

伊恩·麦克哈格和他的鱼类繁殖公园^①

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摘要...

20世纪晚期麦克哈格提出了生态设计理论，这些理论促进了本世纪景观都市主义的诞生。查尔斯·瓦尔德海姆（Charles Waldheim）、詹姆斯·科纳（James Corner）和克里斯·里德（Chris Reed）都曾师从于麦克哈格，并成为这一领域的主要倡导者。与老师相比，他们更关注城市设计及城市现况。尽管如此，生态学的观念及多学科的团队为麦克哈格的理论及景观都市主义者提供了更多的联系。此外，景观都市主义者关心人与自然占据同一空间的问题，以建造社会、文化、环境彼此相互影响的动态的新型城市生态学。都市自然系统与人类系统产生互动并相互影响，在此过程中产生一个充满活力的综合系统。景观都市主义正从现有的理论转入实际的工程建设，如由James Corner Field Operations建造的纽约市高线（High Line）和弗莱士河公园（Fresh Kills）。高线一期工程于2009年6月建成开放，受到媒体和业界的广泛关注与好评。

关键词...

景观都市主义；城市生态学；生态设计；生态决定论



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“让我们拯救生命，保护环境，实现从适当的生态规划到增强景观预测和布局，进而改善人类的生存环境。”^②

——伊恩·麦克哈格

40年前，伊恩·麦克哈格（Ian McHarg）在其著作《设计结合自然》（1969）中提出大胆的理论 and 一系列以生态为基础的规划方法。尽管这些规划设计方法如今早已司空见惯，并与后来的模式和系统结合使用，麦克哈格提出的理论已得到明显改进，但还未能完全实现。今天，他的理论已发展成涵盖各学科、强调基础设施和城市生态学的“景观都市主义”。时至今日麦克哈格的理念仍然在理论和实践中不断绽放光彩。在实践中，他的景观分析方法在规划和环境评估中已经被许多国家的各级政府制度化。此外，他的地图叠加理念也为地理信息系统（GIS）技术及应用构建出知识框架。尽管在麦克哈格之前，设计师和规划师就已经开始叠加地图，但是他却是利用生态作为地图叠加的组织框架来重新解读多层次景观的第一人。他的叠加理念以结构或系统为基础，其使用包括对地形、水文、小气候、土壤、植被、野生动物和土地使用等诸多要素之间相互作用的检测。

与爱德华·奥·威尔逊（E. O. Wilson）的“契合观点”相似，麦克哈格将生态地图视为一种统合生物物理、社会文化、艺术和人文学科知识的手段。他提出了可供使用的各国及全球系统的生态地图，例如，利用它们确定出应该避免人类干扰的环境敏感区。卡特里娜飓风

肆虐后满目疮痍的新奥尔良就是一个忽视环境的惨痛教训。

麦克哈格的理论常常因为决定论和反人道主义而遭到人们的批评与抵制。事实上，他的确主张一种“生态决定论”的形式。但是批评者却将这种形式与“环境决定论”混为一谈。“环境决定论”是20世纪早期社会科学家，特别是地理学家和社会学家所推崇的一个不足为训的规划方法，而它与优生学的联系更使其声名狼藉。“环境决定论”认为环境决定行为和文化。这一理论带有一定的种族主义色彩，在社会科学界遭到广泛批评，因为人类并不是简单的生物统计单位。尽管如此，生态学家奥尔多·利奥波德（Aldo Leopold）说过“生态教育的惩罚之一”就是更加清楚地看到“伤痕累累的世界”^③。麦克哈格的设想或许存在着缺陷，但极具先见之明，预见到了我们那时的走向趋势和现在的处境。

或许麦克哈格最吸引人的理论影响是在景观都市主义诞生之初，也就是所谓的“总体规划消亡”之后的20世纪90年代。许多知名设计师，如查尔斯·瓦尔德海姆、詹姆斯·科纳和克里斯·里德都曾在宾夕法尼亚大学师从晚年的麦克哈格。那个曾任英国特种部队少校、高大魁梧的麦克哈格早已消失，晚年的他是一个性情古怪的垂暮老人。老一辈人应该很容易想

象出跟随麦克哈格纵身跳出飞机，在茫茫黑夜中深入敌后的画面。

麦克哈格施教的最后一代学生更有批判精神。他们更多地强调“设计”，而非“自然”。他们迫使麦克哈格不断地开创新的设计理念，虽然这样使麦克哈格的脾气变得更坏，但同时也不断地挑战着他。晚年的麦克哈格仍然是一位充满幽默、智慧与传奇的老人。他鼓励年轻建筑师和景观设计师将城市设计当做人类生态学的一项工程来做。然而年轻的一代似乎更多地追求基于设计的城市规划。景观都市主义者认为景观应该取代建筑和交通系统，成为城市设计的主要组织结构。为了建立城市变迁的构架，他们强调设计的网络性和复杂性。但是与之俱来的结果是城市的自然系统彻底变为人造系统，曾经蕴含自然美的城市公园摇身变为“人造”的主题公园。

景观都市主义模糊了各学科之间的分水岭，混合了建筑、景观设计、规划、土木工程、法律、历史保护和房地产等不同领域。它或许可以被视为生态决定论和经济决定论的一种动态衍生结果。因此有些人对景观都市主义仍持怀疑态度。景观都市主义不就是景观设计学吗？只不过设计师赋予了它一个新的名称？的确，相比景观设计领域本身而言，景观都市主义似乎在建筑和城市设计领域更为流行。但这也正说明了景观设计学是一门融合不同学科的综合性学科。

于是第二个关注点也应运而生。景观都市主义者注重“播种”行为以及为未来的决定构建“框架”，他们正如麦克哈格一样热衷于景观设计事业。但是，如果景观都市主义只是为了打造视觉冲击力，或者是增添了城市生态系

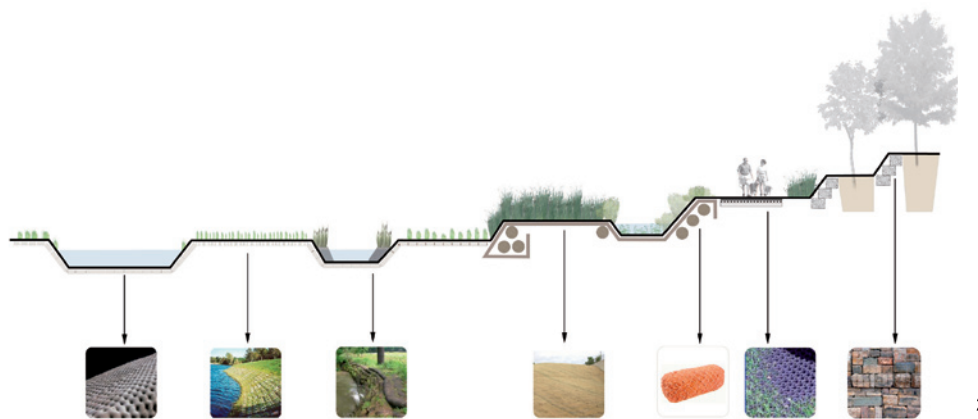
统理论的最新版的生态决定论，那么麦克哈格留给我们的也仅仅是结合少许经济决定论的拓延。正因如此，批评麦克哈格规划模式的声音在某种意义上转移到景观都市主义上。虽然当今的景观理论认为嵌入城市中的自然系统要比基于形式的静态设计复杂得多，但是系统理论至少为这种复杂性的原因提供理论基础，自然仍然是人类使用的一种工具而已。作为一种模式，景观都市主义主张开放系统的城市设计方法，区别于过去封闭系统的方法。这或许会导致城市自然被禁锢于一个与主体纯粹建筑形成的邪恶同盟中。景观都市主义自身与当代生态学中的新生理念结合会更富成效，它已经摆脱对自然的僵固认识，发展成一种包含复杂性和混乱（新生事物）的认识。但它仍需为城市中的自然提供适度的可持续空间，这也正是它未来所要面临的挑战。

还有批评者认为一些景观都市主义的方案就像不可持续的基础设施的大杂烩，无论是阿基格拉姆（Archigram）学派夸张傲慢的波普建筑，还是保罗·索拉尼（Paolo Soleri）粗糙的未来派设计都比麦克哈格那种朴素的、在城市设计中为自然留出空间的形式更为常见。更好地理解由城市规划业所推动的社会科学发展，以及深入了解城市生态学形成的新的科学知识也许可以解决这一问题。鉴于目前的全球环境危机，景观都市主义或许只会昙花一现。麦克哈格是二战后美国城市规划行业所发生的社会科学转折的代表人物。他获得城市规划学和景观设计学的研究生学位，致力于规划行业的改革，而不是放弃这一行业。景观都市主义在广泛的社会地理学、经济学、公共政策学以及法律理解的基础上不断发展，相比盲目追求基础

设施和系统理论（一种借鉴量子物理学的不确定模式）要明智得多。

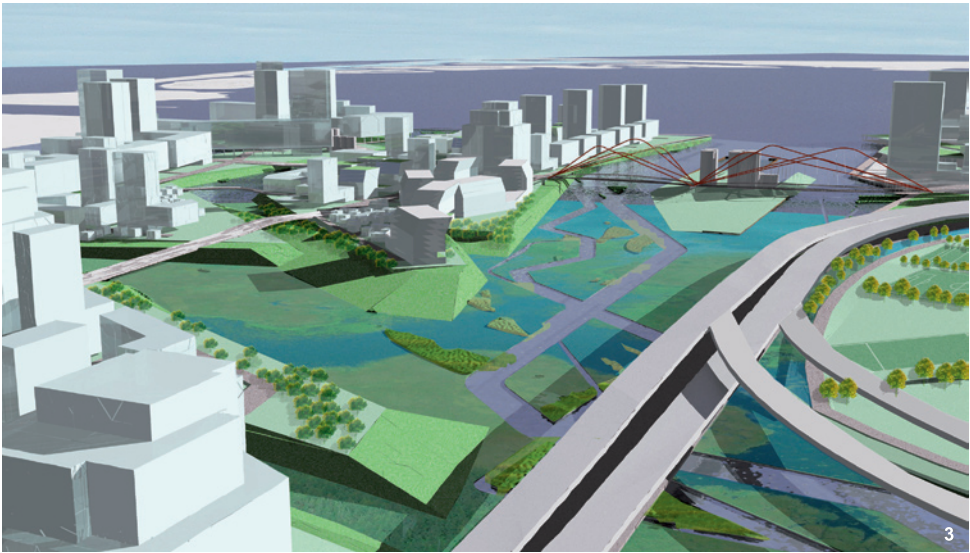
尽管景观都市主义仍然是一个没有太多成熟经验的新生概念，但是弗莱士河公园（Fresh Kills）项目却是朝此目标迈进的一次尝试。其主要创新在于James Corner Field Operations景观设计事务所的团队在设计中融入长效变化机制，打破陈规，在最初的“播种”阶段就构建出一个充满无限可能的动态灵活框架。弗莱士河公园项目位于纽约市史坦顿岛，占地约890hm²，这里曾经是世界上最大的垃圾填埋场。9·11恐怖袭击事件后世贸中心的残垣废墟就填满于此。James Corner Field Operations景观设计事务所的设计展现了如何将原来的垃圾填埋场改造成一座比纽约中央公园大3倍的城市公园。这项长达30年的规划项目涉及一个大型景观的恢复，改造并利用原来垃圾填埋场上被污染的湿地。除了景观设计师以外，项目的整体规划还需要建筑师、规划师、生态学家、交通工程师、土壤科学家和水文学家的通力合作。

另一个最近的景观都市主义案例是曼哈顿的“高线（High Line）”项目。非盈利组织高线之友希望将这条横贯纽约22个街区的废弃铁路改造成一个占地2.7hm²的公园。这条绵延2.33km的城市廊道发挥着游憩设施、旅游景点和经济发展引擎的作用。2004年，高线之友和纽约市政府委任James Corner Field Operations景观设计事务所和Diller Scofidio + Renfro设计事务所共同承担该项目的设计。这两家事务所提出一个模糊铺装和植被之间界限的线性步道设计，人类、植被和鸟类在项目中和谐共生。“高线”项目是一个将废弃城市



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- ① 伊恩·麦克哈格，1979年。©The Architecture Archives of the University of Pennsylvania.
- ② ③. Stoss城市景观事务所提议的沿多伦多顿河下游的混合型基础设施
- ④ ①. Ian L. McHarg, 1979. ©The Architecture Archives of the University of Pennsylvania.
- ②, ③. Stoss Landscape Urbanism proposal for hybrid infrastructure along the Lower Don River, Toronto.



场地转变成社会资源的成功典范，紧承20世纪80、90年代风生云起的棕地再开发运动。高线一期工程于2009年6月建成开放，它受到媒体和业界的广泛关注，好评如潮。

James Corner Field Operations景观设计事务所在实践中推进景观都市主义的同时，其他事务所相继通过竞标和方案在理论上不断完善这一概念。例如克里斯·里德和他的Stoss城市景观事务所团队就在2007年多伦多湖滨振兴公司组织的顿河下游区发展项目（Lower Don Lands）设计竞标中提出许多新理念。顿河项目占地121.4 hm²，大部分是多伦多市区以东、以前的港口土地。Stoss城市景观事务所的方案考虑到防洪设计、栖息地恢复以及顿河河口的自然化。他们还提出新区发展和一体化交通系统的设计。加拿大生态学家Nina-Marie Lister也加入Stoss的设计团队，她在恢复鱼类的生态系统方面贡献显著，这也是更广泛的“动态生态学复兴”^④规划的组成部分。这一方法提出了顿河和安大略湖恢复重建的策略。滨水湿地也成为鱼类繁殖的温床。Stoss的设计团队遵循麦克哈格的策略，邀请当地知识渊博的环境科学家参与设计工作，将当前城市生态的认识融入总体规划中。如今，这些项目最关键的环节就是引入大型发展作为支付项目的一种手段。

克里斯·里德发现麦克哈格关于更大区域规划的经验与教训正是Stoss事务所设计工作的基础。Stoss事务所首先去了解大型系统，然后遵循这个系统制定并平衡整个结构方案，从而提出结合生态动力学和社会动力学的设计。

然而，Stoss事务所也摒弃了麦克哈格的某些做法，他们允许多种功能交杂或者多种功能在同一地区并存。麦克哈格强调使人亲近自然，比如他规划的“林地社区”项目就是位于德克萨斯州的一个新城，它成功地利用雨水排放系统来构造整体规划，使水成为组织整个项目的灵魂元素。保护良好的水文廊道仿佛编织入城市肌理中的条条碧绿缎带。与此不同，Stoss事务所及其他景观都市设计师更喜欢使人与自然处在同一空间——建立包括社会、文化和环境动态学于一体，彼此相互作用的新的城市生态。这也正与威尔逊“契合”理念不谋而合，城市自然系统和人类系统相互影响、相互作用，并在这一过程中形成一个充满活力的综合体。景观都市主义常常为此带来难以衡量的文化和经济数据的更新，这并不是否认麦克哈格最初的设想，而或许是将它向前推进。■（王玲 译，钱瑾 校）

致谢

感谢Becky Young提供麦克哈格图片、Stoss城市景观事务所提供Stoss图片、弗雷德里克·斯坦纳和哈丽娜·斯坦纳提供高线图片。

注释

①本文的早期版本曾发表于Log 13/14（2008年秋）。

②伊恩·麦克哈格，*The Essential Ian McHarg: Writings on Design and Nature*一书中的“规划中的自然因素”。弗雷德里克·斯坦纳（华盛顿特区：Island出版社，2008年），121页。最初发表在《水土保持学报》，第52期，1号，1997年。

③奥尔多·利奥波德，*Round River: From the Journals of Aldo Leopold*，卢纳·B·利奥波德（威斯康星州：North Word出版社，1991年），237页。

④克里斯·里德，Stoss城市景观事务所（首尔：C3出版有限公司，2007年），198页。

Ian McHarg & Sex Parks for Fish^①

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Abstract...

Ian McHarg advanced theories for ecological design in the late twentieth century. Those ideas contribute to the emerging field of landscape urbanism in this century. Charles Waldheim, James Corner, and Chris Reed are principal proponents of landscape urbanism and former students of McHarg's. They are more focused on urban design and on existing cities than their mentor. However, the application of ecological concepts and the use of interdisciplinary teams provide common links between the approaches of McHarg and the landscape urbanists. In addition, landscape urbanists are interested in having people and nature occupy the same space—and to construct new urban ecologies that tap into social, cultural, and environmental dynamics that play off one another. Urban natural systems and human systems interact and alter each other, producing an energetic synthesis in the process.

Landscape urbanism is moving from an engaging theory to actual built works, such as the High Line and Fresh Kills in New York City, both undertaken by James Corner's firm Field Operations. The first section of the High Line opened in June 2009 with great public fanfare and enthusiastic critical acclaim.

Key words...

Landscape Urbanism; Urban Ecology; Ecological Design; Ecological Determinism

“Let us plan to save lives, to protect the environment, to achieve savings from appropriate ecological planning, to improve prediction and placement, and to improve the human condition.”^②

——Ian McHarg

Forty years ago, Ian McHarg proposed a bold theory and a set of ecologically based planning methods in *Design with Nature* (1969). While the methods have become common in design and planning practice, incorporated into subsequent models and systems, the theory has clearly advanced but has not been fully realized. Its present-day forms include the amalgam "landscape urbanism" with its focus on infrastructure and urban ecology. Yet McHarg's ideas continue to cast a substantial spell on both design practice and theory. In practice, his approach to landscape analysis has become institutionalized in planning and environmental assessment at all levels of government in much of the world. In addition, McHarg's ideas about map overlays created the intellectual framework for geographic information system (GIS) technology and application.

Certainly, designers and planners overlaid maps before McHarg. However, he advanced the use of ecology as an organizing framework for map overlays to read landscape palimpsests. A structural- or systems-based initiative, McHarg's use of overlays included examining the interaction of topography, hydrology, microclimate, soils, vegetation, wildlife, and land use. Similar to E. O. Wilson's advocacy of consilience, McHarg viewed ecological mapping as a means to bring together knowledge from the biophysical and sociocultural sciences as well as the arts and humanities. He proposed national and global systems of ecological mapping that could be used, for example, to identify environmentally sensitive areas where human settlement should be avoided. A lesson obviously ignored too frequently, given the disaster visited upon New Orleans by Hurricane Katrina.

McHarg's theories have been criticized and resisted generally because they are viewed as deterministic and anti-humanistic. In fact, McHarg did advocate a form of "ecological determinism." But critics confused this term with "environmental determinism," a discredited approach to planning advanced by social scientists, especially geographers and sociologists, in the early twentieth century, and tainted by its association with eugenics. According to this discredited model, our surroundings irreducibly define behavior and culture. Such thinking took on racist overtones and became widely criticized within the social sciences. Humans are not simply biometric units. That said, the ecologist Aldo Leopold noted that "one of the penalties of an ecological education" is to see more clearly "a world of wounds."^③ McHarg's vision may have been flawed, but it was more than prescient in terms of where we were heading "then", and where we are "now".

Perhaps one of McHarg's most intriguing theoretical influences has been on the emerging field of landscape urbanism, which arrived in the 1990s after the so-called "death of the master plan". Its most prominent advocates (e.g., Charles Waldheim, James Corner, and Chris Reed) are former students of McHarg's at the University of Pennsylvania, but from his latter years. No longer the tall, strapping British commando major, they met McHarg as an often cranky old man. Earlier generations could easily imagine following him out of an airplane into the dark night above a foreign terrain behind enemy lines.

This final generation of students was more critical. They focused more on the "design" than the "nature." They pressed McHarg for fresh design ideas, often aggravating, but always challenging, him. In his twilight, McHarg remained full of humor, intelligence, and stories. He inspired these young architects and landscape architects to take on urban design as a project in human ecology. However, this younger generation sought a more urban design-based approach than their mentor. Landscape urbanists suggest that landscape should replace buildings and transportation systems as the principal organizing structure in urban design. Networks and complexity are emphasized in order to establish frameworks for urban change. But

what came with this was the transformation of urban natural systems to entirely artificial systems, and former urban parks as urban theme parks. Landscape urbanism blurs disciplinary boundaries – architecture, landscape architecture, planning, civil engineering, law, historic preservation, and real estate all intermingle. It is possible to see landscape urbanism as a dynamic outcome of ecological determinism plus economic determinism. Thus there is skepticism regarding "landscape urbanism." Isn't landscape urbanism simply the same thing as landscape architecture, only given a new name (rebranded) by architects? Indeed, the term seems to have caught on more quickly in architecture and urban design circles than within landscape architecture per se. But it may also be a sign that landscape architecture is actually about something else altogether.

A second concern arises. With its emphasis on "seeding" actions and creating "frameworks" for future decisions, landscape urbanists remain as wedded to process as McHarg. However, if landscape urbanism is merely a visually compelling, updated version of ecological determinism, with urban ecological systems theory added, McHarg's legacy is quite simply expanded to incorporate its shadow, economic determinism. As such, criticism of McHarg's planning model has, in a sense, migrated to landscape urbanism. While present-day landscape theorists contend the natural systems embedded in cities are simply more complex than static, form-based design admits, and that systems theory supplies the foundation to at least account for this complexity, the role of nature remains an instrument for human use. Landscape urbanism, as a model, suggests an open-system approach to urban design, as opposed to the closed system approach of the past. Still, this might result in urban nature being locked into a perhaps unholy alliance with architecture proper. It would be more fruitful for landscape urbanism

to align itself with emergent ideas in contemporary ecology, which has moved away from a steady-state view of nature toward one that embraces complexity and chaos (emergence), but it has yet to provide nature a suitably sustainable place within the city. This is its future challenge.

A further criticism is that some landscape urbanism schemes resemble unsustainable infrastructural *mélanges* with more in common with the pop-architectural hubris of Archigram or the heavy-handed futurism of Paolo Soleri than McHarg's apparently modest form of allowing nature its own space in urban design. This concern might be addressed through a better understanding of social science, as advanced by the city planning profession, as well as more in-depth understanding of the new scientific knowledge being generated in urban ecology. Landscape urbanism may turn out to be a passing fad, given the current, global environmental crisis. McHarg had, indeed, been critical of the social science turn that the American city planning profession had taken after the Second World War. However, he had earned a graduate degree in city planning, in addition to landscape architecture, and sought to reform rather than abandon the planning profession. Landscape urbanism would be well served by an infusion of greater social geography, economics, public policy, and legal understanding versus a fetishization of infrastructure and systems theory (an uncertain model anyway borrowed from quantum physics).

Landscape urbanism remains a relatively new concept with few realized works. Fresh Kills provides an example of a project moving toward realization. A key innovation is that James Corner and his Field Operations colleagues embraced long-term change in their design, eschewing a set end state for a more dynamic, flexible framework of possibilities grounded in an initial "seeding." Located in the New York City borough of Staten Island, Fresh Kills covers some 2200





4. 纽约市曼哈顿区的高线，由詹姆斯·科纳与他的公司（James Corner Field Operations）同事及Diller Scofidio + Renfro共同设计，于2009年6月面向公众开放。©Fredrick Steiner
5. 纽约市南端的高架线 ©Fredrick Steiners
4. The High Line in lower Manhattan, New York City, opened to the public in June, 2009. It was designed by James Corner and his Field Operations colleagues with Diller Scofidio + Renfro. ©Fredrick Steiner
5. Southern terminus of the High Line, New York City. ©Fredrick Steiners

acres (890hm²) and was formerly the largest landfill in the world. Much of the debris resulting from the September 11, 2001, terrorist attacks on the World Trade Center was deposited there. The Field Operations plan suggests how the landfill can be converted into a park three times larger than Central Park. The 30-year plan involves the restoration of a large landscape, and includes reclaiming much of the toxic wetlands that surround and penetrate the former landfill. In addition to landscape architecture, the 'master plan' required the expertise of architects, planners, ecologists, traffic engineers, soil scientists, and hydrologists. Another example is the High Line Project in Manhattan. The Friends of the High Line advocated that an abandoned rail line weaving through 22 blocks in New York City be converted into a 6.7-acre (2.7hm²) park. They promote the 1.45-mile (2.33-km) long corridor as a recreational amenity, a tourist attraction, and a generator of economic development. In 2004, the Friends of the High

Line and the City of New York selected Field Operations and Diller Scofidio + Renfro to design the project. They proposed a linear walkway which blurred the boundaries between paved and planted surfaces while suggesting evolutions in human use plus plant and bird life. The High Line design suggests a model for how abandoned urban territories can be transformed into community assets and follows directly on the worldwide redevelopment of brownfields associated with the 1980s and 1990s. The first section of the High Line opened in June 2009 with great public fanfare and enthusiastic critical acclaim from the design professions. As Field Operations advances landscape urbanism on the ground, others continue to refine the concept theoretically through competitions and proposals. For instance, Chris Reed and his Stoss Landscape Urbanism colleagues presented many fresh ideas in their proposal for the Lower Don Lands invited design competition organized by the Toronto Waterfront

Revitalization Corporation in 2007. The site covers 300 acres (121.4hm²) of mostly vacated, former port lands, just east of downtown Toronto. Stoss' approach considered flood protection, habitat restoration, and the naturalization of the Don River mouth. They also proposed new development areas and an integrated transportation system. The Canadian ecologist Nina-Marie Lister joined the Stoss team and her contribution is evident in proposals for restoring the fish ecology, part of a broader strategy to "re-ignite dynamic ecologies."^④ The approach suggested restoration and renewal strategies for both the Don River and Lake Ontario. The river marsh was envisioned as a breeding ground (or "sex park") for fish. The Stoss team followed McHarg's strategy by including knowledgeable environmental scientists from the region and they incorporated current urban ecological knowledge within the overall plan. A key component in such projects, today, is the inclusion of large-scale development as a means of paying for the project.

Chris Reed observes that the broader regional planning lessons of McHarg are at the base of all of what Stoss does. They look to understand large-scale systems first and allow them to inform and even structure proposals, in order to develop schemes that engage and inaugurate ecological and social dynamics. However, Stoss departs from McHarg in the ways they allow multiple functions to be hybridized or to occupy the same territory simultaneously. McHarg's approaches brought people closer to nature. For example, McHarg's plan for The Woodlands, a new town in Texas, successfully used storm drainage systems to structure the master plan making water an organizing principle. Protected hydrologic corridors form green ribbons weaving through the urban fabric. In contrast, Stoss and other landscape urbanists are interested in having people and nature occupy the same space – and to construct new urban ecologies that tap into social, cultural, and environmental dynamics that play off one another. This is Wilson's concept of 'consilience,' insofar as urban natural systems and human systems interact and alter one another, producing an energetic synthesis in the process. Landscape urbanism adds to this the often unfathomable flows of cultural and economic data updating, while not negating McHarg's original vision and perhaps even moving it forward. ■

CREDITS

Courtesy of Becky Young-McHarg images, Stoss LU-Stoss images, Frederick Steiner and Halina Steiner- High Line images

NOTES

- ①An earlier version of this essay appeared in Log 13/14 (Fall 2008).
- ②Ian L. McHarg, "Natural Factors in Planning" in *The Essential Ian McHarg: Writings on Design and Nature*, ed. Frederick R. Steiner (Washington, D.C.: Island Press, 2008), 121. Originally published in the *Journal of Soil and Water Conservation*, Volume 52, Number 1, 1997.
- ③Aldo Leopold, *Round River: From the Journals of Aldo Leopold*, ed. Luna B. Leopold (Minocqua, Wisconsin: North Word Press, 1991), 237.
- ④Chris Reed, StossLU (Seoul: C3 Publishing Co., 2007), 198.