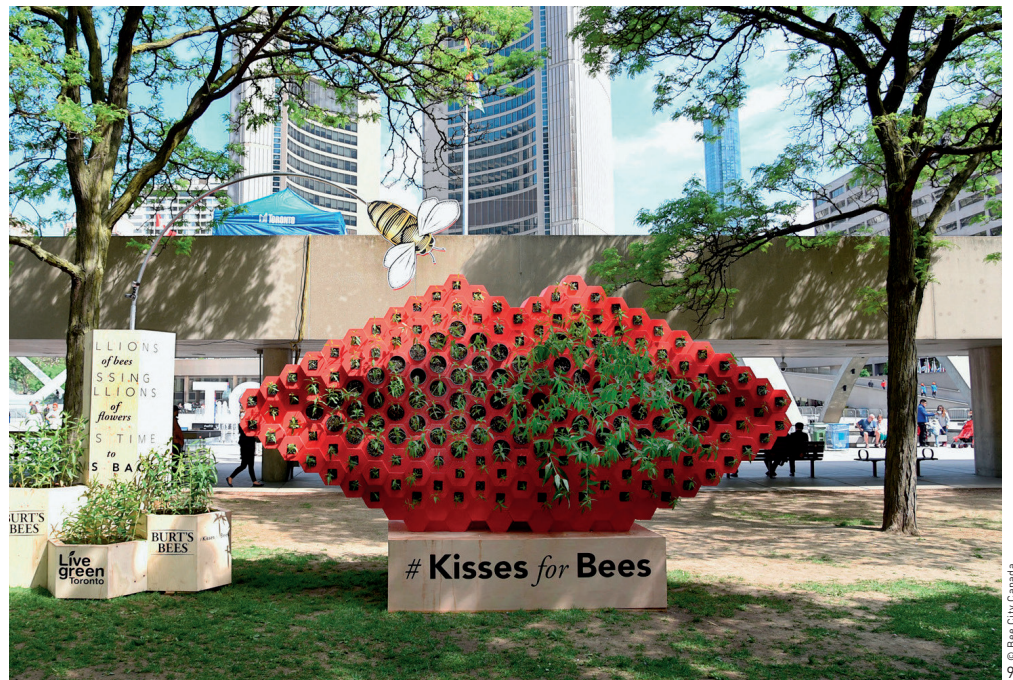
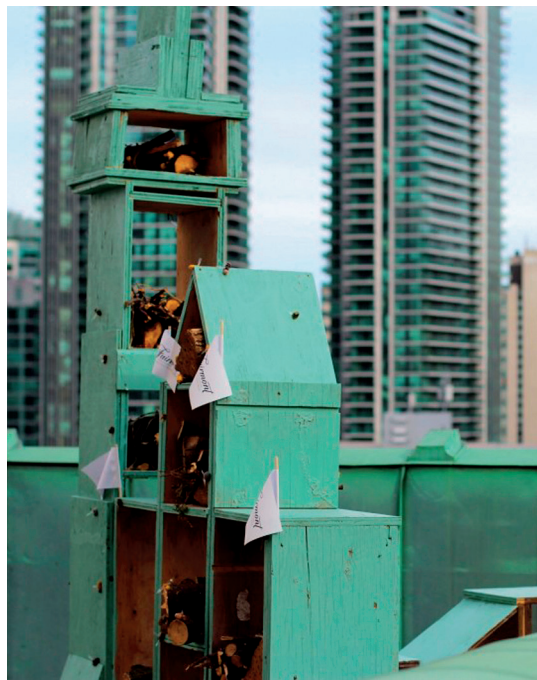
此外，作为对非环境友好型现代农业方式的反思，都市农业也是一种可以与景观相结合的创新技术。都市农业不主张以砍伐林地或填埋湖塘的方式来获取耕种基地，而是充分利用构筑物屋顶、露台、

Six Questions for Landscape Urbanism, landscape architect Ian Hamilton Thompson has stated that “the constellation of relevant professions varies from article to article, but the common thought is that landscape urbanism can be the solvent which breaks down the barriers between these disciplines.”^[6]

2.3.1 Integration with Horticultural Technologies

In high-density urban areas, roof gardens and green facades have become popular because of their ability to reduce urban heat island effect, increase urban green spaces, encourage water management, and reduce building energy consumption. It is urgent for researchers to explore how to increase natural elements in high-dense urban settings through innovative practices. In Malaysia, for example, the government gives priority to research and development on Green Technology, and has launched a Green Technology Financing Scheme (GTFS) to support and promote its application in urban public spaces. As a result, Malaysia has become a leader in ecological building research.

Urban agriculture, different from environmentally destructive modern agriculture, could also be integrated with landscape design. First, urban agriculture avoids overusing arable land at the cost of deforestation. Instead, it advocates for making best use of any available patch of land for agricultural cultivation,



阳台、垂直面，甚至一些边角空间，开展见缝插针式的农业种植（图10）。这一做法不仅考虑了土地利用的经济性问题，还使农业生产与城市市民之间形成了更加直接而紧密的关联，人们可以就近享用新鲜安全的食品，避免或大幅减少了远离城市的传统农业所产生的大量运输能耗。都市农业的推广从很大程度上得益于城市居民对于健康食品的强烈需求，也体现出了人们对于现代城市食品安全危机的反思。同时对于疏于农耕、“五谷不分”的现代城市居民而言，都市农业能够帮助他们了解与自己饮食相关的农作物的知识，这对于儿童有着尤其重要的教育意义；此外，农作物种植产生的废弃物可回收利用为生物质能源。

2.3.2 与公共艺术实践的结合

城市公共空间是服务于人的重要场址，这一特性决定了其与社会学实践研究的密切关系。那些具有较强社会服务意识的研究人员和设计师，会更加关注与社区参与型活动相关的公共艺术领域（包括设计学、社会学、公共健康、教育学等）。例如，分别来自加拿大卡尔加里大学和多伦多大学社会学系的马特·帕特森和丹尼尔·西尔弗，对加拿大的5类社区进行了长达10年的研究，探索了社区艺术发展与社区、城市艺术、经济发展及艺术组织之间的关系，并特别关注了艺术在低收入社区改造过程中的作用；西澳大利亚大学人口健康

including roofs, terraces, and facades (Fig. 10). This approach considers the economic efficiency of land use, and also helps build a more direct relationship between agricultural production and urban dwellers. Urban dwellers can enjoy fresh and safe food, while reducing transportation energy uses. The expansion of urban agriculture in part attribute to dwellers' demand for healthy food with their enhanced awareness of food security. For urban dwellers with little knowledge of farming, urban agriculture helps educate them about diets and healthy food choices, especially to children. Finally, agricultural waste can be collected and utilized as biomass energy.

2.3.2 Integration with Public Art

People are still the main users of public space, and public art and related fields (such as design, sociology, public healthy, and education) which promote social engagement can contribute to community participation and educational and social value. Matt Patterson and Daniel Silver, sociologists from the University of Calgary and the University of Toronto in Canada, respectfully, have analyzed the relationship between community, urban art, economic development, and art groups in five types of communities for over ten years, especially in the redesign of low-income communities. In another example, Jacinta Francis, Billie Giles-Corti, Lisa Wood, and Matthew Knuiman from Centre of

10-1. 英属哥伦比亚大学农场
10-2. 英属哥伦比亚大学农场
向当地居民进行科普教育
教育活动

10-1. The University of
British Columbia Farm
10-2. Guided tour in the
University of British
Columbia farm



© Martin Drey / UBC C&M

10-1

学院建成环境与健康中心的雅辛塔·弗朗西斯、比利·贾尔斯-科尔蒂、莉萨·伍德和马修·卡纽曼通过实验，探究了公共空间的品质与社区之间的联系。^[7]这些研究均表明，公共艺术与经济发展相结合，可以提升社区参与度和场地归属感（图11）。

此外，由于“艺术空间对于住区复兴和经济发展具有双重效用”^[8]，我们也应当重视公共艺术在老旧社区改造中的应用。同时，随着社区公共艺术组织的不断发展与成熟，通过艺术院校、艺术家与社区共建团体，可以促进居民、社区与艺术家的直接交流，并在社区复兴的过程中带来经济发展契机。

2.3.3 与数字技术结合

现代数字技术的产生和发展不仅为城市公共空间形态设计提供了新可能，也为人与公共空间环境建立了新联系，提升了公共空间的吸引力和参与度，使得“人”不仅作为观赏者存在，又成为环境参与者、设计者或建设者，可直接推动“人”与“景物”的情感联系。

参数化景观设计：参数化可作为景观空间形态创造的辅助工具，使非直线空间形态的生成过程更为精密、便捷；同时，设计者有必要继续挖掘参数化工具在大尺度上的空间组织、能源利用、能耗评估、生态网络组建、弹性平衡等诸多领域的作用，以促成城市参数在空间上的协同。

交互景观设计：这是基于现代交互技术的新生景观，常以交互艺术装置的形式存在。这类景观设计依靠可感知和测量热度、行动、接近度、气候现象的传感器或其他根据条件编程产生回应的输入形式，引出基于参与行动的回应的，人与装置从而进行对话，并共同构成一种独特的艺术形式。

the Built Environment and Health, School of Population Health, the University of Western Australia, studied the relationship between spatial quality and sense of community.^[7] In both these studies they found increased community participation and sense of place when public art was incorporated with economic development (Fig. 11).

Public art should also be valued in historic preservation as spaces that “function as a conduit for building social networks that contribute to both community revitalization and artistic development.”^[8] Meanwhile, cooperation between art and design schools, and artists and communities can not only increase the ways residents and community members can communicate directly with artists, but also bring economic benefits and develop opportunity through community revitalization.

2.3.3 Integration with Digital Technologies

Modern digital technology has provided new possibilities for urban spatial design while creating new connections between people and public spaces: technology has helped boost the attractiveness of public spaces, and switching the role of people from observers into participants that contributes to stimulate people’s emotional response and rich their experience.

Parametric Landscape Design: Parametric design may be a useful assistant tool for the creation of spatial design and nonlinear spaces that are more precise and convenient. For landscape architects, it is also worthwhile for exploring multiple options for spatial organization, energy utilization and assessment, building ecological network, and resilient city through cross-discipline collaboration within large-scale urban parameters.



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10-2

自20世纪90年代后期以来，交互媒体技术在博物馆、美术馆等室内展示空间得到广泛应用。如今，交互设计逐渐拓展至与市民日常生活直接相关的城市外部公共空间，不但可以满足个人在生理、心理、社交、文化方面的需求，更能通过共同参与设计，有效地促进人际交往和增强场所归属感。如图12所示的“大理石”装置，可根据人的声音、位移或触摸强度而发生光照变化。随着参与者的聚集，“人”与“景物”互动衍生出了更多的“人-人”互动，城市公共空间也因此变得生机勃勃。

3 结论：主动创新，转“危机”为“契机”

当前的行业困境可以视作“优胜劣汰”、提升行业整体水平的契机，要想在这场“危机”中生存甚而发展，从业者不仅需要了解社会与城市发展的需求，更需要解剖自身弱点和突破口，寻求从经营模式、服务意识到专业技能、团队合作的变革途径。

在现代城市中，生态环境破坏、社区关系淡漠、食品安全危机、能耗不可持续等问题已成为与每个人休戚相关的民生问题。事实上，设计者的创造性工作能够改变使用者的生活态度及生活方式，进而产生巨大的社会价值。

这是一个变革中的时代，它向设计者提出了诸多挑战。作为视创新为灵魂的设计行业，固步自封必将被淘汰。从个体而言，一方面需要积极主动地更新知识体系，从新知识中捕获灵感，寻找适合个体发展的切入点；另一方面则必须认识到个体的局限性，转而重视专业分工与跨学科合作，并将新知新作融入整合设计。在这样的创新、分化与整合过程中，城市公共空间环境将日趋完善，并带给居者更多愉悦身心的体验，重拾对未来城市的美好希冀。**LAF**

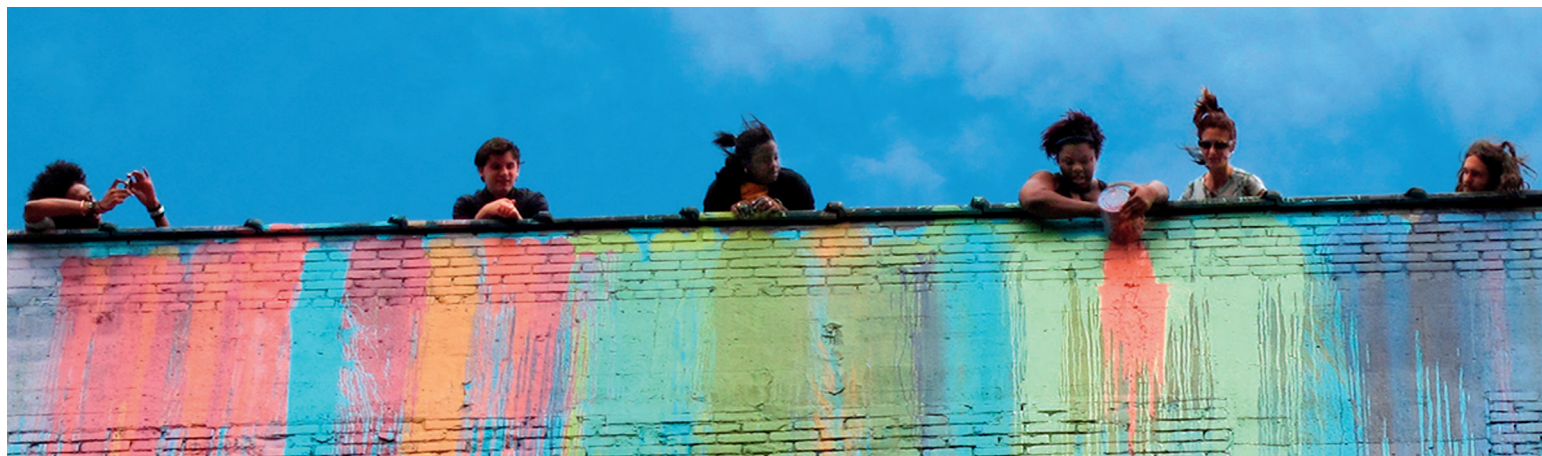


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- 11. 底特律当地社区居民参与的公共艺术
- 12-1. 大理石装置：可根据人的声音，走动和触摸产生颜色变化
- 12-2. 大理石装置与人产生互动
- 11. Local community participated in public arts in Detroit
- 12-1. Installation Marbles can sense sound, move, and touch and produce varying illuminations.
- 12-2. Interaction between the Marbles and people

Interactive Landscape Design: Based on updated interactive technology mainly in the form of interactive art installations, interactive landscape design measures site responses according to sensors that may perceive temperature, action, nearness, climate phenomena, or other program input forms.

Since the late 1990s, the development of digital media technology has been extensively applied to interior exhibition spaces such as museums and galleries. Today, interactive installations could be found in urban outdoor spaces. These types of spaces contribute to physical, psychological, social, and cultural wellbeing, and they promote interpersonal communication through participatory design. As shown in Figure 12, the installation Marbles can sense sound, move, and touch to produce varying illuminations. As more people gathered the installation, it changed from a “people-installation” to a space of “people-people” interaction, successfully changing the original sleepy space into a vivid place.



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3 Conclusion: Innovation for Transformation

The changing demands of urban development requires new practices in landscape design. Understanding the economic demands of community and urban development will require designers to reform their business models and better collaborate with other disciplines.

Landscape design will also have to work to create ecological balance, repair community relationships, respond to food safety, and develop sustainable patterns which are critical issues related to everyone's daily life. Through creative practices, designers can promote healthy lifestyle patterns and social values.

Change brings challenge and opportunity. Innovation is the soul of design, and stagnate progress means to become obsolete. For landscape architects, it is essential to proactively challenge their own knowledge systems while also realizing the limits of individuals to integrate new knowledge. In the process of innovation, diversity, and integration through cross-discipline collaboration, urban public spaces may start to become places of hope for the future. **LAF**



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