

景观设计语境下的思考： 设计、生态、韧性与研究的交汇

A DISCOURSE ON LANDSCAPE ARCHITECTURE: AT THE INTERSECTION OF DESIGN, ECOLOGY, RESILIENCE, AND RESEARCH



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在人类世背景下，您如何定义景观规划设计中的“生态”和“韧性”？当前是否存在对这两个术语/概念的误解，或者误导性的设计实践？

张韬、迈克尔·格罗福（以下简称“格罗福”）：生态学是研究生物之间、及与其生存环境之间关系的学科。生态学覆盖范围广泛，注重系统性和复杂性，不会过分强调或偏好生态系统中的某一特定物种或组成部分。总体而言，生态系统越复杂，如物种多

样性、景观异质性等越高，其稳定性越强，抵抗干扰的韧性也越强。“生态韧性”是指生态系统在受到外部干扰时，在维持本质生命过程和结构不发生根本性改变的前提下所能够承受并自我恢复的能力。尽管整个系统核心机能保持完好，但生态系统内的个别物种或组成部分可能会经历剧烈的动荡变化。

这种意义上的生态韧性对于人类社会偏好的影响并不完全是正向的。一个简单的例子，大多数人工修建的景观需要不断除草

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摘要

人类世背景下的大多数紧迫挑战，如气候变化、环境退化等都涉及生态，这些问题又无不深刻影响着社会经济与普世公平。作为当代景观设计领域的两个重要议题，生态和韧性的内在联系和差异对设计实践影响深远。作者认为，生态学覆盖范围广泛，注重系统性和复杂性，不会过分强调或偏好生态系统中的某一特定物种或组成部分。然而，在规划设计的语境下所讨论的韧性则体现出强烈的以人类为本的特征。以生态为本和以人类为本的两种设计视角，引发了关于生态功能与深受文化和社会背景影响的美学形式之间不断演变关系的进一步探讨。

景观设计师掌握着将环境政策和社会审美转译成建成环境的途径，因而也拥有与作为其主要使用者的公众产生直接联系的强大能力。景观设计要想在当今世界所面临的复杂环境问题上取得重大进展，行业协作和跨学科综合研究亟待加强。

关键词

生态；韧性；生态美学；景观绩效；景观研究

ABSTRACT

Most of the pressing challenges in the Anthropocene era are ecological, such as climate change and environmental degradation, all with profound impacts on socio-economics and equity. While ecology and resilience are among the most salient topics in contemporary landscape architecture, their inherent relationship and differences have deep implications on practice. The authors argue that ecology is all-encompassing and has a strong focus on system complexity without biasing or favoring any specific species or parts of the ecosystem. Resilience, when discussed in the context of planning and design, however, embodies a strong human-centric element. Ecocentric vs. anthropocentric perspectives provoke further discussion around an evolving relationship between ecological function and aesthetic forms that have been heavily informed by cultural and societal contexts.

By translating environmental policies and social preferences, landscape architects command tremendous power to connect with the primary users of the built environment — the general public. Collaboration and integrated research are required to make significant progress on the complex environmental challenges the world faces today.

KEY WORDS

Ecology; Resilience; Ecological Aesthetics; Landscape Performance; Landscape Research

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1. “波士顿：海之巨变”研究项目
1. Sea Change Boston research project

和修剪，以强调和彰显那些符合当下美学价值的少数植物物种。这种刻意的除草、修剪和除虫实则是对生态系统的一种外界干扰，正是其内在的生态韧性在发挥力量重新赋予景观复杂性和错综的秩序。干扰在自然界中无处不在，而变化对许多至关重要的生物地球化学过程而言必不可少。大多数生态系统可以承受一定程度的外界干扰，而一旦突破临界值，生态系统则可能产生不可逆转的变化，甚至导致其状态彻底改变，以致崩溃。自然界永久平衡的理论在20世纪后期已经在很大程度上失去了信服力。

人类世背景下的大多数紧迫挑战，如气候变化、环境退化等都涉及生态，这些问题又无不深刻影响着社会经济与普世公平。然而，在规划设计的语境下所讨论的韧性则体现出强烈的以人类为本的特征。大多数韧性

设计都会首先避免可能的未来干扰，尤其是那些发生在人口密集的城市地区的灾难性干扰。生态学接纳变化并将其视为一个动态过程，而以人类为中心的韧性设计则会相应偏向于稳固系统的现有状态，并尽可能提高其在面对不确定性时维持原状的能力，即使当前系统可能存在根本性的缺陷。

许多沿海地区或洪泛区不适合作为城市定居点的观点正在得到越来越多的共识，而且在急剧变化的气候影响下，这些城市会愈加脆弱，维护成本也会愈发昂贵。但是，期望这些区域的城市完全废弃、居民全体撤离却是不现实且不人道的。对此，我们近期看到包括纽约、旧金山、波士顿在内的主要沿海城市在其总体韧性提升上付诸了许多努力。另一个例子是目前发生在美国西海岸的对社会造成了毁灭性破坏的大规模森林野火。但它同时也是自然界管理特定生态系统的一种自发产生的、关键的自然力量。作为景观设计师，我们不仅需要了解深层生态学理论，也肩负着提高韧性的责任，力图寻找兼顾生态过程与社会福祉的平衡点。

Sasaki的实践对美学形式和生态功能有着怎样的思考？Sasaki是否倡导当代景观设计中的生态美学？

张韬、格罗福：路易斯·沙利文提出“功能决定形式”时，正是19世纪末快速工业化和技术进步亟需新的参照来定义摩天大楼形式的时代。因此，建筑物的目的或功能成为现代主义建筑师遵从的新法则。类似的规则也已在自然界中盛行了数百万年，且在生物进化过程中得到了充分证实，比如人类进化为以双足支撑的身体形态即是其直立行走的结果。按照同样的思路，美学形式和生态功能不应被视为对立矛盾，特别是在我们

已经更好地了解生态功能和生态系统服务必要性的当下。然而，在当代景观设计中，美学形式与生态功能仍然存在一定错位。究其原因，主要是因为形式是有形的、能够被人们在日常生活中感知到，而生态功能往往是无形且易被忽视的。形式存在于所有视觉艺术和设计领域中，它体现并且深受其社会文化背景的影响。在设计行业早期，特别是当景观设计主要受雇为社会精英服务时，形式亦是体现社会地位的方式，帮助把富有的私人领地与不修边幅的自然景观相区隔。因此，那些需要高人工维护的装饰型和雕琢过的景观更顺应当时的社会背景需求，例如单物种景观或干旱环境中的大型草坪等。社会性和文化背景均决定了当代美学形式的偏好。

在环境意识觉醒和积极投入行动的时代，景观设计师有责任倡导美学形式的新参照。科学的高度进步已使社会拥有足够的知识摆脱陈旧的社会审美范式来评价形式美学价值。例如，湿地有时仍会被贬称为沼泽地或荒地，而美国当下政府的政治标语“把沼泽排干！”即用沼泽来比喻问题所在。研究表明，湿地是最具生产力和最具价值的生态系统之一，但目前正面临着巨大威胁。令人鼓舞的是，近年来，人们对于湿地公园、草甸、大草原等健康的功能性景观的审美鉴赏能力已有所提高。

能够真正体现生态价值且符合社会审美通识水平的场所有助于推动生态意识的审美导向，对于自然的、甚至是有时看似原始无序的景观的欣赏可能会成为新的社会审美范式的一部分。

您认为在当今的环境挑战，尤其是气候变化面前，景观设计师扮演着怎样的社会角色？可以分享一些跨学科合作的经历吗？



张韬、格罗福：现在，我们正面临着巨大的环境挑战：也许在我们的有生之年就能感受到，地球上的许多地区正变得不再适宜人类后代生存，更不用说那些早在人类诞生前就已在地球上久居数万年的数量庞大的野生动植物。直面这些日益严峻的挑战并为之抗争是每位公民的责任，这其中当然包括景观设计师。

我们可以从两个方面来应对挑战：第一，由于这些挑战往往具有普遍性，因此我们需要制定一系列可以大规模实施的、有效的渐进式政策。目前的景观设计行业却仍然处于政策制定和实施的下游。环境问题必须在区域、国家乃至全球尺度的层面上来解决，但景观设计师通常只能被动地在预定目

标内对个体场地进行设计。若想在环境问题上具有更大的影响力，景观设计师应当与相关行业及学术界联合起来，主动参与到政策制定中。我们既可以作为个体以候选人的身份积极参政，也可以作为集体，通过美国景观设计基金会（LAF）、美国景观设计师协会（ASLA）、国际景观设计师联盟（IFLA）等行业学会呼吁推动有效环境政策的制定。

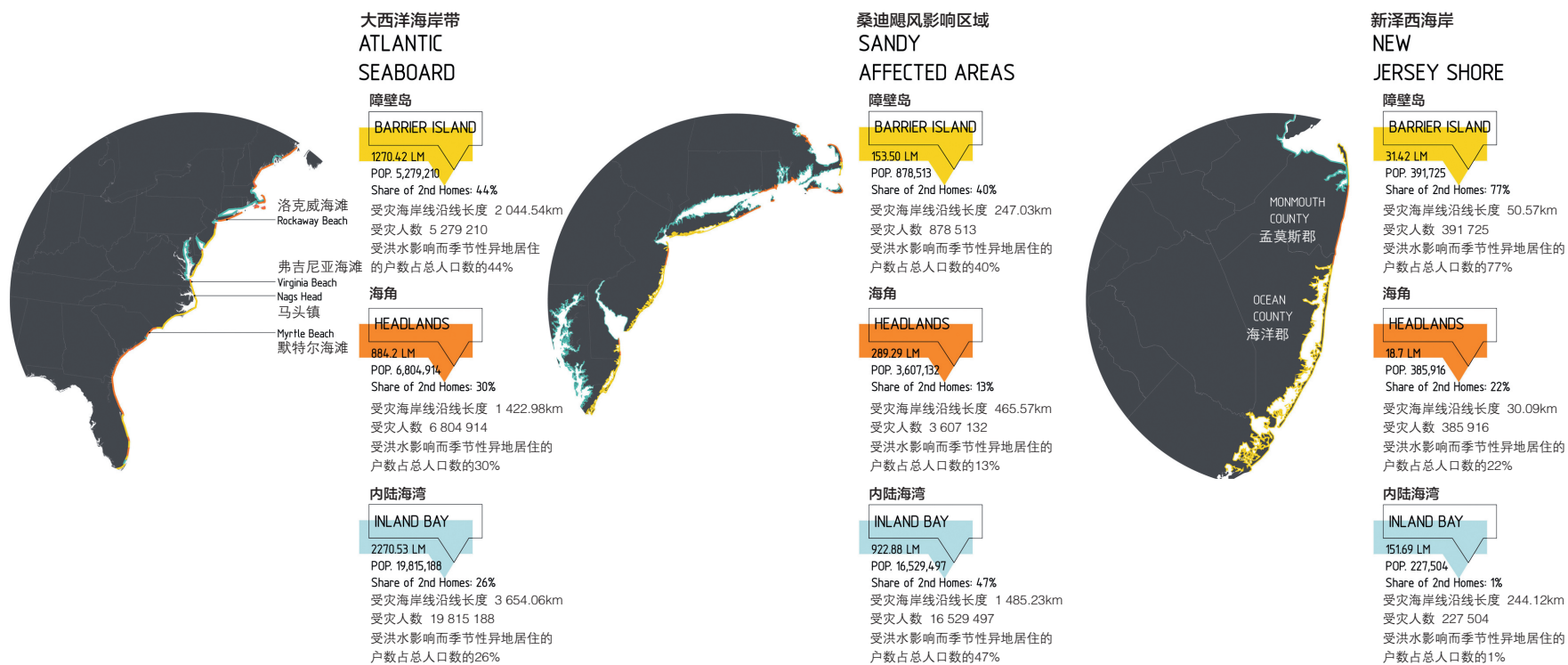
第二，尽管我们现在还不具备影响上游决策的权力，但景观设计师掌握着通过施展设计能力创造公共空间这种转译环境政策和社会审美的途径，因而也拥有与作为建成环境主要使用者的公众产生直接联系的强大能力。这种方式虽然不如参政直接，但也是一种普及和倡导生态设计的良好途径。一个在

环境治理上颇具成效且广受公众喜爱的实践项目可以作为推动或督导当前政策不足的有效例证，且有助于建立起自下而上的强有力的环境监管动力。从长远来看，它将会是推动改变的有效手段。

跨学科和超越学科范畴的广泛合作是应对当今世界面临的复杂气候挑战的唯一有效途径。这里所说的合作范围不仅限于生态学本身，该挑战所涉及的社会经济和文化层面与生态同样重要，且均与环境问题密切相关。除了职业设计师外，利益相关方、社区居民、社会弱势群体等都是我们的合作伙伴。在Sasaki，我们几乎整合了所有的设计相关学科，包括规划与城市设计、景观设计、市政工程、生态学、建筑、室内设计、技术

2. “桑迪”飓风灾后重建竞赛Sasaki参赛作品
2. Rebuild by Design after Superstorm Sandy by Sasaki

REGIONALLY AND NATIONALLY RELEVANT TYPOLOGIES
区域和全国范围内的相关情况





创新和平面设计等。我们不能自负地相信景观设计师可以掌握解决当今复杂城市问题所需的全部知识。我们深知我们的未知所在，这也正是我们的优势。

您怎样检验和评价人造景观的生态绩效？您是否相信在人类世背景下，人造景观始终比自然演替所创造的景观更具生态效益和社会效益？

张韬、格罗福：检验一处景观的生态绩效的最好方法是借助科学实证研究，这在当下（美国执政党）对科学重要性有所忽视的一些谬论前尤其重要。我们已经成功开展过一系列场地使用后评测研究，有些是我们独立完成，有些则是与研究机构或专业基金会合作完成，比如我们与美国景观设计学基金会合作的案例研究调查专题（CSI）。然而，此类场地使用后评测几乎从未是设计任务的一部分，亦或有任何资金支持。我们开展这类研究的动因在于希望通过评测已有项目，汲取知识并指导未来实践。虽然大多数景观设计师都十分渴望能对建成项目的绩效进行监测，但客户往往对开展使用后的长期评测研究并不感兴趣，且不愿意承担经费，因此景观行业的诉求也受到了限制。我们本可以借此启发设计师从实践中学习经验，又能借助客观实证教育公众助力生态建设的成功，而我们却错失了这一机会。通常情况下，景观都被视为一种公共资源，除非我们为其赋予一种更迫切的经济价值，并以此来使人们认识景观所提供的社会与环境效益，否则很难期望客户们未来对此类评价研究予以更多的重视。美国绿色建筑协会（USGBC）最新颁布的可持续场地评测系统（SITES）旨在对景观项目做全面的评测，包括部分建成使用的追踪评价，这有可能会成为未来激励客户

对该类评测投入感兴趣的动力之一。

至于人造景观与自然演替景观的绩效，比起讨论孰优孰劣，我认为更重要的问题是定义“更好”。人类世是否意味着要将“人类作为主要受益者”视为一切的前提？此外，时间尺度是这一问题所涉及的另一个要素，一处在当前绩效良好的人造景观是否有可能以牺牲长远福祉为代价的？其是否具有可持续性？

当然，一处人造景观的量化结果在多数情况下都能达到预期的社会与生态目标，也比自然演替景观收效更快。然而，“可量化”与“收效快”并不等同于“更好”。人造景观是在设定预期结果和目标后进行定向干预所产生的。自然演替则会花费更长时间——短则数十年，长则数世纪，并存在诸多不确定性，其结果极有可能与短期内期望的社会效益相去甚远。隶属于“国际长周期生态研究网络”（ILTER）的强大科研组织美国“长周期生态研究网络”（LTER）致力于在大时空尺度上对生态学过程进行研究，他们或许能为此类比较提供关键性的知识与参考建议。

您认为景观行业的研究与实践之间是否存在偏差？（或者您是否认为景观相关的学术研究未能为设计实践提供足够的支持？）

张韬、格罗福：许多学科都面临着知识的“科学性”与“实用性”之间的偏差。在对城市环境的设计与管理上，这种偏差尤其显著。尽管景观科学在过去几十年间已经取得了重大进展，但现今相关科学知识在规划设计中的应用却仍然不足。景观设计师往往缺乏深厚系统的科学背景，与科研领域深层次对接会有一定屏障。

在我们的实践中形成这种偏差的原因有

两个。第一，在每个项目的背景与面临的挑战都不尽相同的前提下，设计师受项目场地范围与时间安排的限制而难以进行充分深入的科学调研。与此同时，设计师还往往需要在有限的项目周期中及时制定设计决策推动项目进展。在像中国这样极速城镇化的地区中，乡村人口正以史无前例的规模与速度涌向城市，不断刺激城市的建设，也促使这种偏差越发突显。在不断试图在扩充自身知识储备和运用已有知识做出最合理的设计决策之间寻找平衡点的过程中，我们意识到知识探索是一个无限的过程，掌握所有的知识是不切实际的。知识与创造性之间存在着精妙的平衡点。爱因斯坦曾说道，知识是联系着我们与过去的纽带，但想象力却引领我们走向未来。

第二，丰富庞大的科研期刊知识库大多不对设计师免费开放。例如，由信息科学学会（ISI）开发的科学引文系统Web of Science对大多数设计公司来说价格都过于昂贵。此外，应用类或商业相关的课题研究在学术圈有时仍不被重视。

为了弥合两者之间的偏差，我们建议通过两种方式来促进未来的景观研究与实践：一是像绝大多数科研专业一样，在开展专业实践前，在景观设计学研究生课程阶段进行研究方法论和文献综述的相关训练；二是鼓励进行多学科综合研究，在其中融入社会科学和自然环境类学科——更重要的是融入设计学科——以更有效地解决复杂的环境问题。景观设计必须成为景观科学体系的一部分，并通过提出与环境相关的重要问题，创造更多研究契机。在过去的65年里，Sasaki的学术根基一直在滋养我们自己的设计文化，鼓励我们保持好奇心及超越实践范畴的广泛合作意识。**LAF**



How do you define “ecology” and “resilience” in landscape planning and design in the Anthropocene era? Is there any misunderstanding on the two terms / concepts, or any misleading practices prevailing nowadays?

ZHANG Tao and Michael GROVE (ZHANG and GROVE hereafter):

Ecology is the study of the relationships of organisms with their environment and each other. It is all-encompassing and has a strong focus on system complexity without biasing or favoring any specific species or parts of the ecosystem. In general, an ecosystem is more stable and resilient to disturbance when the system complexity increases, such as species richness and landscape heterogeneity. “Ecological resilience” refers to the amount of external disturbance that an ecosystem can withstand and recover from without fundamentally altering its vital processes and structures. Individual species or components of an ecosystem might undergo dramatic elasticity although the system as a whole retains its integrity.

This ecological resilience might not always be favorable to our societal preference. A simple example is that most manicured landscape requires constant weeding and pruning, favoring the few plant species that have aesthetic value for humans at this moment in time. This intentional weeding, pruning, and insect terminating is an external disturbance to the ecosystem whose inherent resilience exerts its power to bring complexity and chaotic order back to the landscape. Disturbances are ubiquitous in nature, and changes are critical to many vital

biogeochemical processes. Most of the ecosystems can withstand disturbances until a certain threshold is reached, whereby irreversible changes may lead the ecosystem to a fundamentally different state or even collapse. The theory that nature is permanently in balance has been largely discredited in the late 20th century.

Most of the pressing challenges we face in the Anthropocene era are ecological, such as climate change and environmental degradation, all with dramatic impacts on socio-economic equity. Resilience, when discussed in the context of planning and design, however, embodies a strong human-centric element. Most of the resilience-focused designs preempt plausible future disturbances, especially the catastrophic disasters in the most densely populated urban areas. While ecology embraces change as a dynamic process, the anthropocentric premise of resilience design understandably safeguards the present system and maximizes its durability in the face of uncertainties — even though the present system may be flawed.

Despite the growing consensus that many of the coastal areas or floodplains are not suitable for urban settlement, and will be increasingly vulnerable and costly amid a rapidly changing climate, it is unrealistic and inhumane to expect cities and settlements to retreat completely. In response to this, we have seen a rise in collective resilience efforts in cities such as New York, San Francisco, and Boston. Another example is the current wildfires on the west coast of the United States that are devastating to society, but a naturally occurring and critical force of nature that manages certain ecosystems. As



3. 由Sasaki和武汉市长江滨河空间设计项目的委托方共同建立的数据共享和反馈收集网络平台。
3. A data sharing and feedback collecting web platform created by Sasaki and the client of Wuhan Yangtze Riverfront project

landscape architects, we need to not only understand deep ecology, but also have the responsibility to promote resilience, in order to find a mindful balance between the ecological processes and societal wellbeing.

Among Sasaki's practice efforts, how do you consider aesthetic form and ecological function? Has Sasaki been advocating an ecological aesthetics in contemporary landscape design?

ZHANG and GROVE: When Louis Sullivan coined the phrase “form ever follows functions” in the late 19th century, it was the time when rapid industrialization and technological advancement called for new references to define the form of skyscrapers. Hence, the purpose or function of the buildings became the new law for Modernist architects. Similar rules have prevailed for millions of years in nature which is evident in biological evolution such as Homo sapiens' bipedal body as a result of upright walking. Following the same train of thought, aesthetic form and ecological function should not be viewed as a dichotomy, especially because we are now better educated about the imperatives for ecological functions and services. However, aesthetic form and ecological function are still often misaligned in contemporary landscape design. It is mainly because forms are tangible and perceptible to all in everyday life, while ecological functions are often invisible and unnoticed. Present in all visual arts and design fields, forms are deeply forged by and embedded in the

societal context. The form embodies social status, particularly when landscape design was predominantly a service to the elite to differentiate their private properties from the unpruned landscapes. As a result, the labor-intensive ornamentation and manicured landscape are favored for purposes such as monoculture or oversized lawn in arid environments. Socialization and cultural context inform much of the contemporary preferences for certain aesthetic forms.

Landscape architects should advocate for a new reference for aesthetic forms in the era of environmental awakening and actions. Science has advanced so much that there is adequate knowledge for the society to evaluate aesthetics beyond the obsolete social norms. For example, wetlands are sometimes still characterized as swamps or wasteland (vis the current American meme “drain the swamps”). Studies have shown that wetlands are among the most productive and valuable, yet threatened ecosystems. Encouragingly, in recent years, the aesthetic appreciation of healthy and functional landscapes such as wetland parks, meadows, and prairie has grown.

Places that exemplify genuine ecological values with aligned socially desired aesthetics can help promote an ecologically-minded aesthetic preference in which appreciation of natural or even sometimes messy-looking landscapes can be a popular part of the new social norm.

How do you consider the role that landscape architects play in responding to present-day environmental challenges, especially to climate change? Could you

please share some experience of cross-disciplinary collaboration?

ZHANG and GROVE: We face tremendous environmental challenges today: in just one lifetime we might observe much of the earth becoming less inhabitable for future generations, let alone numerous wildlife species that have long lived on earth before us. It is every citizen's responsibility to confront these mounting challenges, including us landscape architects.

The answer to these challenges is twofold: On the one hand, the pervasive scale of these challenges calls for progressive and effective policies that can be implemented at large. Currently, landscape architecture as a profession is in the lower stream of policy-making and implementation. Landscape architects are often put in a reactive position, mostly commissioned to design discrete sites with predefined goals, while environmental issues need to be addressed at the regional, national or even global levels. To have bigger impacts on these issues, landscape architects with allied professions and scholars should be empowered by the spirit of activism to participate in policy making. We can act individually as candidates in the political arena or collectively through our professional societies, such as Landscape Architecture Foundation (LAF), American Society of Landscape Architects (ASLA), International Federation of Landscape Architects (IFLA), and others to advocate for effective environmental policies.

On the other hand, though we may not have much power yet to influence upper-stream decision making, we have tremendous power to connect with the general public as the primary users of the built environment. Landscape architects play a critical role in translating aspects of environmental policies by executing design power to create public spaces. While not as direct as political advocacy, it is a great avenue for educating and advocating for ecological design. An environmentally successful precedent that is also well appreciated by the public can speak for or against current policies, helping to foster strong environmental stewardship from the bottom-up. In the long term, it can be a powerful lever for change.

Collaboration, from interdisciplinary to transdisciplinary, is the only way to make significant progress on the complex environmental challenges the world faces today. The scope of collaboration is beyond ecology per se, as socio-economic and cultural aspects of the challenges are equally important and intertwined with the environmental issues. Stakeholders, community members, and underrepresented demographics are among our collaborators as well as professional designers. At Sasaki, we have almost the full spectrum of design disciplines under one roof: planning and urban design, landscape architecture, civil engineering and ecology, architecture and interiors, technological innovation, and graphic design. We do not have the ego to believe that we, as landscape architects, have the full body of knowledge to solve today's complex

urban issues. We know what we do not know, and that is our strength.

How do you examine and evaluate the ecological performance of designed / constructed landscapes? Do you believe that, in the age of Anthropocene, a designed / constructed landscape always performs better with a higher ecological and social benefits than a landscape of natural-succession?

ZHANG and GROVE: The best way to examine the ecological performance of a landscape is scientific evidence, especially in the face of misbeliefs that undermine the importance of science. We have had the success conducting some post-occupancy studies, independently or through collaborations with research institutions or professional foundations such as the Landscape Architecture Foundation's Case Study Investigation (CSI) program. However, such evaluations are rarely part of the design scope nor financially incentivized. Our motivation for conducting such research is to build knowledge such that we can evaluate our past projects and inform our future practice. Lack of interest and support from the client to conduct these post-occupancy studies places constraints on practitioners, even though most landscape architects are eager to monitor the performance of their recently completed projects. It is a missed opportunity to both learn from our work as designers and to educate the public to promote ecological successes with unbiased evidence. Because landscapes are often perceived as a public amenity, unless a more pressing economic value is

assigned to understanding the social and environmental benefits of landscapes, it is challenging to expect clients to prioritize such research. United States Green Building Council's (USGBC) recently launched Sustainable Sites Initiative (SITES) aims at the systematic evaluation of landscape projects including some post occupancy performance metrics, which may provide effective incentives for clients to invest in such monitoring effort.

Regarding the performance of a constructed landscape over those given to natural succession, a more important question is how one defines "better." In the era of Anthropocene, is the premise that human beings are the main beneficiary? Another very important element in this question is the temporal scale. Does the designed landscape perform better for the present at a price that discounts its long-term well-being or is it sustainable?

Certainly, a designed landscape will mostly yield measurable results aligned with the desired social and ecological goals, more immediately than through natural succession. Measurable and immediate do not always equate with better. Designed landscapes are intentional interventions with expected outcomes and goals. Natural succession takes a long time — often decades to centuries — and has many uncertainties that might very well be misaligned with the short-term desired social benefits. There is a very strong research coalition called Long-Term Ecological Research Network (LTER) in the US as part of ILTER (International LTER) that focuses on ecological processes over extended

temporal and spatial scales and might provide critical knowledge and reference for such comparisons.

Do you feel that there is a gap between research and practice in landscape industry? (Or do you feel that landscape design practice has not been perfectly supported by related academic research?)

ZHANG and GROVE: Multiple disciplines have acknowledged a gap between the “scientific” and “applied” expressions of knowledge. This gap is acutely apparent in the design and management of the urban environment. The application of scientific knowledge has often been, to date, inadequate in planning and design even though landscape science has made significant progress in the past few decades. Without necessarily a strong science background, designers understandably do not share the same vocabulary with the science community.

There are a couple of causes of this gap in our practice. First, the scope and

timeframe of each discrete project rarely allow exhaustive scientific investigation because each project is unique regarding its context and challenges, while practitioners are pressured to make timely design decisions in the compressed project schedule. This gap is further amplified when the work is in rapidly urbanizing areas such as China where unprecedented rural to urban migration is spurring development at massive scale and pace. We are aware that complete knowledge is unrealistic as we continue to seek the right balance between expanding our knowledge base and making the best-informed design decisions based on the available knowledge. It is an artful balance between knowledge and creativity. Albert Einstein alluded that knowledge as an anchor connects us with the past, but imagination leads us to the future.

Secondly, the wealth of growing scientific knowledge, especially the peer-reviewed journal publications, is largely inaccessible to most practitioners. For example, the scientific citation

system Internet Sciences Institute (ISI) Web of Science is too costly for most design firms. Furthermore, the esoteric academic knowledge sharing sometimes still discriminates against applied or commercially relevant knowledge.

To bridge this gap, we suggest two ways of improving future landscape research and practice: One is to strengthen landscape architecture graduate programs’ training on research methodology and literature review before beginning professional practice, similar to most of the science-based disciplines. And the other is to encourage multi-disciplinary synthesis research that integrates socio-environmental and, more importantly, the design disciplines to better tackle complex environmental problems. Landscape architecture must be part of the landscape science paradigm, contributing research opportunities by raising salient questions related to the shared environment. For the past 65 years, Sasaki’s academic root has been nurturing our culture to be curious and collaborative beyond practice. **LAF**

4. 上海嘉定中央公园建设前后对比图。Sasaki事务所与当地学生一起对该公园进行了使用后评测。
4. The before and after of Jiading Central Park in Shanghai where Sasaki conducted post-occupancy study with local students.

