

适应气候变化的景观设计论坛

Forum on Landscape Architecture Adaptive to Climate Change

谁也无法否认，现在的地球正处在气候变化频繁的时期，地震、海啸、洪水、干旱、飓风，还有全球暖化、海平面上升等，全世界人类史无前例地共同意识到生存环境的脆弱。但气候变化与环境变化概念的混淆，让人们将发生在自己周边的灾害性事件几乎都归咎于气候，其实，气候变化的定义更多的应该是地球自身的变化规律，因为时间积累的有限、探测技术的有限、观念想法的有限等原因，人类现在仅仅能探知其中的一小部分。地球的尺度对单个设计师的个体来说，更是根本无法驾驭的尺度，而且气候变化的应对更不单单只是设计师自身的工作责任，因为牵扯的方面众多，如政治、经济等等，是一个十分庞大的议题，是在哥本哈根会议中国家与国家之间都无法解决的问题，设计师在其中无疑是弱小的。然而，



戴维·L·海斯：建筑学硕士、博士；景观设计学的副教授；伊利诺伊大学厄巴纳—尚佩恩分校的景观设计学专业硕士的项目主管；模拟媒体实验室的联合创始人。
David L. HAYS: M.Arch., Ph.D; associate professor of Landscape Architecture; MLA program Coordinator at the University of Illinois at Urbana-Champaign; co-founder of Analog Media Lab.

LAC：在您看来，气候变化是如何影响我们现在的生活的？

戴维·L·海斯：气候变化对我们有两种影响：自然环境上的和理念上的。在自然环境层面上，气候变化的规模和范围仍不确定。因此，许多人还没有考虑到其可能对生活会产生多大的影响。尽管科学研究提供了气候模式转变的证据，但是在日常的自然环境体验中，这种转变的结果并不是那样清晰得有迹可循。的确，直觉上的经验有时像是和科学结论相矛盾的。比如，人们经常问这样的问题，“如果说全球变暖是个环境问题，那为什么去年冬天比以往还要冷呢？”此外，人类活动对近来气候异常的成因或影响程度仍然饱受争议。变化是自然系统中固有的特性，而且许多人——包括一些权威人士——都认为人类在全球范围、甚至在地区范围内都无法影响自然系统。此观点会让坚信气候变化的人感到沮丧，但我们不应该认为那些不相信气候变化的人是完全无知的，而是应该记住，在当今，他们出自文化角度的思维方式是合乎常理的。

在理念层面上，人为气候变化的理念体现了我们对自然理解的重大转变。其实在理念上人类被赋予了能够在全世界范围内改变自然系统的能力，因此由于全球的局限性的关系，我们的世界似乎变小了——那个看起来浩

设计师真的是无法作为吗？答案当然是否定。

景观设计师应该从全球气候变化出发，叠加城市化，再叠加人在空间尺度的舒适性，最后的落脚点，就是创造一个无论外界的变化如何剧烈，都能够较为安全和舒适的人类生存环境，终点是土地与空间。所以，从巨大的全球尺度落脚到可以操作的实地，这一个过程的梳理和理解有助于让设计师知道我们为什么会去做设计，怎么做设计，以及做什么样的设计。

当极端气候频频出现，身为设计人类生存环境的景观设计师，是被动地想象气候极端变化后的退路——寻求传说中的诺亚方舟？还是主动地建造与改善现有的生存环境？无论何种选择，都需要我们集所有经验、智慧与想象共同寻求生存的方向。

瀚无垠的空间成了脆弱的可控之物。关于这个问题，近来人们对气候变化的关注形成了这样一种认知：40年前，从外太空拍摄到的地球的照片被广泛传播，人们也是首次形象而清晰地感知到地球是个美丽的、闪耀着光芒并轻轻旋转的精巧和谐体，而这个承载着液体的星球却被限定在一片凄幽的黑色太空之中。

由于目前自然环境中和理念上的影响仍有差别，气候变化被普遍认为是生活方式的范畴，而非生活的范畴——就是说，它不是关乎生存的问题，而是我们选择怎样生活的问题。照这种情形，气候变化已经变成了市场战略——也就是另外一种销售各种各样产品和服务（从汽车、清洁用品到电脑和食品）的途径。人们面临的不再是艰难的选择，在这种消费模式之下一切都变得易如反掌——例如，你想“减少你的碳排放量”，那去买一辆更节能的汽车就行了。如果一些关于气候变化的更可怕的预测成为现实的话，我们能预料到在不久之后，这种“可靠的”消费理念将会变得毫无意义。

LAC：您认为我们应该被动地适应气候变化，还是应该主动地改善这一现状？

戴维·L·海斯：这个问题问的是怎样才能最好地减缓气候变化的影响：我们是应该接受这种现象，把它作为一种新的常态并随之采取行动，还是应该尝试通过计划的干预来直接影响它？第一种选择认为人为气候变化是一种新生的自然，一种我们只能够回应的客观条件，仿佛它已超出了人类影响的范围。（讽刺的是，人为气候变化当然是以人类的影响为先决条件的。）第二种选择认为我们有足够的能力和所需的知识来控制气候变化，使其不会引起更大的环境问题。为了应对气候变化的影响，我们应该负责任地采取措施，这是庸庸赘述的。治标不如治本。但是我们也应该意识到，负责自然系统和自然进程的有关部门需承担重大义务和责任。

LAC：气候变化问题已成为全球的政治、经济热点话题，您就这一问题的看法如何？您认为舆论的导向作用能否影响公众的行为？

戴维·L·海斯：人们不知道该谈些什么的时候就会经常谈论天气，一直以来，天气都是个很保险的话题，因为它是一种自然现象，是一种全球性的、非政治话题。在历史上，天气是公共空间和个人空间很好的社会统一体。恶劣的天气像全民公敌一样，使人们构建起一种团结应对的理念，而舒适的天气则被看作是公共财富或神赐恩惠的象征。

那些传统的认识现在正渐渐被人为气候变化的理念所同化。气候变得越来越具有政治色彩，且和气候变化相关的气象事件有可能加剧社会团体之间的紧张局势。对于气候变化成因的猜测已经受到了谴责，比如，把一个地区的过度降雨归咎于另一个地区的环境污染。于是，应对气候变化的国际间努力将会要求各国审视过去的政治分歧和短期内对经济效益的关注，从而采取合作方式。近来的一些创新举措包括跨越国际边界的自然保护区和融洽的公园都为这种努力提供了有益模式。

LAC：适应气候变化的景观设计是比较前沿的话题之一，您为什么会对此类设计感兴趣，您又是从何时开始对此感兴趣的？

戴维·L·海斯：我的工作主要集中在构建相关系统来适应多变的环境条件。更确切地说，为了使适应性的建筑系统设计更具可持续性和可模拟性，建筑材料的自然动态特性也被纳入研究当中。那些机制基于基础物理，利用变化的环境能量并随之改变，不需数字感测器、计算机和引擎。

我最早对这种方法产生兴趣是在攻读建筑学硕士学位期间。在建筑中，良好的特性在传统意义上指的是抵抗变化的能力，包括环境的影响，但是建筑物——景观也如是——并不是静止的物体。它们的组件由于被环境能量所改变，所以一直处于运动中，因此参与其中的能量也是不可估量的。为了解空间变化的影响，根据结构设计的原理，建筑物用最小的约束力就能组建起来。相反，我的方法颠倒了结构设计的逻辑，是开发利用其变形，扩大它们的蕴含，从而获得新的成果。这种方法预测了对变化的反应状况，构建了一种借助景观设计原理的导航模型。

LAC：有人说，气候变化不仅是我们要面临的问题，而且也是景观设计应该抓住的契机。您如何看待这一问题？

戴维·L·海斯：设计师们在很长一段时间都把逆境视为机会，所以这种说法的意义关系到特定的气候变化以及它对城市设计的意义。也就是说，伯格多尔这种说法的意义很大程度上取决于那些能够影响气候变化的人的价值观。气候变化对于谁来说是个契机？谁来负责抓住这个契机？又是为什么才这样做？即使在最好的境况下，城市转型也是一个胜负已分的复杂过程。

LAC：您认为景观设计能否减缓气候变化的趋势？

戴维·L·海斯：传统做法是不能办到的。但景观设计已如同景观设计师期待的那样获得了长足的发展。景观设计师正在接受培训，这些培训使他们在解决大尺度的环境问题中越来越有效，包括那些有关气候变化的问题。而且，越来越多的景观设计师正在突破场地设计的传统限定——比如，长远计划的制定和政策的发展。这样，景观设计师们在大都市和地区范围内就发挥了不可估量的积极影响。

LAC：根据政府间气候变化专门委员会报告所预测的气候变化可能带来的后果，比如生态系统和海岸线的变化，您认为设计师可以从哪几方面应对气候变化的问题？

戴维·L·海斯：在专业设计师中，景观设计师可以说是在应对气候变化方

面准备最充分的。他们在绿化和“软”基础设施方面正做着巨大的贡献。如上所述，景观设计师采用长远规划、政策制定和其他强有力手段来影响景观，这种方式远远超越了传统做法所能及的尺度。而在不久的将来，可能会在结构化方面证明其应对气候变化的重要。

LAC：气候变化将引导景观设计师更多地强调生态功能，很可能进入一个生态价值大于美学价值的时代，您怎么看待这个趋势？

戴维·L·海斯：20世纪60年代后期，生态功能开始成为景观设计中一个重要的关注点，这在很大程度上是受到了伊恩·麦克哈格（Ian McHarg）及他的著作《设计结合自然》（*Design with Nature*, 1969）的影响。从那时起直到20世纪90年代后期，生态学和美学经常被认为是两个对立的学科，但是似乎这种划分一直以来都是错误的。美学从来不能从自然中孤立出来，甚至当其被理解为肤浅时也是如此。在过去的10年里，随着当代美学在景观设计和许多其他领域中的参与，生态学和可持续性已成为被广泛关注的文化对象。因此，我没有把生态学和美学看作是对立的。与美学至上不同，生态优先有助于重新定义美学价值观，并且这种趋势在接下来的几十年中有望继续发展。

LAC：在气候变化这样一种背景之下，您能否设想一下未来城市形态的发展趋势？

戴维·L·海斯：可以啊，但是我切身体会到展望未来是现在的一种职责，而且我们对于气候变化的认识也是一直在发展的。可以说，我关心在气候变化的影响下，那些未来城市形态的现代表现形式的繁荣、轻松的品质。在明朗的转变情形下，建筑物和城市基础设施的其他构件魔术般地消失了，这并不是大量社会、经济和环境等方面的影响——例如，住房损失和失业等——的原因。相反，我们看到了绿色覆盖面（比如，生态屋顶、城市农业）以及人们沉浸在娱乐活动之中（比如，驾着艇游历改造后的滨河）。这些带着梦幻世界色彩的场景处在科幻小说中的幻想和现实开发商设计的景观之间。它们让我想起地理学家戴维·哈维（David Harvey）对陈列在纽约现代艺术博物馆的海啸展（the Groundswell, 2005）的一段评论；如哈维所说，将先前的工业场地转变为城市公园，使重工业仿佛在那一刻也随之消失了一样，而事实上，它只不过是迁到了世界上另外一个地方，却产生了许多随之而来的问题。（李颖 译，田乐 校）

LAC：From your perspective, what does climate change do to our lives nowadays?

David L. HAYS: Climate change has two categories of impact: physical and conceptual. At a physical level, the scale and scope of climate change are still uncertain. Consequently, many people have not yet come to terms with how it might affect their lives. Although evidence of pattern change is strongly suggested through scientific research, the consequences of that turn are not clearly discernable in everyday physical experience. Indeed, immediate experience sometimes seems to contradict scientific assertions. For example, people often ask questions such as, “If global warming is a problem, why was last winter colder than usual?” Furthermore, the degree to which recent climatic aberrations have been caused or affected by human activities is still debated. Change is inherent to natural systems, and many people—including some quite powerful ones—still believe that humans could not impact natural systems at a global scale, or even a regional one. That viewpoint is frustrating to people convinced about climate change, but rather than consider the unconvinced to be wholly ignorant, we should remember that their way of thinking was culturally normative until fairly recently.

At a conceptual level, the idea of anthropogenic climate change represents a significant shift in our understanding of Nature. It supposes that humans can, in fact, transform natural systems on a global scale, and it thereby makes our world seem smaller—from seemingly boundless to fragile and contained—by drawing attention to global limits. In that regard, recent attention to climate change generalizes an awareness first made manifest four decades ago through widely-disseminated photographs of Earth as seen from outer space, images in which global Nature was objectified as beautiful, luminous, gently swirling, and tenuously balanced—a liquid sphere circumscribed by the desolate black of deep space.

Because of the current disparity between physical and conceptual impacts, climate change is popularly framed as a matter not of life but of lifestyle—that is, not of survival but of how we choose to live. In keeping with that situation, climate change has become a marketing strategy—yet another way to sell a wide range of products and services, from automobiles and cleaning products to computers and food. Instead of hard choices, people are presented with soft options keyed to patterns of consumption—for example, “reducing your carbon footprint” by purchasing a more fuel efficient automobile. If some of the more dire predictions about climate change come to pass, we can expect that this sort of “responsible” consumerism will soon seem trivial at best.

LAC: Should we adapt to climate change passively, or take the initiatives to change it?

David L. HAYS: This question asks how best to mitigate the impacts of climate change: should we accept it as a new normal and respond accordingly, or should we attempt to affect it directly through planned interventions? The first option frames anthropogenic climate change as a new natural, a condition to which we can only respond, as if it were beyond the scope of human impact. (Ironically, of course, anthropogenic climate change is conditioned by human impact.) The second option supposes that we have both the capacity and the requisite knowledge to affect climate change without creating larger environmental problems. To address the effects of climate change, it goes without saying that we should proceed responsibly. Solutions that address problems at their source seem inherently superior to those that merely cope with consequences. But we should also be aware that agency over natural systems and processes entails enormous liabilities and responsibilities.

LAC: Climate change has become one of the political and economic hot topics all over the world. What is your view on this? Do you think the guidance of public opinion will affect people's adaption and solution to it?

David L. HAYS: When people do not know what to talk about, they often talk about the weather, a topic traditionally considered safe for discussion because, as a function of natural forces, it seems both apolitical and a universally shared concern. Historically, weather has also been a great social unifier at communal and territorial scales. Like a common enemy, adverse weather events help people structure a sense of shared identity, and fine weather is received as a sign of collective good fortune or divine benefaction.

Those conventional understandings are now being undermined by the idea of anthropogenic climate change. Weather is becoming increasingly politicized, and weather events related to climate change have the potential to exacerbate tensions between social groups. Speculations about the causes of climate change have already led to finger pointing; for example, excessive rainfall in one region is blamed on environmental pollution in another. Accordingly, international efforts to address climate change will require agents to see past political differences and short term economic concerns and to adopt a collaborative approach. Recent initiatives involving transboundary nature preserves and peace parks provide a useful model for such efforts.

LAC: Landscape design adapts to the climate change is one of the frontier topics, why and when do you become interested in this subject?

David L. HAYS: My work focuses on the ability of building systems to adapt to shifting environmental conditions. More specifically, it engages the natural dynamic properties of building materials in order to structure more sustainable, analog approaches to the design of adaptive building systems. Grounded in basic physics, those mechanisms

draw upon shifting environmental energies and move responsively, without need for digital sensors, computation, or motors.

I first became interested in this approach through my graduate study of architecture. Good performance in architecture has conventionally meant resistance to change, including environmental impacts, but buildings—like landscapes—are not static entities. Inflected by environmental energy, their components are constantly moving, and the forces involved are considerable. To defuse the impact of dimensional shifts, buildings are assembled with minimum restraint according to principles of structural design. In contrast, my approach inverts the logic of structural design by exploiting deformations, exaggerating their implications, and projecting new outcomes. That approach gauges performance in terms of responsiveness to change, building on a model of navigation borrowed from the theory of landscape architecture.

LAC: It's said that climate change is not simply a problem to be confronted, but an opportunity to be seized. What is your view on this?

David L. HAYS: Designers have long framed adverse situations as opportunities, so the significance of this statement pertains specifically to climate change and its implications for urban design. With that said, the meaning of Bergdoll's statement depends in large part on the values of those empowered to effect change. For whom is climate change an opportunity? Who is responsible for seizing it? And to what end? Even in the best of circumstances, urban transformation is a complicated business with clear winners and losers.

LAC: Do you believe the landscape design could mitigate the climate change?

David L. HAYS: As traditionally practiced, no. But the scales of landscape architecture have expanded significantly, as have expectations of landscape architects. Landscape architects are being trained in ways that make them increasingly effective at addressing large-scale environmental problems, including those related to climate change. Also, growing numbers of landscape architects are operating beyond the traditional limits of site design—for example, through strategic planning and policy development. In that way, they are having valuable impacts at metropolitan and regional scales.

LAC: According to IPCC, it predicts the potential effect of climate change, such as changes of ecosystem and coastline. What could the landscape architects do in response to climate change?

David L. HAYS: Among design professionals, landscape architects are arguably the best prepared to deal with effects of climate change. They are already making significant contributions in the areas of green and “soft” infrastructure. As noted above, landscape architects are also engaging in strategic planning, policy development, and other powerful tools that allow them to impact landscapes far beyond the scale of traditional practice. The latter will likely prove invaluable in structuring responses to climate change.

LAC: Climate change will lead to more emphasis on the ecological functions of landscape, which probably leads to an era of the ecological value overweighting the aesthetic value, do you think so?

David L. HAYS: Ecological function became a leading concern in landscape architecture in the late 1960s, in large part through the influence of Ian McHarg and his book, Design with Nature (1969). From that time until the late 1990s, ecology and aesthetics were frequently framed as oppositional concerns, but that division has always seemed false. Aesthetics is never independent of culture, even when projected as superficial. During the past decade, ecology and sustainability have become widespread cultural concerns, with implications for contemporary aesthetics in landscape architecture and many other fields. Consequently, I do not see ecology and aesthetics as antagonistic. Far from overwhelming aesthetics, ecological priorities are helping to redefine aesthetic values, and that trend can be expected to continue during the decades ahead.

LAC: In the context of climate change, could you imagine the future of urban form?

David L. HAYS: Yes, but I'm keenly aware that visions of the future are always a function of the present, and our understanding of climate change is still evolving.

With that said, I am concerned about the lush, playful quality of many contemporary representations of future urban form as affected by climate change. In graphic transformation scenarios, buildings and other components of urban infrastructure disappear as if by magic, with no accounting for what would be massive social, economic, and environmental impacts—for example, loss of housing and employment. Instead, we see green overlays (e.g., green roofs, urban agriculture) and people engaged in recreational activities (e.g., kayakers exploring a reconfigured waterfront). With their dream world qualities, such images are situated somewhere between science fiction fantasy and views promoted by real estate developers. They remind me of geographer David Harvey's criticism of the Groundswell exhibition (2005) at the Museum of Modern Art, New York City; as Harvey noted, transformation of former industrial sites into urban parks made it seem as if heavy industry had disappeared altogether when, in truth, it had simply migrated to a different part of the world, along with many attendant problems.



弗里茨·海格：建筑师，关注于可食用花园的建造与推广，以及园艺、舞蹈、表演、设计、生态及建筑等多学科综合的创作，其代表作品“动物家园”入选2008年惠特尼双年展。

Fritz HAEG: Architect, who mainly focuses on the building and promoting of the Edible Gardens while the work spans a range of disciplines and media including gardens, dance, performance, design, ecology and architecture, and one of the representative work, Animal Estates, debuted at the 2008 Whitney Biennial.



LAC: 您认为气候变化对我们现今的生活有何影响？

弗里茨·海格：显然，有些人群将较早地遭受气候变化的灾难性影响，他们所遭受的灾害也会比其他人群更严重一些——讽刺的是，以美国为例，那些最应该对气候变化负责的人反而最能够免受气候变化的灾难性影响。

LAC: 我们是应该被动地适应气候变化，还是应该主动应对？

弗里茨·海格：我从事的所有工作都是在积极地思考并参与社区、城市、

社会和其中的困境中去。我们不能坐以待毙。

LAC: 气候变化已经成为全球政治和经济的热门话题，您对此怎么看？您认为引导公众是否会影响人们对气候变化的适应情况和解决方法？

弗里茨·海格：我认为解决气候变化问题的方法不一——答案不唯一，解决方法也不唯一——这要求大家同时多个层面共同努力。大到国家政府和跨国公司自上至下的决策，小至每个人自下至上适度的创新和转变行为，这两者缺一不可。

LAC: 有人曾说，气候变化不只是我们面临的挑战，也是需去把握的契机。您对此持什么观点？

弗里茨·海格：我认为有一点对我们来说很重要，那就是清楚地问问自己：“如果没有气候变化，我们理想的城市、家园和生活是什么样的？”——我坚信如果我们坚定内心的理想，并以此为目标始终如一地努力，我们不仅能够解决气候变化问题，还能够解决其他任何社会问题和环境问题。我不想因为气候变化而改变我们的文化、城市和行为——气候变化不过是社会运转不畅导致的一个小毛病——我们要寻找一种真正充满意义的生活乐趣，这种生活乐趣使我们彼此之间，以及我们与周边环境之间重新联系起来——例如在我们生活居住的地方进行简单的食物种植。

LAC: 您认为景观设计能否减缓气候变化？

弗里茨·海格：人类行为和活动的各个层面都能减缓气候变化——气候变化和我们生活的每个方面都息息相关。

LAC: IPCC预测了气候变化的潜在影响，例如生态系统和海岸线的变化。对于应对气候变化，您认为景观设计师能做些什么？

弗里茨·海格：同样地——答案不只一种。我认为所有的景观设计师都应该扣心自问：“如果一处景观损害了人们的身体健康、造成了环境污染、滥用了珍贵资源、危及了野生动物和它们的栖息环境，那么我还能认为这处景观很美吗？”这个问题很耐人玩味，也很紧要迫切。我们应该重新考虑什么是美——对大多数人来说，我们应该对城市中一定程度的自然野趣感到舒适——要扩大我们对景观的理解。

LAC: 气候变化将使景观的生态功能备受重视，这很可能导致一个生态价值高于美学价值的新时期，您如何看待这种趋势？

弗里茨·海格：这不是生态问题和美学问题之间的权衡，不是二选一的抉择，生态与美学本就息息相关。如果我们见多识广，我们会认识到那些造成永久破坏的刚愎自用的浪费行为和污染行为毫无美感可言。

LAC: 在气候变化的大背景下，您能设想一下未来的城市面貌吗？

弗里茨·海格：我们设计的城市景观将更加贴近自然、更具生产性。（柳吉祥 译，田乐 校）

LAC: From your perspective, what does the climate change do to our lives nowadays?

Fritz HAEG: It is obvious that some populations will experience the disastrous effects of climate change earlier, and more extreme than others - and ironically, it is exactly those, in the USA for example, who are most responsible for creating the situation that will be most able to insulate themselves form the effects.

LAC: Should we adapt to climate change passively, or should we take the initiatives to change it?

Fritz HAEG: All of my work is about being active, questioning, and participating in our communities, cities, society, and the situations we have inherited within them. There is no room for passive acceptance...

LAC: Climate change has become one of the political and economic hot topics all around the world, what's your view on this? Do you think the guidance of public opinion will affect people's adaption and solution to it?

Fritz HAEG: I believe that there is not one correct way to approach this issue - there will be no one answer, or particular approach that will solve it - it will require many people responding in many ways simultaneously. This must include both massive top down strategies from the largest governments and multi-national corporations, and bottom-up, with relatively modest ideas, innovations, and behavioral shifts among everyone.

LAC: Someone said that Climate change is not simply a problem to be confronted, but an opportunity to be seized. What's your view on this?

Fritz HAEG: I think it is important for us to ask ourselves very clearly: "If there was no climate change, what would our ideal cities, homes & lives look like?" - and I very strongly believe that if we remain completely true to that as a goal - we can solve, not only climate change, but any other social or environmental problems. I do not want to change out culture, cities, and behavior because of climate change - that is just a little symptom of a sick society that is not working - but instead looking for really meaningful daily pleasure that reconnects us to each other and the environments around us - such as the very simple activity of growing food where we live.

LAC: Do you believe the landscape design could mitigate the climate change?

Fritz HAEG: EVERY aspect of human behavior and activity can mitigate climate change - it's totally embedded in everything.

LAC: According to IPCC, it predicts the potential effect of climate change, such as changes of ecosystem and coastline. What could the landscape architects do in response to climate change?

Fritz HAEG: Again - I don't see one answer. I think the most interesting and urgent question for ALL landscape architects to ask themselves is:"Do I still think a landscape is beautiful if I know that it is also making people sick, polluting the environment, abusing precious resources, and destroying wildlife and their habitat?" Our ideas of beauty need to be reconsidered - and most of all, we need to become more comfortable with a level of wildness in our cities - loosening our grip on the landscapes we create.

1-2. 弗里茨·海格推广的可食用花园

1-2 . The Edible Gardens promoted by Fritz HAEG



LAC: Climate change will lead to more emphasis on the ecological functions of landscape, which probably leads to an era of the ecological value overweighting the aesthetic value, what do you think of this trend?

Fritz HAEG: This is not the trade-off, it is not a choice between ecological issues and issues of beauty - they are totally related. As we become more sophisticated - we will recognize that designs that perpetuate primitive destructive domineering wasteful polluting behavior are not pretty.

LAC: In the context of climate change, could you imagine the future of urban form?

Fritz HAEG: All of the landscapes we create in our cities will be more wild and more productive.



陈显尧：中国海洋局第一海洋研究所研究员。

Xianyao CHEN: Research investigator of The First Institute of Oceanography, State Oceanic Administration of China.

当然，如果采用联合国气候变化框架公约（UNFCCC）所定义的气候变化，即：“A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.”（指除在类似时期内所观测的气候的自然变异之外，由于直接或间接的人类活动改变了地球大气的组成而造成的气候变化），那么把人类活动对环境的影响归咎于“气候变化”就显得“自然”了，但这并不是好事。因此，我个人仍然觉得IPCC所定义的气候变化更为合理：“A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.”（气候变化是指无论基于自然变化抑或是人类活动所引致的任何气候变动）。

LAC: 您认为现在不断出现的极端天气是否属于正常的气候变化？

陈显尧：首先需要说明这里我所说的气候变化采用的是IPCC的定义。在此基础上，我认为近年来频繁出现的极端天气是气候系统正常的变化过程。这些被称为“极端”天气的现象过去曾经发生过，未来也会再次发生。而现在之所以被称为极端天气，是因为它过分地偏离了人类有观测记录以来的气候平均状态。我们界定自然变化的过程正常或异常时，会事先取一个平均值。如果现在的状态偏离这个平均值太远，就可以说现在的状态是一种极端状态。但是，气候系统是不断变化的，不同时间内的平均值各不一样，所以正常的或异常的变化需要在一个时间段内来界定。举个例子来说，在地球过去6 000万年的历史里，我们现在正处于最冷的时期，与恐龙灭绝时期相比，我们的地球现在非常冷；但是如果和冰河期相比，地球现在又很暖和，从南极的冰芯估计，我们现在的温度比冰河期要高10℃左右。因此，现在不断出现的极端天气现象很可能是气候系统长期变化过程中必然出现的现象。当然，我们需要加强研究来确定人类活动是否对这些现象的频繁出现有决定性的影响。

LAC: 您认为当前的这种气候变化是人为因素，还是自然周期性的正常波动？

陈显尧：两个因素的作用都存在。但是，我们现在仍然不能确定人类活动因素和自然变化因素的影响究竟各占多大的比重。气候系统是一个非常复杂的系统，这里1加1不一定等于2。我相信人类的活动会对气候系统产生影响。人类是伟大的，工业革命之后的百年来，人类活动已经显著地改变了我们的生活环境和自然环境，但是对于人类活动能否改变气候这个问题，我觉得现在下结论还为时尚早，虽然IPCC第四次评估报告已经下结论：“自20世纪中叶以来，大部分已观测到的全球平均温度的升高很可能是由于观测到的人为温室气体浓度增加所导致。（Most of the observed increase in globally averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations.）”。“Very likely”（很可能）不是一个科学的措辞，这种模棱两可的结论很容易导致不同的解读。而我个人的看法是质疑、甚至是否定的。我认为IPCC过分夸大了人类活动的影响。

其中一个例子最为明显，观测数据显示过去一百多年来，地球温度有一个周期约为65~70年的震荡过程。但截至目前，IPCC报告所采用的数值模式还很难模拟出这个震荡周期。显然基于这样的数值模拟分析结果所得到的结论是值得质疑的。我们现在投入了很大的力量在做这方面的研究，期望能够合理地区分人类活动和自然变化对气候变化的贡献。但是，我们目前的观测数据长度和数量对于认识气候系统来讲太短暂了。人类有天气观测记录的历史不过150余年，其中较为有价值、有代表性的数据记录不足100年。通过这么短暂的观测，我们无法确定气候系统本身的一些周期性震荡，也就更无法确定人类活动是否会产生一些决定性的作用，我想这可能也是需要倾一生之力去做的事情。

此外，不知大家是否了解，IPCC评估报告的结论是通过举手表决来确定的。气候系统是复杂的，有高度的不确定性，但是这种不确定性不能通过少数服从多数的方式来解决。

LAC: 您认为人类需要被动地适应这一境况，还是应该主动地去改善？

陈显尧：无论是“适应”还是“改善”，人类都是主动的。我们现在对于气候系统的认识还很不完善，特别是人类活动到底有多大作用，是通过怎样的过程影响气候变化的，我们都还不清楚。这时我们该怎么做呢，有一个很生动的例子：将气候系统比喻成一只大猩猩，你轻轻地去捅捅它，它没反应；你再捅捅它，还是没反应；你可能想要再轻轻地捅它一下，或再狠狠地捅它一下，可你不知道它随后会有什么反应。有什么可以确保这只大猩猩不发怒呢？答案就是别再去捅他。所以说，在我们还不确定人类活动如何影响气候变化时，合理的做法是主动地适应气候变化。

至于主动地改善气候，我还是要重复我前面所说的，人类是伟大的，但我不认为人类有能力改变气候系统的长期变化趋势。但我们能够通过主动地减少温室气体的排放、减少对环境的污染等行动，来改善我们的生活环境。

LAC: “气候变化”已成为全球性的政治、经济热点话题，您如何看待此现象？您认为这一舆论导向对人类解决或适应这一变化问题是否会产生影响？

陈显尧：当气候变化问题和政治、经济甚至和国家利益联系在一起时，它就不仅仅是科学问题了。这里面有社会问题，更重要的是经济利益问题。发达国家和地区在新型能源技术、能源及碳交易等领域占有全球性的优势，这些技术不会免费给发展中国家。而在科技和经济不发达国家和地区，比如一些岛国，他们在气候变化中受到的影响很大，但他们自己无能为力，人力、物力、财力也都不允许他们去做这么浩大的工程。他们就需要向发达国家寻求帮助，寻求资金和技术支持。这个过程中，双方就会产生利益冲突。气候变化的问题就被这样转移成了和经济利益挂钩的复杂的事件。

LAC: 根据IPCC的报告，一些系统和行业已经受到了气候变化的影响，而这些领域正是景观行业的设计对象，比如水、生态系统、海岸线等，您认为景观师应该如何处理这些影响？

陈显尧：我对景观设计的了解不多，我只想简单谈一些我个人的感受。景观设计是一门综合了自然科学、工程技术、人文与艺术科学的应用科学。从自然科学与工程技术的角度上讲，高科技手段越来越多地应用于景观设计，对此我有两个建议。一个是大家天天都在讲的——节能，另一个是我

想强调的——自然。

采用大量高科技手段的现代景观无论在设计和使用过程都会大量消耗能源，例如对光的使用等。设计师们如果有效解决了能源消耗和景观效果之间的关系，这样的景观就能够长期存在。充分地利用可再生能源，例如太阳能，是一个很好的选择。另一个方面，我想强调的是自然。我们现在很多景观的设计非常工业化、现代化，但忽略了自然才是最吸引人的。如何在设计时依托自然，尊重自然是一个课题。这里我们的先辈们有很多可以借鉴的地方，例如都江堰。随便找一份关于都江堰的介绍，我们都能够看到都江堰的设计充分利用自然的规律和自然的力量来解决灌溉、防洪和提供生活用水等问题时所展现的智慧。现代景观设计应该可以从中学到很多。

LAC：我们可以这样理解么：当我们不知道我们的活动和自然会产生怎样的作用关系时，就要先避免犯错误？

陈显尧：是的，你总结得很对。老百姓需要绿地、喷泉，需要有场所来满足他们文化、艺术、休闲的需求。所以现代的景观设计应该是环境、自然和百姓需求的和谐。追求这种和谐是一个长期的、缓慢的过程，也是一个动态的过程。就像我们的二十四节气，这是我们祖先通过长期的生产生活的经验总结出来的，但是随着气候的不断变化，现在的二十四节气也许已经不能用来指导农业活动了。而谁先意识到这个问题，谁就会先受益。我上面所讲的意思是，不仅农业、渔业、林业等与气候变化有直接密切关系的相关行业需要因势利导，需要去改善行业发展的传统方式，其他各行各业都是如此。



李迪华：北京大学景观设计学研究院副院长，中国生态学会城市生态学专业委员会秘书长，中国城市规划学会城市生态建设专业委员会委员。

Dihua Li: Vice dean of Landscape Architecture Graduate School of Peking University, general secretary of the Urban Ecology Professional Committee of Ecological Society of China, member of the Urban Eco-development Professional Committee of Urban Planning Society of China.

LAC:您作为城市生态学方面的专家，您如何看待气候变化给我们当今的环境带来的影响？

李迪华：气候变化的影响现在几乎涉及到人们生活的所有方面，这是第一点。第二点就是现在气候变化的影响范围已经涉及到全球各个角落。气候变化是一个综合的概念，包含长时间和大空间尺度的变化，包含短时间与区域尺度的变化。

最近几年，大家似乎感觉到中国气候明显的异常，全国各地季节性的

干旱、冰灾、雪灾、冻害、暖冬和夏季持续高温，极端天气变化近年来出现频率加快、强度增大，虽然可以视为年际气候波动的一部分，但学术界还是倾向于受到全球气候变化的影响。从2009年冬天北方冰灾，今年年初西南方地区特大干旱，到现在正在肆虐的南方水灾，自然灾害似乎已经成为影响人们生活的突出因素。综合世界范围的气候异常情况，我个人倾向的观点是区域和局地气候受到全球气候变化的影响。

天气和气候变化是自然力量的一部分，大量考古证据和人类文明史研究表明，人类进化、迁移和文明史都与气候变化有着密切关系。一定程度上，人类文明的历程就是适应气候变化的过程。当然全球气候存在自然变化周期，不完全是人为因素造成的。今天人们特别关心全球气候变化的影响，主要是因为种种证据表明，人类活动改变了地球表面环境、致使大气中CO₂排放增加。地球人口膨胀，即使没有全球变化的影响，人类也已经面临严峻的生态压力和生存难题，二者叠加在一起，产生的影响就可能更加严重了。

LAC：根据IPCC的报告所预测的气候变化可能带来的后果，如对生态系统、海岸线的影响，那么您觉得景观设计面对这种改变应该做出怎样的回应？

李迪华：IPCC的报告关注的主要是全球尺度的气候问题和可能对全球产生影响的环境问题与区域，这是人们很容易对IPCC的报告产生怀疑的原因。质疑IPCC报告，对景观设计师应该关心气候、气候变化没有任何影响。我国绝大部分国土属于大陆性气候，特征是年内温度、降雨与湿度变化大，年际气候波动大，中国景观设计师从来就是在变化和波动大的气候环境中工作。中国设计师在应对全球气候变化的设计工作中有天然的优势，当然，前提是他们必须具备良好的气象气候和水文知识。建筑设计师、景观设计师关心局地气候特征，是创作优秀并可以传世的设计作品的必要前提。景观设计师考虑全球气候变化对设计作品的影响，本质是和考虑气候差异、天气变化一致的。在中国，好的景观设计师在方案中应将30%的精力关注于水文，10%关注于土壤与乡土植物，30%的精力放在理解人的行为和人与空间的关系上，剩下30%是技术和艺术。然而，实际情况通常是本末倒置，很多设计作品对气候水文和土壤很少关注，不顾场地原有植被构成，忽视乡土植物，把差不多一半的尽力放到了营造四季有绿、三季有花的观赏植物景观上面，对表面的“绿色”追求到了几乎走火入魔的程度。如北京城里，不少地方的建筑阴面林下可以看到种植了油松，这当然是种错了地方，也是肯定长不好的。

LAC：有人说气候变化不仅仅是我们要面临的一个挑战，它也是一个契机，您如何看待这种论点？

李迪华：这个观点有点似是而非。适应不同的气候本来就是 we 设计中的应该做到的一件事情，但在过去的设计中常常被忽视了，不是任何意义上今天才面临的挑战。中国景观设计师工作的特点是，他们很少长时间集中在某个地方做设计，他们的设计作品需要适应全国各地的气候差异，他们的工作始终面临着来自对当地气象和气候理解程度的巨大挑战。

由于忽视了这样的挑战，游走中国各地，人们很容易看到湿润地区和干旱地区、南亚热带和寒温带城市几乎完全一样的景观设计、街道设计，创作这些景观的设计师和工程师们似乎没有怎么开动脑筋。根据我的理解，这种局面的原因一定程度上是知识结构存在缺陷。当然，人们可以说这是一个契机，让人们更深刻地理解适应气候和气候变化的设计的重要性，如果这样，那就真是中国城市早就在盼望的契机了。

如同前面提到的，在中国做设计，适应气候设计无论何时都应该作为我们解决方案的一部分。中国大部分地区的年内降雨分配不均匀、雨季多暴雨，设计方案需要考虑干湿交替的影响，要考虑场地雨水利用与蓄滞洪水功能。可是，我们当前的设计规范要求道路要低于草地，结果是暴雨来临时，大部份雨水很快就形成径流排放到街道上去了，从草坪绿地冲刷下来的泥土很容易就将修建在道路上的水管道堵塞。结果是什么？暴雨后，城市街道迅速变成汹涌的河流。几年前济南市那场死了20多个人的暴雨，其实不过20年一遇。20年一遇的降雨过程，很正常的，今年南方很多地方出现600年一遇的暴雨，还是属于正常的。我们的城市设计连20年一遇的暴雨都不能解决，只能说景观设计师解决常规问题已经工作失职了，没有资格再谈应对全球变化的景观设计。

LAC：气候变化将引导景观设计师更多地关注生态功能，我们很可能进入一个对生态价值的强调大于美学价值的时代，您怎么看待这样的一个趋势？

李迪华：首先，我认为将生态价值和美学价值进行比较，是不妥当的。景观的美学价值是生态系统服务的一部分，生态价值和美学价值之间是不存在比较关系的。之所以人们这样比较，是因为长久以来，人们一直片面地强调景观的美学价值，忽视景观的生态功能、生态系统服务。

自然界的植物本没有美丑之分，人为地从植物中分离出观赏植物的做法，在今天看来是有些荒诞的。一些专家刻意推崇的所谓观赏植物，还赋予这些植物各种文化的含义，在今天，恰恰是没有文化的表现。如近年来已经遭到普遍诟病的园林规范中要求路修得比草坪低的做法，就源于这样做才能够保护好娇贵的观赏植物不受雨渍。种植这些植物的草坪，不仅不具备雨洪水利用的功能，一旦不下雨，还马上需要人工浇水，水对于中国大多数城市都是紧缺的战略资源！这些草坪形成的生物量很有限，还需要定期修剪，很难成为固定CO₂的碳汇；它们很少结实，不能为鸟类提供食物；它们需要经常喷洒农药，难以避免造成对环境的污染、损害人的健康、消灭有益动物；为了他们的成长，需要定期清除所谓的杂草，从而无法形成今天需要的具有乡土生物多样性特征的生境系统。想到这些，还有人会认为观赏植物的花坛绿地真的那么美吗？即使可能在一年中某段时间是美的，余下来大部分时间却基本上都是没精打采的，如牡丹、芍药、碧桃和梅花等。乡土生物多样性和它们的生态功能就是今天的景观设计的文化，城市园林建设的新的文化内涵。

因此，不应该将生态功能和美学价值对立起来。人的审美观念会随着人们认知的改变而改变的。今天中国，不少人的文化意识仍然被旧时代的文人士大夫的精神氛围所笼罩，已经与现代自然科学知识价值观和面对当代环境问题的伦理价值观格格不入。以倡导尊重乡土文化、大胆使用乡土植物材料的新美学，就是这样的价值观的具体化。我们强调，今天的设计中，一定要优先使用乡土植物材料、保护乡土生境，还有它的实际意义。乡土植物一般来说都是最适于当地的生物气候，它能够在短时间之内形成最大的生物量，能够为当地的昆虫、鸟类、小的兽类提供食物，能够固定最多的CO₂。比如，狗尾巴草，几乎在全国所有的省市自治区都有分布，全国人民没有不认识狗尾巴草的，狗尾巴草能适应各种气候，只要有空地就会自己长出来，不需要任何人工维护，冬季即使干枯了还能够为鸟雀提供食物。牡丹能做到吗？荷花能做到吗？梅花能做到吗？菊花能做到吗？我一直倡议，最适于作为国花的植物是狗尾巴草，就是基于这样的认识（采访者笑）。真的！我在各种会议和培训班上都讲，大家听了都像你们一

样。我没有把握是否会真的有人支持我的倡议，但我是认真的，只要这样的倡议能够冲击人们的观念，我甘愿背负哗众取宠的骂名。

LAC：在气候变化这样的背景下，您能设想一下未来的城市形态吗？

李迪华：说实在的，我没有那么悲观，像《2012》或者其他学者们所假设的，我们的城市系统会出现某种意义上的整体崩溃。我认为城市系统大体来说在相当长的时间里会是相对稳定的。今天人们真正要做的，是把握自己正在做的那个项目当地的气候、水文条件，设计出适应当地条件的景观。如果这样做到了，各个地方的城市还会有自己独特的城市形态与风貌。

我还是持先前提到的观点，中国景观设计师能够设计出适应当地气候与水文条件的城市和景观，面对更严酷的气候变化，也不会有什么大问题的。不是说应对全球气候变化的影响不重要，而是我们做好手头的工作，也就能够找到应对长远改变的方案。

就目前实际情况而言，中国景观设计师面临着比应对全球气候变化更大的挑战，包括水资源紧缺、城市蔓延、环境污染、生物多样性丧失和栖息地破坏、快速城市化和人口老龄化等问题。任何能够为在不同水文气候与环境条件下的中国各地城市提供解决这些问题的方案，就是未来的中国的城市形态。



马修·贝尔德：马修·贝尔德设计事务所负责人。

Matthew BAIRD: Principle of Matthew Baird Design.

LAC：适应气候变化的景观设计是比较前沿的话题。您为什么会对此类设计感兴趣？您是从何时对这个问题产生感兴趣的呢？

马修·贝尔德：关于相信海平面升高的确存在两种态度——一部分人相信这是由于人类造成的气候变化，另一部分人认为这是回到冰河世纪海平面流动的一部分。当然，不同国家的人们都在讨论到底海平面上升的原因是什么。我个人认为，我们在气候变化方面负有责任。对于我来说，作为一个设计师，大约10年前，我发现我们在这个星球上做的最具破坏性的事情之一就是创作与建设。作为一名建筑师，很显然，我的专业目标之一是应对气候变化和海平面上升。因此，我非常热衷于思考能够缓解这一问题的方法。当我听到纽约现代艺术馆这一项目时，我对能有这样一个机会在城市尺度上考虑气候变化设计非常感兴趣。这个话题在今天是非常前沿的。20世纪70、80年代，也许你们还记得我们常常认为太阳能、被动式散热、太阳能吸热壁可以是解决的一些办法。许多人认为那些是建筑界过去的趋势，于是我们回到了之前非常耗能的表达方式。我们认为像弗兰克·盖里

(Frank Owen Gehry)、扎哈·哈迪德 (Zaha Hadid) 这样的建筑师就是这样。我们变得痴迷于复杂性和形式表现。但现在，我相信文化正朝着更加有效率的事物和更关怀环境的事物转变。

LAC: 有人认为气候变化不仅仅是我们面临的一个问题，同时也为景观设计提供了契机，您如何看待这一观点？

马修·贝尔德: 我觉得这是一个绝佳的机会。所有的海岸线正在发生变化，并且为减轻这一问题将会出现许多相关的新作品，而不是人们奔向高地或者从上升的海平面上撤退。我们认为这也是一个参与到重新定义滨水区的机会。所以，不要逃避它，而是要亲近它，并且尝试在变化来临之时做出好的设计。

LAC: 您认为景观设计可以缓解气候变化的趋势吗？

马修·贝尔德: 可以的。我想这需要景观设计师或建筑师付出更多的努力。最重要的是，我们需要使政治家认识到这些问题，以及解决这些问题的新思路。在此期间，我们能够发挥作用。

LAC: 那如何有所作为呢？

马修·贝尔德: 当我们考虑海平面上升和气候变化的时候，我们需要考虑更多可行的且不会加剧气候变化或海平面上升的相关方法和相关材料的解决方案。换言之，我们要减少使用重碳足迹的方法。例如，我们认为参加纽约现代艺术博物馆的项目会有助于缓解气候变化。我们的场地是一个工业区，多年来土壤由于石油加工受到污染。当你考虑海平面上升的时候，须要担心的是受污染的土壤被洪水淹没时会发生什么事情。当洪水把受污染的土壤带回海港，它会对海洋生态带来可怕的污染。所以，我们考虑的是如何保持海拔低的污染土壤远离海港。当然，当洪水到来的时候，你可以构筑高墙并保持不让水进来。我们试图在新奥尔良这样做，但并不奏效。因为它所采取的只是很小一部分措施，而你手上的问题很严重，例如飓风卡特里娜的破坏。我们的团队考虑构筑非常常见的高墙，像我们从海湾挖出的物质通常是倾倒在海面上。我们可以用它在岸边建造大型的景观——我们称它为“软护堤”。

LAC: 您在这个项目中应用了什么材料？

马修·贝尔德: 我们正在利用从海港中发掘的干净材料，在城市的边缘创造新的“软”景观，从而防范洪水。我们正在做的另外一件事情是使用垃圾并通过各种方式来保护海岸线。玻璃“Jack”模型是由回收的玻璃制成，这个想法是你从城市获得垃圾，然后将玻璃分类并且将其熔化，利用太阳能和风能发电。然后将熔化的玻璃浇筑到这个可以反复使用的模型中。使用“Jack”作为一个建设礁石的单位。然后丢在水中，以帮助构建水下海洋生态。他们就像岛屿一样。这样就能制作出新的珊瑚礁，而玻璃材料是适合的材料，因为它主要是由沙子构成。

LAC: 是否还有其他景观改善环境的例子？

马修·贝尔德: 我认为在世界各地，有许多大型项目例如建立风力农场和太阳能项目，在中国有许多这样的项目。同时在我们美国也有很多。而这些项目为减缓气候变化做出巨大的贡献。但是，它们不一定具备很高的艺术价值。城市尺度的可持续项目并没有许多。这是一个很新的东西。此

外，有许多小尺度可持续项目的例子，如菲尔德公司 (Field Operations) 的纽约“清泉”垃圾场 (Fresh Kills Landfill) 的公园改造设计。他们做的许多事情都是为解决这个问题。如利用太阳能发电，使用废弃物堆填区散发的气体发电，这些都是很有趣的想法。

LAC: 在您看来，景观设计师在应对气候变化上可以做些什么呢？

马修·贝尔德: 我想景观设计师可以说服建筑师在设计中融入绿色屋顶，更多的屋顶种植有助于减小雨水径流。我认为建筑师可以创造自行发电的建筑物或项目。这些都将是对我们的环境具有非常积极意义的事情。我同时也认为景观设计师和建筑师引领着方向，可以教育身边的人该如何面对气候变化，让人们明白发生的事情和知道如何应对是非常重要的。例如，我们不应该砍伐雨林。这是非常基本的一点，但是很多人不知道。热带雨林能够吸收每天人们释放到大气中20%的碳。我们每年砍伐的森林越来越多，使得大气中过滤的碳越来越少。此外，我们每年释放更多的碳，并且每个人都在我们气候失衡上起到了重要作用。我认为景观设计师可以确保不使用热带雨林的木材。在设计中，他们还可以种植很多树。我觉得这些都是很基本的东西，很多设计师将会做得很好。

LAC: 气候变化将导致更多的侧重于景观的生态功能，这很可能进入一个生态价值大于审美价值的时代。您如何看待这种趋势呢？

马修·贝尔德: 我完全同意你的看法。我认为世界文化正在转向欣赏自然集约型，而不是纯粹的审美愉悦。举例来说，也许5年前，如果你在路上看见一辆丰田普瑞斯（第一批混合车），你可能会说这些车很丑，我绝不会驾驶这样的汽车。但今天，当你看到一辆普瑞斯，你可能会在车顶上看到一对挡雪板，并且在路上驾驶着，你说“哇，这是一辆非常酷的车！”因此，我们的文化正在转变。 当你看到像Whole Foods有机食品公司和Patagonia户外用品公司变得越来越流行时，它就是文化朝着有利于环境转变的一个标志。

LAC: 您认为景观设计师会为墨西哥海湾的石油泄漏做些什么呢？

马修·贝尔德: 嗯，我认为景观设计师有很多事情可以做。现在解决墨西哥湾的这个特殊问题可能最需要石油工程师。但这是我们对传统燃料的疯狂欲望导致了这一泄漏。如果我们能够想到从自然生长的事物中提取燃料的方式，利用目前来自太阳的能源，利用藻类植物，就可以取代我们对石油的依赖。在我们纽约现代艺术博物馆项目中，我们提出将纽约港的炼油厂转换为一个藻类生物燃料炼油厂。我们建议将以前石油炼油厂的大面积土地用来藻类生物燃料的提炼。它是一种使用藻类为汽车提供燃料的新方式。而不是使用来自3 000万年前的太阳能——这些化石燃料是：石油、天然气等——我们发现可以利用太阳能的方式来代替使用这种燃料，如太阳能电池板。但其实有许多快速生长的植物可以固定太阳能，并将其转变为潜在的能量。我们可以利用这些植物，而它们也不必在地下蒸馏上3 000万年。这是新技术。我认为你们在中国也正在研究它。（刘琴博 译，周明艳 校）

LAC: Adaptive landscape designs to the climate change is one of the forefront topics. Why and when did you become interested in this subject?

Matthew BAIRD: There are really two approaches to beliefs about the sea level rising

- those who believe it is due to man-made climate changes, and those who believe that it is part of the flux of sea level going back to the ice age. Of course in different countries people debate what the reason is for sea level rise, and I personally believe that we are responsible in terms of climate change. I think for me, as a designer, about ten years ago I discovered that one of the most damaging things that we do on the planet is to make things and to construct things. As an architect it became very clear to me that my profession was one of the causes for climate change and sea level rise. So I became very interested in thinking about ways that we could mitigate this problem. When I heard of the MoMA project, I became interested in participating in this opportunity to think about climate change design at an urban scale. This topic is very much at the forefront now. In the 1970s, perhaps in the 1980s, we often thought that some of the solutions could be solar energy, passive cooling, trombe walls, and these things that probably you remember. Many people thought those were passing trends in architecture, and then we returned to a former expression that was very energy -intensive. We think of architects like Frank Owen Gehry, or Zaha Hadid. We became fascinated with complexity and form making. But now, I believe the culture is switching back towards an interest in things that are more efficient, and things that are more involved with care for the environment.

LAC: Climate change is not simply a problem to be confronted, but an opportunity to be seized, how do you interpret this?

Matthew BAIRD: Well, I think it's a fantastic opportunity. All of our shore lines are changing, and there would be massive new work associated with mitigating this problem, rather than to run for the hills, and retreat from the rising sea level. We, too, think it is an opportunity to engage in this redefining of our waterfront. So not to run away from it, but to get close to it and try to make a good design in its wake.

LAC: Do you think that the landscape design could mitigate the trend of climate change?

Matthew BAIRD: I do. I think it will take a lot more than landscape designers or architects. Most importantly, we need to make politicians aware of the issues and of the new thinking about how to fix these problems. But certainly, we can make a difference.

LAC: How to make a difference?

Matthew BAIRD: When we think about sea level rise and climate change, we need to think more about solutions that involve methods and materials that are already available and that don't exacerbate climate change or sea level rise. In other words, we shouldn't be using heavy carbon footprint methods. For example, we think our project for the MoMA helps to mitigate the climate change. Our site is an industrial site, and there are many contaminated soils from years of petroleum refining. One of the things you have to worry about, when you think about rising sea level, is what happens when contaminated soil gets flooded. When the flood takes the contaminated soil back to the harbor, it creates a terrible pollution for the marine ecology. So what we think about is how to keep the low land that is contaminated out of the harbor. Of course, you could build high walls and keep the water out, when the flood comes. But we tried that in New Orleans, and it didn't work. Because all it takes is one small hole in the wall, and then you have major problems on your hands, like the Hurricane Katrina devastation. Our team thought about making walls with things that are not typical, like the material that we dredge from the harbor that typically is dumped out at sea. We can use that to make this large landscape on the shore - 'soft berms,' we call them.

LAC: What materials do you apply in this project?

Matthew BAIRD: We are using clean dredging material from the harbor, and we are using it to create new "soft" landscape at the edge of the city to protect from floods. The other thing we are doing is taking trash and using it in ways that help to protect the shoreline. Glass jack is made of recycled glass. The idea is that you take the trash from the city, and you sort out the glass and you melt the glass, using electricity generated from solar energy and wind power. And then you cast the molten glass into this form that can be reused. And you use this jack as a reef building unit. You then throw it in the water, to help build underwater marine ecology. They are like islands.

You are making new reefs, and glass is perfect material for this, because it is mostly made out of sand.

LAC: Is there any other example of this kind of landscape that mends the environment?

Matthew BAIRD: I think all over the world, there are big projects to build wind farms and utility scale solar projects, and in China, you have many of these projects. And we have many in the US too. And these projects are doing great things for mitigating climate change. But they are not necessarily high art landscape projects. There are not many urban scale sustainable projects. It is a very new thing. Besides, these there are many examples of small scale sustainable projects, such as the Fresh Kills Landfill projects by Field Operations. Many things they do are solving this problem. They are generating solar energy; they are using the gas that comes out of the landfills to generate electricity. These are interesting ideas.

LAC: In your opinion, what could the landscape architects do in response to the climate change?

Matthew BAIRD: I think landscape architects could persuade architects to incorporate green roofs, more planted roofs to help from storm water runoff. I think architects could create buildings or projects which generate their own electricity. That would be a very positive thing for our environment. I also think the landscape architects and architects are at the forefront, and we could educate the people around us about climate change. It is very important that people understand what is happening and know that there are things you can do. For example, we should not be cutting down the rain forests. That is a pretty basic thing, but a lot of people do not know that. The rain forest is able to absorb 20% of the man made atmospheric carbon every day. Every year we cut down more and more of the forest, so we are able to filter less and less carbon out of the atmosphere. Add to this problem that every year we expell more carbon, and you have the essence of our climatic imbalance. I think landscape architects could make sure that they do not use wood that comes from the rain forest. In their designs, they could also plant lots of trees. I think these are very basic things; more of them will be good.

LAC: Climate change will lead to more emphasis on the ecological functions of landscape, which probably will tend towards an era of the ecological value overweighing the aesthetic value. How do you interpret this trend?

Matthew BAIRD: I completely agree with you. I think that the world culture is shifting to appreciate naturally efficient things as opposed to pure aesthetic delights. For example, perhaps 5 years ago, if you saw a Toyota Prius (the first hybrid car) on the road, you would say that's such an ugly car, I would never drive that car. But today, when you see a Prius, you might see a couple of snow boards on the roof, and driving by on the road, you say 'Wow, that's a pretty cool car! 'So our culture is changing. When you see companies like Whole Foods and Patagonia becoming more and more popular, it is a sign that culture is shifting towards favoring the environment.

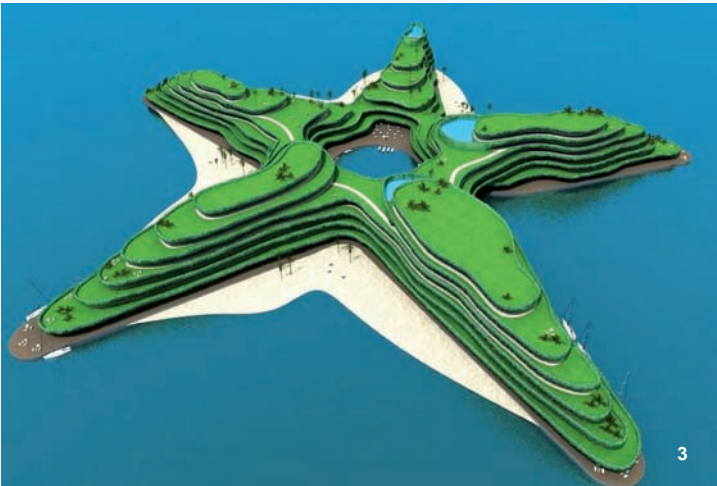
LAC: What do you think landscape architects will do for the Gulf of Mexico oil spill?

Matthew BAIRD: Well, I think there are many things that landscape architects can do. Solving that particular problem in the Gulf of Mexico is now probably a problem best suited for Petroleum Engineers. But it is our crazy desire for ancient fuel that led to this spill. If we can think ways of making fuels from natural growing things, harnessing the current energy from the sun, using plants like algae, we can supplant our addiction to oil. In our project we did in the MoMA, we were proposing to convert the oil refinery that is on New York harbor to an algae bio-fuel refinery. We propose to dedicate a large area of the former petroleum refinery to the refining of algae bio-fuel. It is a new kind of way of making fuel for cars out of algae. So instead of taking energy that came from the sun 30,000,000 years ago - which is what fossil fuels are: oil, gas and etc. Instead of using that kind of fuel, we can figure out ways to use the sun's energy, like solar panels do. But there are actually fast growing plants that take the sun's energy and turn it into latent energy. And we can use those plants without them having to be distilled for 30,000,000 years under the earth. This is new technology. I think you're studying it in China too.



科恩·奥瑟斯：荷兰建筑师，Water Studio 主持人，以“关注世界未来，发展水上建筑”为其核心事业，被《时代杂志》评为2007年世界上最具影响力的人物之一。

Koen OLTHUIS: Dutch architect, founder of the Waterstudio.nl, focusing on the floating structures to pave the way in designing for a future water world, and was chosen on the Time Magazine list of 2007 most influential people in the world.



LAC: 您是否认为气候变化问题将引导景观设计师更多地强调生态功能，很可能进入一个生态价值大于美学价值的时代？

科恩·奥瑟斯：是的，因为气候改变了我们这一代人——“气候变化的一代”——我们必须解决当前面临的问题，思考新的理念和更适宜的解决方法是我们的使命。

当前的建筑师也属于“气候变化的一代”。2010年，气候变化和城市化成了社会论争的焦点，更进一步地，也决定了设计师们的职责。是时候该年轻建筑师们思索如何应对这种持续的气候变化了。他们决定着我们城市的明天。对于可持续发展城市我们可能要问：它们长得什么样？我们如何能使它们得以完善？需要如何调适城市结构及其元件以应对涌入的新居民？如何维持或提高生活水准？我们如何处理几个世纪以来城市设计的残余，以及与之相伴的城市伤痕和文化遗产？

LAC: 您是否能畅想一下未来城市发展将会对应极端气候变化？

科恩·奥瑟斯：当海平面稍许上升时，在动态城市中，大约3%~5%的未来建筑将建在水上。当海平面大幅度上升时，土地和水面之间的海岸线会进一步向内陆移动，因此我们不得不把建筑建在水上。漂浮技术使生活在这些地区成为可能。

水，及它为城市扩张带来的可能机遇，都是接下来的头等大事。在世界上几乎所有的主要城市中，水都存在，但却极少被使用。技术的创新，比如漂浮建筑、漂浮建筑群或漂浮岛，都为新的城市发展选址提供了巨大的潜在可能。

LAC: 您为何会关注于漂浮建筑？

科恩·奥瑟斯：关注点并不仅仅是漂浮建筑，然而这却是人们唯一注意到的。但是我们相信水能够成为解决金融、社会和技术问题的一种手段。这不仅与住房相关，还涉及绿化、道路、公共用途等等。你可以使城市更加宜居。通过使用漂浮农业和漂浮太阳能场地，它甚至还可以成为解决食品和能源短缺的一种方法。

LAC: 水上环境相较而言更加复杂多变，那如何来保障漂浮建筑的安全？

科恩·奥瑟斯：我们与大型工程公司一道努力。我们总是一开始就对地区

进行典型特性分析，检测5年内的波幅、波长和暴雨模式等事项，得出概况，从而有助于为每种特定的情形找出适合的解决方案。

从技术上讲，凡事皆有可能，更重要的是你必须改变公众的观念。如果人们能够在大洋中建立稳固的石油平台，那所有的漂浮建筑都可以稳固。只不过，还必须要在经济上可行。

平台越大，就会越稳固。对于较小的平台，我们可以用阻尼使平台稳固，就像和在陆地上一样舒适。

LAC: 如何保持并提高水上住宅用户的生活水平？

科恩·奥瑟斯：你必须保证与普通住房一样的舒适度、价格和质量。我们必须弥合这两者之间的缝隙：建在良好陆地基础上、但基底很差的房子，以及（在当时）没那么舒适、但有良好的漂浮基底的房子。最终，漂浮房屋完全可以和陆地上的房屋别无二致，唯一的区别在于它们使用不同类型的基底——其中一个漂浮的。（钱瑾 译，田乐 校）

LAC: Do you have a sense that climate change will lead to more emphasis on the ecological functions of landscape, which probably tends to an era of the ecological value overweighting the aesthetic value?

Koen OLTHUIS: Yes, because of climate change our generation - the Climate Change Generation - has to deal with the problems we have now, and it is our mission to think of new concepts and more sustainable solutions. The current generation of architects also belongs to the 'climate change generation'. In 2010, climate change and urbanization define the social debate and, by extension, the agenda of the designers. It is up to young architects to think up solutions to the consequences of climate change. In this way, they are working on the cities of tomorrow. Sustainable cities: What do they look like? How do we keep them dry? How do urban structures, and the components from which they are assembled, need to adapt to deal with the stream of new inhabitants? How can the standard of living be maintained or improved? How do we deal with the leftovers of centuries of urban design, with its accompanying urban scars and cultural legacy?

LAC: Could you imagine a view of how the urban developments cope with extreme climate change in future?

Koen OLTHUIS: When there is little sea level rise, about 3%-5% of the future

buildings will be built on the water in dynamic cities. With a large rise in sea level rise, the coastline between land and water will shift further inland, so we have to build our buildings on water. Floating technologies make it possible to keep living in these areas. Water, including its possibilities for urban expansion, is the next big thing. It is present in virtually all of the world's major cities, and is hardly ever used. Technological innovations, such as floating buildings, building plots, or islands, open up a vast potential of new urban locations to develop.

LAC: Why you choose floating buildings as your focus?

Koen OLTHUIS: The focus isn't on the single floating buildings, but this is the only thing that people see. But we believe that water can be the solution to solve financial, social and technical problems. It is not only about housing, but also about green, roads, public functions etc. You can make the city more livable. It will even be a solution for shortage of food and energy by using floating agriculture and floating solar fields.

LAC: As we know, the water environment is relatively complex and volatile, how the safeguards to ensure the security of floating buildings?

Koen OLTHUIS: We work together with large engineering companies. We always start by making a fingerprint analysis of the area. We check things like wave amplitude, wavelength and storms patterns in a period of 5 years to generate a profile that helps finding the appropriate solutions for each particular situation. Technically everything is possible, it's more that you have to change public perception. If men can make oil platforms stable in the middle of the ocean, you can make all floating buildings stable. The only thing is that it also has to be economically feasible. The bigger the platform, the more stable it is. For smaller platforms we can use damping to make the platforms stable, so the comfort is the same as on land.

LAC: How to maintain and improve the living level of the residents in the water dwellings?

Koen OLTHUIS: You have to make sure that the comfort, price and quality are the same as a normal house. We have to close the gap between good land based houses with a bad foundation and the houses that (at the moment) do not have that much comfort but do have good floating foundations. In the end, a floating house can be exactly the same as one on land, the only difference is that they use a different type of foundation, one that floats.

3. 迪拜的漂浮岛
4. 巡游码头
3. Floating island Dubai
4. Crise terminal



实现水上之21世纪的四部曲

科恩·奥瑟斯/ Koen OLTHUIS

城市几乎无一例外地起源于水域周围。水是生活的首要必需品，也是贸易的起点。城市因空间匮乏而围绕着原有中心地区进行扩张，因而远离了水。尽管如此，单位平米地价最高的仍旧是原中心区，而水边仍然是最贵的地段。城市可从水上扩张中获益。

新加坡、摩纳哥、香港、纽约曼哈顿、首尔和孟买，这些城市都不得不解决“水多空间少”的问题。鉴于这些大都市的水滨位置，它们将如何发展？我们知道，实际上它们需要更密集、更弹性地进行建设，而水上建筑为解决日益加剧的空间紧缺难题指出了方向。另外，在水上建设也大大增强了灵活机动性。水上环境提供了不干扰现有功能的新空间。但这如何才能实现呢？在我们对于未来的设想中，分4个步骤来实现漂浮都市主义（Floating Urbanism）。

第一步：交换位置（2010~2020年）

这是实现我们远景目标的第一步，被称为“交换位置”。这是指把占用大面积土地却只产生较少经济价值的功能转移到水上去。这使在陆地上得以发展高密度、高效益功能，从而使空出部分陆地成为可能。这些可以是体育和游嬉场地、绿地、温室、高尔夫球场和林荫大道。诸如此类的功能地块在它们当前的地理位置受到城市化的经济压力威胁的情况时有发生，而实际上，可以相对容易地把它们搬到水上去，因为低负载和大面积区域造就了良好的稳固性，使它们最终适宜于简单、且技术难度不大的漂浮基底。

2009年，WaterStudio接受了首尔市关于漂浮高尔夫球场的可行性研究的请求。首尔四面环山，城依汉江，城市地表包括一片宽1km多、约41km长的河流区域。环山和汉江一直被认为是障碍，如今更是彻底限制了城市的进一步发展。可若把汉江看作建设用地的话，那你就拥有了约41km的平坦可用建设地，这就为新发展提供了许许多多的可能性。在韩国，高尔夫是最流行的运动之一，但是高尔夫场地占用大量供不应求的土地。该城提供了几个用网围起来的发球俱乐部，但是高尔夫球迷们必须赶往颇为偏远的郊外，才能领略高尔夫运动真正的乐趣。而漂浮的高尔夫球场可以移动至市中心，这可大大改观汉江的视觉和娱乐效果，并改善目前以硬质混凝土为特征的水滨状况。

理论上，交换位置是实现在城市发展中充分利用水域的第一步。通过交换位置，以一种有利可图的方式达到空间要求，同时升级破旧的船屋区，重建年久失修、无人问津但充满潜力和希望的水滨地区。

第二步：扩展城市肌理（2020~未来）

到2020年时，在城市中心通过漂浮基底，开放水域及其周边区域的利用满足现有城市肌理的扩张，而这种水上建筑形式已变得司空见惯。如市政设施和道路、主要生态结构和绿地等基础设施形成了城市的主干线。与城市所有常规地形和地貌的利用一样，水滨的扩展与现有结构的连接便成了显而易见的一环。

城市规划者的观念也已发生了变化。10年前，水上居住的总体概念跳

不出码头边一间船屋的范畴。现在，几乎在每一个新的城市扩张项目中，空间都结合了一些现代水上别墅。在未来10年中，水上建筑仅仅意味着基底技术不同这一观念将会深深扎根于城市设计者之中。水场地的发展规划最终将根据传统的流程组织完成。在市政发展过程中，水上城市扩张将被视为世界上最自然不过的事来处理。

理论上，城市肌理向水滨扩展的起点是港口。为实现最经济的物流，航船会越造越大。城市中心的旧港口将无法容纳这些大船，所以城市中心将会转移走，或者向开放水域扩展。这对于过去的港口地区是个千载难逢的发展好机会，这些城市中心正是地价最高的区域，恰好因为无论在水上还是在陆地上，港口地区都比较广阔，这些地点是最后才开始城市密集化的场所。很不幸地是港口区域容易被严重污染，所以另一个主张是有关环境方面的。地面打桩建筑普遍会翻出太多被污染的土壤，而使土壤净化则成为了唯一却又费用昂贵的选择。

像利物浦、都柏林、鹿特丹、阿姆斯特丹和汉堡这样的城市，不得不去解决因海运经济而废弃的旧港问题。这些城市的港口都被移到了城市以外的地区。许多老港口把更多的关注投在了修葺陆地一侧，在码头上整合了住房、工作环境和娱乐功能。然而水域却还是闲置不用。这种情况势必会改变。

“全新水域”是我们最近的一个总体规划项目，它是扩展现有的城市肌理的一个范例。它位于荷兰海拔最低的地区，地处海牙海岸和鹿特丹之间，是一项集住房、生态和水储存为一体的多功能整合发展项目，计划于2017年完成。

第三步：动态城市（2040年~未来）

把城市肌理扩展到水滨之外是一种解决城市地区新密度的需求的策略。但不可预测的未来变化也要求城市具备很强的灵活机动性，而这一点也正是漂浮建筑的又一个优势。接下来就将是把大型的漂浮城市搬到水面上了，依照现有的城市模式或结构进行扩展，可随着时间的发展，根据不

断变化的条件和要求来调整漂浮城市之间、或与大陆之间的位置关系。

水上建设带来的可能性不仅限于漂浮建筑或者水域管理新方法。它可以改变我们关于城市规划的观点。人口、金融、社会或政治的发展迫使市政当局不断地保持居民需求和建成环境之间的平衡。同时，城市构件的寿命在缩短——倒不是技术寿命，而是经济平均寿命。这是由于建筑物的经济价值和其处所地理位置的经济价值之间不断变化着的平衡所致，在一个有着不断增长的空间压力的发展中城市，中心区域的地价往往会比建在它们之上的建筑的物质价值涨得快。而这经常导致的结果是建得相当好的构筑物成了其所在地再发展潜力的牺牲品而被夷为平地。

漂浮结构以使上层建筑结构与其下层基址分离的方法来解决这一情况。在21世纪下半叶，构筑物与它们的具体处所不可分离的情况将会成为越来越多的建筑和功能地块的历史。城市将由动态的集合体组成，根据社会需要和经济环境 and 经济考虑，建筑和功能地块在其使用寿命期内都可以移动。这意味着建筑物将不再会遭受仅因为其所处的地理位置涨价，而在技术寿命到期前就必须被夷平的命运。取而代之的是建筑物可以被移到某个地方，在那里，建筑的经济价值与其所处地段的价值能达成更好的平衡。一栋建筑物将不再是不动产，而是成了一种商品、一件产品，就像汽车、船舶或者钢琴那样。这能在前所未有的尺度上，达到经济、生态和能源各层面的节约。

在当前的关于可持续性的讨论中，焦点只集中在减少CO₂的排放上。这使得对能源高效过程和回收物资的研究垄断了所有在可持续发展领域的成果。这些的确是有前景的发展，也是必需的发展，但因持续变化和不可预测的城市人口需求抵消了这一策略的部分收益。一个简单的事实是建筑物和城市构件作为一个整体可以被再利用，从而使其寿命内发挥作用，减少对自然资源的破坏和开发，因此，注意力应该转移到城市结构和构件的弹性上来，从而使城市得以持续。

移动水上的漂浮建筑和建设漂浮的城市构件，在技术上已经是可行的了。30年内人们将对城市水面的动态城市发展习以为常。到那时，城市会向水域扩张20%以上，同时把此前重建的土地还给自然，这是混合都市主义（Hybird Urbanism）——城市从陆地向水域的转变。

第四步：城市之间的构件移动（2100年）

长远来说，城市条件和需求的变化不仅发生在城市内部，在全球尺度上还发生于不同城市之中，并且很难对其作出长远的确定性预测。空间需求的变化和城市居住者的愿景二者从未不相干过，而是在政治、经济、社会和人口本质的变动背景下，处于持续的互动中。此外，这些推动力也在为争夺控制权而相互斗争。现在，在2010年，基础设施和城市景观的最主要的压力来自于气候变化和城市化。各种影响的叠加就意味着城市化，乡村居民向大城市移居，可并不会均衡地发生，有的都市会比其他都市扩张得更快。而在某些地区，比如前东德共和国，萎缩也可能成为预期的一部分。

在过去的100年里，城市不仅要应对超出之前几百年平均状况的变化，而且这些变化发生的速度和规模（由于增长的人口数量和增多的技术可能性）使事先对其进行预测变得几乎不可能。当代大都市中的高建筑密度导致了比以前的情况影响更大的空间干扰。与现代城市的高度复杂性相应的，是必需具备的高度弹性，这样变化着的空间要求能在现有结构中找到其容身之所。

到目前为止，城市问题的核心，已很明确：在城市建成环境的长期寿

命和迅速波动与对长远的不可预测的城市居住者的需求和愿景之间存在着张力。城市环境满足这些构件和结构中不断变化的要求的程度决定了城市的弹性，也就决定了它能为其居民提供一个令人满意、运行良好的环境的能力。

在不知道一切将如何变化的情况下，城市构件和扩展设计能使自身延续更长时间的策略，被称作“为变化而规划”。为变化而规划意味着把我们的需求变化考虑进去，并在城市组成部分中提供最大限度的弹性以应对可能发生的一切情况。

实现这种弹性的一种方式是通过保留相当数量的开放空间，或者是充斥着低经济价值的空间。它们的功能主要在于短期使用，所以其所占据的空间可以很容易被释放出来，以满足没有预计到的空间需求。

矛盾地讲，弹性的另一面是稳固性。带有多余空间和坚固结构的建筑物会随着时间的推移，为容纳不同的功能提供机会。因宗教信仰逐渐淡薄而被空置下来的教堂和旧的城镇中心里昔日的工业建筑都可以被翻新成住宅，或发挥新的功能。但这两种策略都很昂贵，因为这二者都涉及到我们在对于一个特定地方的长期性质和需求只能做出猜想的情况下，就对其投入大量的空间和资本。在这些情况下，动态规划通过城市静态元素的混杂应用而得以实现。但如果城市构筑物本身在本世纪末成为可以根据需求而移动和交换的商品、产品，那情况又会怎样？

漂浮城市部件将会形成这种弹性的最终形式。迁移的可能性意味着一块场地可以随着时间的推移而被用于不同的目的。当一种功能地块迁移走了，并没留下一点痕迹——空间的暂时使用对其位置环境不造成长久的损害，则可使之成为一种可持续的策略。使建筑物与其处所之间的永久性关联脱离，建筑物便成为了一件产品，在其寿命期间可以被不同的使用者在不同的地方使用，而不仅局限于同一个城市。

作为城市身份和象征的城市中心区是城市的心脏与灵魂，它们是在城市发展中受增长和萎缩影响最少的地区。这是像阿姆斯特丹、纽约或者伦敦，这些城市的核心是它们的标志，几个世纪以来只发生了最小的变化。而中心区周遭的一切对于城市的形象和身份影响有限，并为不断变化的需求而作好了准备。郊区体现着功能性用途，并与市镇作为一个整体，协助其更好地运作。与城市的核心——市中心相比，邻里社区、商业区、工业区和娱乐场所的性质则较为短暂。

历史脉络还将继续慢慢演变，而这些功能性的附属物会根据转变增长和萎缩的地区形成可换可变的需求。由于每个城市的都市主义发展路线都不尽相同，而较大尺度上的移动功能可以平衡城市之间特定功能的需求与盈余。漂浮的城市部件使得消费者都市主义（Consumer Urbanism）开始出现：一个城市部件被不留痕迹地搬到另一个城市，这能够应对世界范围内对于城市部件不断变化的需求。

阻碍漂浮发展大规模实现的既不是技术也不是金钱，而是公共部门和私人部门的意识亟待改变，他们仍在从过去的角度看待水域发展，认为漂浮住宅只不过比劣质搭建的船只强一点儿罢了。而那些展示出漂浮构筑物的质量完全可以与拥有传统基底的建筑相媲美的可借鉴项目正在激起意识上的转变。新的、可预计的气候影响，与城市化的空间压力一起，将会把我们的设计对象推向水滨海岸之外的地方。

通过介绍新的创新概念和视野，我们能造就积极而又可持续的建筑、城市和环境作品，并能同时解决水管理的问题。

一个可持续发展的未来就在水滨海岸的那一边！处于气候变化的一代，现在就看你们的行动了。（钱瑾 译，田乐 校）

The 21st Century on Water in Four Steps

Almost without exception, cities have originated near the water. Water is a primary necessity of life and a starting point for trade. Cities grow, for lack of space, around the old centre, and thus away from the water. Still, the highest ground prices per square meter remain those in the old centre, and the most expensive places are usually those at the waterside. Cities could benefit from expansion on the water.

Singapore, Monaco, Hong Kong, New Yorks Manhattan, Seoul and Bombay; they all have to cope with a lack of space and surplus of water. How will these metropolises develop, given their situation at the waterside? We know for a fact that they need to build with more density and flexibility, and that building on water is a solution to increasingly problematic lack of space. Additionally, flexibility increases by building on water. Water provides new space without affecting the existing functions. But how will that happen? In our scenario for the future, we've distinguished four steps towards floating urbanism.

Step1: Trading places (2010-2020)

The first step towards our vision of the future is what we call 'trading places'. This is the relocation of functions that claim a large amount of space while generating only modest economical value, to the water. This makes it possible to develop highly profitable functions with high density in the areas on land thus becoming vacant. These can be functions such as sports and playing fields, green zones, glasshouses, golf courts and boulevards. It happens regularly that functions such as these are threatened at their current location by the economic pressure of urbanisation, while they can in fact be moved to the water relatively easy since the combination of low loads and large surface area results in excellent stability making them ultimately suitable for simple low-tech floating foundations.

In 2009 Waterstudio received a request from Seoul to research the feasibility of a floating golf court. Seoul is surrounded by Mountains and is situated along the Han River, thus incorporating a river area of over a kilometer wide and some 41 kilometers in length in the cities surface.

The Mountains and the River have always been considered barriers that by now almost completely prevented the city to grow any further. Seeing the River as building ground, instantly offers you an area of some 41 square kilometers of the most flat, horizontal building ground available, offering plenty of possibilities for new developments. Golf is one of the most popular sports in South Korea, but golf courses take up a huge amount of space that is simply not available. The city offers several teeing-clubs surrounded by nets, but the golf aficionados have to go quite a distance out of town to enjoy a proper game of golf. By making golf courts floating, they can be moved to the city center with the additional advantage of offering a huge visual as well as recreational improvement to the existing hard concrete waterfront that characterises the current Han River.

Trading places is a logical first step towards full-fledged use of water in urban developments. By trading places, spatial demands are met in a profitable way while upgrading dilapidated house-boat areas, restructuring shabby and neglected but promising waterfronts full of potential.

Step2: Expanding urban fabric (2020 – Future)

By 2020 the use of open water in city centres, as well as their suburbs, for the expansion of the existing urban fabric by means of floating foundations, will have become completely normal. Infrastructure such as utilities and roads, main ecological structures and green zones form the backbone of the city. In expanding over the waterfront, connecting to these existing structures is an obvious step, as is the use of all normal urban typologies and configurations. The perception of urban planners is already changing. Ten years ago, the general conception of a water dwelling didn't go beyond a houseboat alongside a pier. Nowadays, in virtually every new urban expansion project space is incorporated for a number of modern water villas. In the next decennium the awareness will have firmly rooted among urban designers that building on water merely means a difference in foundation technology. Plans for development of water-grounds will eventually be followed through according to traditional process organisations. Municipal development processes will consider urban expansion on water as the most natural thing in the world.

Logical places to start expanding the urban fabric beyond the waterfront are the harbours. In

5. 漂浮的林荫道

5. Floating boulevard1



the run for the most economical logistics, seafaring ships have become increasingly larger and larger. The old harbours in city centres were not able to accommodate these larger ships and gradually have been moved, or expanded towards the open water. This is a huge opportunity for the development of former harbour areas. It is exactly in these city centres that the square meter price is highest and precisely because harbour areas tend to be rather spacious both on the water as well as on land, these locations are the ultimate places to start urban densifications. Another argument is the environmental aspect, since, unfortunately, harbour areas tend to be strongly polluted. Building on piles driven in the ground generally stirs up the contaminated soil too much as well, leaving only the option of soil sanitation which is also a very costly one.

Examples of cities that have had to deal with maritime economy abandoning the old harbours are Liverpool, Dublin, Rotterdam, Amsterdam and Hamburg. In all these cases, harbours have moved to areas outside the city. Numerous old harbours have already undergone extensive facelifts as concerns their landside, incorporating housing, work environments and recreational functions on the quays. The water, however, remains unused. This is about to change.

An example of expanding the existing urban fabric is the project called 'the New Water', our most recent master plan project. It is located in one of the lowest areas in Holland between The Hague, the coast and Rotterdam and will combine housing, ecology and water storage in an integrated multifunctional development, scheduled to be completed by 2017.

Step3: Dynamic cities (2040 – Future)

Expanding the urban fabric beyond the waterfront is a strategy answering to the need for new density in urban regions. But the unpredictability of future changes also demands a huge flexibility of cities, and that is where floating architecture offers another advantage. The next step would be that large floating city parts, that have followed the existing city pattern or structure as expansions, could, in the course of time, be moved in relation to each other or the mainland according to changing conditions and demands.

Building on water offers possibilities that go beyond mere floating architecture or a new approach to water management. It can change our views on city planning. Developments of demographic, financial, social or political nature force city councils to continuously work at balancing the needs of the inhabitants and the built environment. Meanwhile, the life span of city components is decreasing – not so much of the technical lifespan, but the economical life expectancy. The cause is the changing balance between the economic value of a building and the economic value of the location it is built. In a growing city with ever increasing pressure on space, the ground prices of centrally located areas tend to rise quicker than the material value of the buildings they accommodate. A frequent consequence is that a relatively well built structure is demolished because of the potential for redevelopment that the location offers.

Floating structures respond to this situation by detaching the structure from its location. In the second half of the twenty first century an increasing number of buildings and functions

will no longer be inseparable from their physical locations. Cities will be made up of dynamic constellations, in which buildings and functions can be moved during their lifetime, responding to social needs as well as the economical context/economical considerations. This means that buildings will no longer have to be demolished before the end of their technical lifespan, just because the rising value of the location solicits such a response. Instead, the building can be moves to a place where the economic value of the construction is in a better balance with the value of the location, allowing the building to serve the full rest of its technical life span. A building will no longer be real estate, but a commodity, a product, just like a car, a boat or a piano. This results in economic as well as ecological and energetic savings on an unprecedented scale.

In the current discussion on sustainability the focus lies solely on the reduction of CO₂ emission. All efforts in the field of sustainable developments, as a result, are dominated by research in energetically efficient processes and recycling of materials. These are promising and necessary developments, but part of the profits of this strategy is being annulled by the changing and unpredictable future needs of the urban population. Attention should shift towards the flexibility of urban structures and components, making cities sustainable as a result of the simple fact that buildings and city components as a whole are able to be re-used and thus serve their full lifespan, reducing both demolition and new use of natural resources. Relocating floating buildings on the water, as well as building floating city components, is already technically feasible. In thirty years dynamic city developments on urban water will be considered normal. By that time, cities will have expanded onto the water for more than 20 per cent, while in the meantime having given back earlier reclaimed land back to nature. This is hybrid urbanism – the urban shift from land to water.

Step4: Moving urban components from city to city (2100)

In the long term, changes in urban conditions and demands happen not only within cities, but also on a global scale between different cities, and can hardly be predicted on the long term with any measure of certainty. Changes in the spatial demands and wishes of city dwellers never happen in isolation, but in a continuous interaction a changing context of political, economical, social and demographic nature. In addition, different impulses struggle for domination. Now, in 2010, it is climate change and urbanization that exert the greatest pressure on the infrastructure and the urban landscape. This complex of influences means that urbanisation, the migration of countryside residents to the big city, will not happen evenly and one metropolis will expand quicker than another. In some regions, such as the former east-German republic, shrinking may even be part of the scenario.

In the last 100 years, cities have not only had to deal with more changes than average in the centuries before, but the speed at which the changes take place and their magnitude (due to increased population numbers and increased technological possibilities) make it virtually impossible to anticipate the changes beforehand. The high building density in contemporary metropolises leads to spatial interventions having a greater impact than was previously the

case. Corresponding to the high complexity of the modern city, a high level of flexibility is necessary so that changing spatial requirements can find a place within the existing structures. The core of the urban problem, by now, is clear: there is an area of tension between the long lifespan of the urban built environment and the quickly fluctuating, and in the long term unpredictable, demands and wishes of the city dwellers. The extent to which the urban environment is capable of meeting the changing requirements within these components and structures determines the flexibility of the city, and thus its ability to offer a satisfying and well functioning environment for its inhabitants.

The strategy of design of urban components and expansions that can hold their own for a longer time, without knowing all the things that are going to change, is called planning for change. Planning for change means taking into account that our needs will change, and providing the utmost measure of flexibility in urban components to deal with whatever will happen.

One way of realising such flexibility is by reserving a considerable amount of open space, or space that is filled with a low economic value. Those are mainly functions with a short period of usage, so that the ground they take up can easily be released for unexpected spatial requirements.

A contrasting form of flexibility is, paradoxically, solidity. Buildings with a surplus of space and a solid structure provide opportunities for accommodating different functions in the course of time. Churches which become empty due to decreasing religious interest and former industrial buildings in old town centres can be renovated as homes or take on new functions. But both strategies are rather expensive, in that they involve investing a lot of space and capital in a specific place, for a long-term future whose nature and needs we can only guess at. In these cases, dynamic planning is achieved by juggling the use of static urban elements. But what if urban structures themselves at the end of this century were commodities, products to be moved and traded, according to demand?

Floating city parts will then allow the ultimate form of flexibility. The possibility of relocation means that a site can be used for different purposes in the course of time. And when a function is moved, not a trace is left - the temporary use of space leaves no permanent damage to the location, making it a sustainable strategy. By uncoupling the permanent connection between building and location, the building becomes a product that can be used during its lifetime by different owners at different locations, that need not be restricted to the same city.

The identity of major cities, their character, their heart and soul, reside in the centre that is least affected by growth and shrinkage in the course of urban developments. It's the core of cities like Amsterdam, New York, or London that makes up their identity, and that has only changed minimally throughout the centuries. Everything surrounding this centre, has only limited influence on a cities image and identity, and is open to changing demands. The suburbs represent functional applications that help the town as a whole to function. Neighbourhoods, business areas, industrial zones, and recreational spots are of a more temporary nature than the city's core, the centre.

While historical cores will continue to evolve very slowly, these functional additions are fundamentally interchangeable and open changing needs, responding to shifting growth and shrinking regions.

As course of urbanism develops differently per city, moving functions on a larger scale, could balance demand and surplus of particular functions between cities. Floating city parts allow the emergence of what we call consumer urbanism: the scarless relocation of parts of a city to another city, that is able to respond to changing requirements in a global market for urban components.

It is neither technology nor money that keeps floating developments from being realized yet on a large scale, but the lack of a change of perceptions among the public and private parties who look at water developments from a historical perspective in which floating houses are nothing more than boats with an inferior built up. The change in perception is a process that is being stimulated by reference projects, demonstrating that floating structures can offer exactly the same quality as buildings with a traditional foundation.

The new and expected climate effects, together with the pressure on space through urbanisation, will push our design targets beyond the waterfront.

By introducing new innovative concepts and visions we can achieve positive and sustainable architectural, urban, social and environmental results while dealing with water management problems at the same time.

A sustainable future lies beyond the waterfront! It is up to the climate change generation now.



彼得·金德尔：芝加哥AS+GG建筑事务所城市设计总监。

Peter KINDEL: Director of Urban Design at Adrian Smith + Gordon Gill Architecture in Chicago.

LAC：适应气候变化的景观设计是比较前沿的话题，您为什么会对这个话题感兴趣，您从何时开始对此感兴趣的？

彼得·金德尔：我们AS+GG建筑事务所一直认为景观和环境设计是我们设计实践哲学的本质，是可持续性原则的坚实基础。我们对景观在可持续发展进程中所能起到的作用颇感兴趣。我们已经试图将景观设计纳入建筑项目中一并考虑，现在，当我们面对大尺度的城市设计项目时，景观设计的角色越发显得意义重大。在我们的项目中，当建筑物能够有30%潜在的减排可能性时，景观和基础设施的设计则能有大约20%。此外，好的景观设计对于创造更美好的城市，更加宜居的、可持续的社区有很大贡献。如果能够更好地设计我们的城市，我们将更有力地应对未来的气候变化。

LAC：有人说，气候变化不仅是 we 面临的挑战，同时也为景观设计提供了契机。您如何看待这一问题？

彼得·金德尔：这既是挑战，也是机遇。尽管如此，不能仅仅将减少气候变化引发的各种严重的问题简单地重新归为“机遇”。目前，各种量化指标显示气候变化正在不断地影响着人类的生活，最值得注意的是因CO₂的过度排放导致的高山地带和两极地区急剧的温度变化直接影响了动物生境，并且对物种繁衍产生了威胁。此外，由于主要热带地区的生物量的减少，CO₂的吸收量正在不断降低。因此，每个人都应当联合起来应对这些重要而紧迫的问题。

LAC：您认为景观设计能否减缓气候变化的趋势？

彼得·金德尔：其实小尺度的景观设计项目很难对气候变化产生显著的影响，所有的景观设计实践都应该遵循最优方法的导则。我们试图来区分景观的形式和功能：随着开发或设计，景观的形式可能变化，而景观功能属性的保证却是十分重要的。一个大型项目的设计，可能会对气候变化产生更加重要的影响，这种影响可以通过集合某些小区域的开发，即强化自然系统和栖息地来实现，从而使得开放空间得以保留。AS+GG建筑事务所最近正在研究加拿大多伦多的一个大型城市规划项目，在这个项目中，我们研究应如何设计滨水地区，并使其能有益于整个城市的绿地系统。

LAC：根据IPCC报告所预测的气候变化可能带来的后果，如对生态系统、海岸线等的影响，您认为设计师可以从哪几方面应对气候变化的问题呢？

彼得·金德尔：景观设计师运用自己的植物资源和自然系统方面的知识，确

6. 可漂浮的住宅

6. Floating residential



实可以为这个问题做出贡献，他们可以将自己的知识融入创新的、与众不同的设计方案中，在这一领域他们能脱颖而出。同时也应该意识到，我们对于解决气候变化这类问题的贡献，并不仅限于建立在设计的基础上。但作为受过良好教育的市民，我们有责任成为社会中积极的一份子，并且寻求变革的途径，虽然这可能与我们的工作并没有多少关联。通常，一个与设计无关的变革，会对问题产生最有效的回应。

LAC: AS+GG建筑事务所在这方面有哪些代表性的作品？您能为我们阐述一下这些作品中核心理念与技术吗？

彼特·金德尔：我们认为芝加哥中心区脱碳计划这一项目对气候变化有着极大的适用性。事实上，这也是整个项目的基础。我们全面着眼于芝加哥中心区能源消耗的所有因素，发现我们为减少芝加哥温室气体的排放所作出的建议中，有许多与景观设计相关。规划方案中一个关键性的提议是将芝加哥市区重新设计为一个有着综合用途的社区，从交通运输上大大缩减CO₂的排放量。而将其规划为综合用途的社区的关键性工作，则是提出意义深远的公园系统、花园以及其他有益于居民的景观。

LAC: 气候变化的问题将引导景观设计师更多地强调生态功能，很可能进入一个生态价值大于美学价值的时代，您怎么看待这个趋势？

彼特·金德尔：批判性地思考景观设计的生态价值是一个强大的趋势，但是我们必须始终把对设计美学的关注放在首位。我们观察发现，景观的生态设计必须与其所处的背景环境发生关系。举例来说，城市景观和乡村景观的生态设计可能存在着天壤之别。在大多数情况下，城市的景观设计应该将景观的美学价值置于生态价值之前。这样会创造出有魅力的并且宜居的社区，并且加强景观的场所性。这反过来也正是创造了可持续的社区。

LAC: 在气候变化这样一种背景之下，您能否设想一下未来城市形态的发展趋势？

彼特·金德尔：在设计中我们推进理性的增长策略，使生态系统得以最大

程度的保护。我们发现城市的形态将以3种主要的方式演进。首先，城市形态将会紧缩，变得更加密集，这是化石燃料消耗成本升高和影响加剧的结果，也是之前城市设计所带来的不可持续的后果。我们将会发现棕地所蕴含的更多的价值，城市将不断填补它自身所有空地。我们期盼着国家政策能反映出这个目标。

第二，生态系统的规划会变得越来越重要，我们希望能看到政府的政策支持这一趋势。生态系统在城市边缘区和乡村区域将尤为显著，但是在城市化的区域也将可以看到。城市区域内生态系统可能会显得更加破碎化，但仍然是至关重要的。

最后，人们将会更深入地理解能源管理和节能在城市规划中所占有的重要地位。就像AS+GG建筑事务所的很多项目展示的一样，能量管理、景观设计和建筑设计在我们构建一个新城市的过程中将会密不可分。例如，在迪拜的矩阵通道综合体项目，这个方案创新地平衡了景观、结构、交通系统与建筑，通过精心安排土地利用类型之间，及其与邻近的户外空间之间的利益关系最优化。这个综合利用的项目很好地说明了AS+GG建筑事务所采取这样一种设计策略——通过对项目元素的互补安排来达到高效能的能源利用和环境效应。（杜菲 译，涂先明 校）

LAC: Landscape design adapts to the climate change is one of the frontier topics, why and when do you become interested in this subject?

Peter KINDEL: We at AS+GG have always viewed landscape architecture and environmental design as intrinsic to the philosophy of our practice. As a firm based on the principle of sustainability, we're deeply interested in the role of the landscape in sustainable processes. We've attempted to incorporate the design of the landscape into all of our building projects, and now, as we move into large-scale urban design work, the role of landscape is even more significant. While buildings account for about 30% of the potential carbon-reduction opportunities in our work, landscape and the design of infrastructure account for another 20% or so. Further, good landscape design contributes to creating better cities, which ultimately will create more livable and sustainable communities. The better we design our cities, the greater impact we'll have in combating climate change.

LAC: It is said that climate change is not simply a problem to be confronted, but an opportunity to be seized. What's your opinion about this?

Peter KINDEL: It's both a problem and an opportunity. However, we should not minimize the serious problems caused by climate change simply by re-classifying them as opportunities. There are many measurable effects of climate change that are affecting us now, most notably the significant temperature shifts we are seeing in mountainous areas and polar regions. These temperature shifts, which are changing animal habitats and threatening species survival, are well-documented effects of excessive CO₂ production. Further, with the loss of bio-mass in primarily tropical regions, our ability to absorb CO₂ is decreasing. So these are significant and pressing problems that need concerted action by everyone.

LAC: Do you think the landscape design could mitigate the climate change?

Peter KINDEL: While it's difficult for small-scale landscape design projects to have a significant effect on climate change, there are best-practice guidelines that should be adhered to for all landscape design efforts. We try to differentiate between the landscape's form and function. While a landscape's form may change through development or design, it is important that the landscape's functional attributes continue to be met. In the design of large projects, it's possible to have a much more significant impact on climate change. This can be accomplished by concentrating development to smaller areas, thus preserving open space, and by strengthening natural systems and habitat areas. At AS+GG we have recently been engaged on a large urban plan for Toronto, Canada, in which we're studying the design of their

waterfront, and how that can contribute to the greening of the city.

LAC: According to IPCC's report on the predict consequences of climate change, such as the impact on ecosystems, coastline, what could the landscape architects do in response to climate change?

Peter KINDEL: Landscape architects can really make a contribution with their knowledge of plant material and natural systems. Being able to translate this knowledge into innovative design solutions is where they can really distinguish themselves. We should also realize that our contribution to problems like climate change don't all have to be based on design. As educated citizens, we all have an obligation to become active politically in our communities and to seek methods for change that may not be related to our day-to-day work. Often, a non-design-related change can be the most effective response to a problem.

LAC: Is there any representative project of AS + GG relates to this issue? Could you explain the key concepts and techniques applied to the project?

Peter KINDEL: We feel that our Chicago Central Area DeCarbonization Plan has tremendous applicability to climate change. In fact, that is the basis for the entire project. We looked comprehensively at all elements of energy use within Chicago's central downtown, and found there are many elements of landscape design that contribute to our recommendations for reducing greenhouse gases in Chicago. One of the key initiatives of the plan is to re-imagine downtown Chicago as a mixed-use community, which offers a tremendous reduction in CO₂ emissions from transportation. The key to making mixed-use communities work is to offer meaningful park systems, gardens and other landscape benefits to residents.

LAC: Climate change will lead to more emphasis on the ecological functions of landscape, which probably leads to an era of the ecological value overweighting the aesthetic value, what do you think of this trend?

Peter KINDEL: Critical thinking about the ecological value of landscape design is a great trend, but we must always keep the aesthetic concerns of the design in the forefront. One of our observations is that the ecological design of the landscape must correlate with its context; urban landscapes, for instance, may be very different from rural landscapes in their emphasis on ecological design. An urban landscape design should place the aesthetic position of the landscape ahead of the ecological position in most instances. This creates attractive and livable communities and strengthens the place-making attributes of the landscape. This in turn creates sustainable communities.

LAC: In the context of climate change, could you imagine the future of urban form?

Peter KINDEL: In our design work, we promote sensible growth strategies that preserve ecological systems to the greatest degree possible. We see urban form evolving in three primary ways. First, urban form will begin to contract and become more dense. This is a response to the rising cost and impact of fossil fuel consumption, and a general realization that our cities are unsustainable as presently designed. We will begin to see brownfield sites become more valuable, and cities filling in their vacant areas. We hope to see public policy reflect this goal. Second, ecological systems planning will become more and more important, and we hope to see government policies that support this trend. These systems will be more apparent in urban fringe areas and rural areas, but will also begin to appear in urbanized areas. In urban areas, ecological systems will be more discrete, yet still important.

Finally, there will be a much greater understanding regarding the role of energy management and conservation in the planning of cities. As demonstrated in many of AS+GG's projects, energy management, landscape design and architecture will become inseparable in how we conceive new cities. Matrix Gateway Complex in Dubai, for example, is an innovative balance of landscape, structure, transportation systems and architecture, carefully arranged to maximize the relational benefits of land uses and their adjacent outdoor space. This mixed-use project exemplifies AS+GG's approach to the complementary arrangement of program elements to achieve high performance energy and environmental outcomes.



陈跃中：ECOLAND易兰规划设计事务所总裁兼首席设计师，美国注册景观设计师，美国环境景观协会会员，美国城市土地规划研究院会员。

David CHEN: President and chief designer of Ecoland, Planning and Design Ltd., Beijing, registered landscape architect of Florida, USA, council member of American Society of Landscape Architect and ARDA.

LAC: 近期频频出现的罕见的气候异常已经较大地影响了人们的生活，同时，气候变化已成为全球性的话题，您认为景观设计师应该如何应对气候变化？

陈跃中：我觉得我们景观设计师能做的是能够提倡一种理念，启发别人。举个小例子：景观设计中种植“奇花异草”，这是一个传统的景观审美观，而当代的审美观应该是更趋于“生态”的价值观。ECOLAND易兰在为项目提供一流服务的同时注重生态保护和环境可持续性发展，把生态观念作为企业的职业追求与现实关怀。多年前提出的“大景观”理念更是从生态角度来解决项目中的问题。我们看待这些植物，不是从审美上来评价，相反，那些可能不需要浇灌的、成片生长的、有顽强生命力的植物，在我看来是美的。比如一大片芦苇，这在以前肯定是要拔掉的，然后种上奇花异草。但是现在很多人就知道等一等，可能应该保留。所以说景观设计师要推动“当代的审美价值观”。这就是当代的景观意识，这种意识要靠景观设计师去推动。在一定范围内发出自己的声音，唤起公众的一个意识，赋予审美以当代性。

现在人们越来越感觉到很多天灾实际上是人祸，至少是缺乏了一些人为的管理，这种管理在我看来就是景观领域的缺失。比如说堤坝的处理、

7. 迪拜的矩阵通道综合体项目 © AS + GG Architecture
7. Matrix Gateway Complex in Dubai © AS + GG Architecture



雨水的管理等。有的地方雨水在雨季的时候排完了，旱季来了马上就要找水。我认为景观行业不是种花种草，让人吟诗赏月的行业。其范畴应该更大一些，是思考人和自然的关系，与生活甚至生存都息息相关的一个很重要的行业。这也是我们所提的“大景观”理念的内涵。

LAC: 您在这方面是怎样实践的呢？

陈跃中: 我们在这方面的实践是我们不仅提出“大景观”的口号，更重要的是我们总结出了10个步骤，每个步骤都对应于目前体制。这比理念更重要，它属于实操方面。虽然我们所运行的项目会受到体制限制，但我们也能将这样的理念推行下去。比如海南的红塘湾的总体概念规划。它的范围大于100km²，在这样的一个尺度内，传统上是建筑、道路交通方面先行处理，但是在这个项目中，我们首先从景观的角度来处理，最先确定它的生态系统应该是怎样的，有了生态系统的布局以后，再规划城市功能。我们在海南旅游岛其他的旅游开发项目中也秉承“大景观”的理念，旅游产品策划与景观规划同时进行。在可能的范围内我们在具体项目中将“大景观”理念运用到现实中。

大景观的“大”是指的理念上的大，而不是尺度上的大，实际上无论在区域尺度、城市尺度还是在小的庭院尺度，这一理念都是能贯穿下去的。上海世博“亩中山水园”就是一个“大景观”在微观层面的例子，建筑功能在中国传统园林里作为造园的一部分，通过围合营造出来一个你中有我，我中有你的环境，同时它们是被统一考虑的。在这里我们做了一些中国传统园林的当代性探讨，我们要把古老的思想和技巧传承延续下来，并且赋予当代性。我希望在世博园中我们看到的不仅是科技的不断创新，也不只是一个单纯的小园林，而是人类应该怎么样生活得更好。在“亩中山水园”中，我们传承了几千年的传统文化以及中国文人精神生活的延续，另一方面也有在当代环境问题背景下，有我们对人与自然关系的探讨。

8-9. 海南南山文化旅游区
8-9. Cultural Tourism Area in Nanshan, Hainan Province



马晓晖: AGER（意格国际）创始人、总裁兼首席设计师，美国明尼苏达大学建筑与景观设计学院董事会董事。

Xiaowei MA: The founder, president and principal designer of AGER, an associate of the Department of Architecture and Landscape Architecture at the University of Minnesota.

LAC: 您认为“气候变化”给我们的现今生活环境带来了哪些影响？

马晓晖: 我认为我们的体会应该是很深刻的，比如说前几年贵州的冰冻灾害，会造成大规模生活上的困扰以及一系列灾难性的后果。某些地区遇到了所谓的“百年一遇”的干旱或是洪涝，现在可能变成了“十年一遇”，甚至可能“年年都遇”。我们以往对环境、气候的常识被打破了，几乎成了很难被预知的事物。我们几乎已经不能用常识，或是经验来判断了。一个最直接的影响就是对农作物的影响。而中国作为一个农业大国，一旦粮食欠收，带来的一系列后果将是非常可怕的。粮食一旦减产，将带来农产品的价格上升，从而导致城市居民消费品CPI的上升，CPI又会关系到利率问题，利率又关系到出口，出口又关系到汇率……这是个链条效应，气候问题可能将会变成生存问题、社会问题、政治问题、经济问题，会直接导致社会的动荡。

LAC: 根据IPCC报告所预测的气候变化可能带来的后果，如对生态系统、海岸线等的影响，您认为设计师可以从哪几方面应对气候变化的问题？

马晓晖: 首先，我个人认为气候变化问题的根源是人对自然的无休止的攫取。人类是始作俑者，因为人类在片面地强调物质上的满足。人类绝大部分的物质满足建立在对自然资源的消耗基础之上，而这种消耗带来了与自然生态的破坏，甚至资源的枯竭造成了气候的一些异常。其次，我们要分清生态的两个概念，一个生态概念是无人的生态，另一个是有人的生态。人类不能消亡，所以其实我们谈的生态其实是有人的生态。在这个生态圈里，人类处在一个绝对的统治地位。我们可以攫取任何资源，而带来的直接后果是生态系统的破坏以及气候异常给我们带来的灾难。所以在这种情况之下，限制人类的这种无休止扩张欲望的只能是人类自己，通过人类自己的反省、自省、自律，形成一种新的生活模式。这其实是人生活的价值观和生活需求的原因。所以，改变这一切要从改变生活方式做起，要从改变对生活的认知做起。

然而，这背后的一些因素是否是我们设计师能够主导的，是一个很大的疑问。我们今天谈的是作为一个设计者，作为一个规划者能够做些什么。我们需要认清我们所面对的制约有哪些。一种制约来自于人类，人类对物质无休止的需求和有限的自然资源之间存在着极大矛盾，如何使之平衡就是一个很大的挑战。第二，现在是一个资本扩充、资本膨胀、资本话语权过大的一个社会。中国也是一个资本快速膨胀的社会，而我们城市发展、基础设施建设、房地产都离不开资本驱动，我们规划设计对应的恰恰是一个资本驱动的行业，而资本是趋利的，不管社会代价及后果，追求的是利润最大化。面对这样的状态，设计师该怎么做就成了一个很实际的问



10. 北京财富中心
10. Beijing Fortune Plaza

题。其实设计师就是根据资本的需求来运作通过运作施加影响力，而达到多方的平衡和共赢。

另一个制约条件是——我认为全世界范围内的景观设计师都面临着这样的局面——我们现在面临的课题很大，可背景知识却太过单薄。我们所面对的是一个复杂的社会圈，而我们的社会知识远远不够。其实我们景观专业是一个社会知识积累的专业，每个年龄段都有自己关注和应该担负的责任。而这个不是大学能教你的。我们在社会这个大学中学习，抱有什么样的心态，抱有什么样的角度、出发点和责任心去看待我们这个专业很关键。我不要求一个20岁的涉世不深的设计师能够全面地了解社会的方方面面，他力所能及的事情是把场地做好。但当一个人成为主设，面对着几十平方公里，面对着巨大资本投入，他的知识面就不能局限在20多岁的状态。在这种情况下，我们现在对年轻人的希望就是做好手头上的事情，但是要开始进入到社会大学，要开始关心政治、关心经济、关心社会、关心文化、关心生态，然后逐渐变成社会发展过程中的一个主导者。

当然，景观行业所面对的社会背景也是制约我们景观设计师的重要方面。我认为现在中国的问题是城市发展过快，建设速度过快，而景观专业又在像生产专科学生的速度来生产设计师，我认为这种过快是自杀式的过快。我认为作为一个负责任的规划设计师，应该对目前的社会发展感到忧心忡忡，而不是感到兴奋。因为问题显然大于成绩，挑战大于机遇。我认为机遇是存在的，但挑战更大。我们如果对社会发展的大方向都认识不清的话，我们又如何能够判断自己专业的发展，又如何能够判断自己从业的范围和应该承载的社会责任呢？又如何去做规划设计？又如何去应对气候变化？

我们不能只就气候谈气候，只就生态谈生态，这对规划师和设计师是没有意义的。我认为，作为设计师，我们不能只满足于一些构成、形态、审美之类的小趣味，心胸要宽广，知识面要宽广，要能够了解我们做这个专业在整个社会链条里扮演的角色，而尽可能的扩大自己的话语权。所以我们投入地越深，越能扮演积极的角色，而这一点恰恰是能够改善气候环

境、使生态恢复的过程。我们要引导社会力量、引导政治力量、引导资本、引导消费者、引导社会舆论朝更加良性的方向去发展，这是我们设计师的重要责任。

LAC: 气候变化的问题将引导景观设计师更多地强调生态功能，很可能进入一个生态考量大于社会考量、美学考量的时代，您怎么看待这一趋势？

马晓晖: 我认为设计师不能单一地倾向于单独某一项。比如说我倾向于生态环保，就不顾资本的利益、也尽量压制消费者的需求，可是这能成功吗？这是环保的志愿者的做法，不该是景观设计师的做法。我们是一个设计咨询方，作为设计师来讲，通过自己全方位的社会知识的积累，和专业知识的积累，投身到这样一个复杂的社会里，并在其中扮演一个积极的角色，而不只是一个片面的角色。我们要能够协助投资者获取合理的回报，也能够理性地满足消费者的基本需求，引导消费者的需求，并同时能够尽可能地照顾到对环境保护、社会文化延续等多方面的责任。

LAC: 您是否认为气候和其他设计环境的变化也会给景观行业带来契机？

马晓晖: 的确。在这种环境之下，我觉得我们将会大量的机会去再造城市。再造城市是个在原有规划粗糙的基础上再规划、再设计、再建造的过程，是一个市政、建筑、景观等方面的多专业的整合。日本的六本木就是城市再造的一个典范。在多专业的整合解决复杂的综合性的问题时，谁有这个能力谁是导演，谁是指挥家，谁是主导者。而这个整合过程会让那些不称职的设计师露出马脚，因为再造需要具备我所提到的那些复杂而全面知识。

其实景观专业就像是一个乐队里面的一件乐器而已，我认为景观设计师的至高境界之一就是能成为一个调动整个乐队的指挥家。而这在中国的操作难度比较大。现在的中国景观行业现状是太多的人把景观设计当成是装点门面的东西，现在有太多的景观造假行为。那些人只看到短期效益，根本不去思考全面而长远的问题。这样的态度怎么能够应对气候变化？不就成了空谈吗？其实，做规划设计，到一定程度应该就像一位老中医，而我们的设计就是抓药方，我们的手段就是药方里的每味药，我们要根据具体的情况来下药。我们面对的每一个项目都像是个病人，我们都必须得看清病人的根处，而且要长短期兼顾、标本兼顾地来下药，这是我们专业的性质。遗憾的是我们今天太多的设计都是表面文章，就像一个病人明明是癌症，可我们却把他送进了美容院。你给它美了容、化了妆，但是癌细胞还在扩散，城市的症结并没有改变。

我们的设计打动人的不仅仅是因为用了透水砖，不仅仅是雨水收集，这只是景观设计最基础的事情。作为景观设计师的我们不要只在一个小绿地里做点小文章，自我玩赏，自吹自擂，我们要在今天的复合型的城市发展里面要试图去扮演一个影响者，甚至一个主导者。而我们的景观专业具备先天的优势，我们对自然、生态、土壤、气候、植被和人都非常地关注，所以由我们来做这个主导者比其他人会做得更好，更称职。如果我们不做会是一个巨大的遗憾。

我们这个行业还很年轻，是在最近几年才爆炸性成长的行业，所以大家把这个行业容易看得比较简单，而且由于我们背景不一样，包括对这个行业的定位都不一样，有可能会造成很多混淆。所以我一直对这个专业的学生说：如果想靠设计一夜暴富，你们也许已经错过了一个非常好的时代；但如果想做好的设计，你们刚刚走进了一个崭新的最佳时代。你们的设计师前程才刚刚开始。■