

# The Contemporary Reinvention of Landscape Architecture and its Representation

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We are witnessing a major break in the discipline of landscape architecture, stemming from a transformation in our understanding of nature. One of the characteristics of the contemporary view of nature is the acceptance that everything in it is constantly changing. This is the result of both the concept of evolution and that of emergence. While classical Darwinism assumed that all changes in living things take place gradually, Emergent evolutionists maintain that such events must be discontinuous. This shift in understanding means the end of most of the unacknowledged but deeply entrenched ways of working in landscape architecture and of representing landscape. For until recently, every design has had an implied end point, portrayed in a grand final rendering that harked back to a nostalgic paradise recovered in the design: a final, perfect image, fixed for all time. The scientific revolution of the 17th

century viewed nature as rational and static – in fact, as the very foundation of the rationality to be pursued in organising human activities.

Beginning in the 19th century, a new understanding of a constantly changing nature slowly emerged. It was forged by people like Charles Darwin, who described the transformation of species over time (1859); Ernst Haeckel, the German marine biologist who first coined the term *ecology* and introduced the concept of an ecosystem in which humans and the rest of nature are bound together in a web of mutual interactions (1868); the French physiologist François Jacob, winner of the Nobel Prize in 1965, who saw human beings and the rest of the living world as a molecular bricolage in which old parts keep adapting to new functions; and the team of Herbert Bormann and Gene Likens (1974), who proved the existence of acid

rain and the role of humans in creating this change in nature.<sup>1</sup> Over the course of a century, these discoveries and paradigm shifts produced a cumulative picture of a nature in constant transformation. They changed not only our understanding of the natural world, but – very importantly – also our understanding of the interactions between humans and all other creatures, between living and inanimate forces of nature. This is a direct concern of landscape architecture.

We have all believed that the sea would be the sea forever, the perfect image of everlasting existence. But in the late 19th century, scientists began to demonstrate how supposedly eternal and immutable things are changing. They discovered that various species have evolved and then become extinct, continents have moved and continue to shift, seas and oceans have disappeared, and even the poles have changed location, following seemingly haphazard trajectories. They thought that such transformations happened very slowly, that no generation would witness them within its lifetime. But recent events have led many to think that such changes are more pervasive and more rapid than was ever anticipated.

Up to the Second World War, scientists modelled nature as a fixed, open thermodynamic system with established laws leading to optimal states of the biosphere. Even after the emergence of the field of ecology, the idea of an ever-changing nature did not become part of public discourse until the 1970s – and

even then at first only professionals began to see things differently. This profound cultural change is ongoing.

## Origins

An examination of the origins of landscape architecture and the two dramatic breaks in its history may help us to understand the field today. In its inception in the 17th century, when landscape architecture was first recognised as an activity with its own specialised knowledge, it was woven into the arts; painting, above all, can be called the art that generated the designed landscape. Poetry, theatre, sculpture and architecture were also considered part and parcel of it.

The landscape painting school, in particular French painters Claude Lorrain (1600–1682) and Nicolas Poussin (1594–1665), presented landscape as something that had not been seen before the artist had looked upon it. WJT Mitchell has argued that landscape paintings produced the first unified picture of what before were separate unconnected objects, such as trees, rivers, roads, rocks and forests.<sup>2</sup> That way of looking at our surroundings, which came to be called landscape, gave birth to the discipline of landscape design. What the painters saw for the first time made it possible for the landscapers to design what they saw, following the rules of composition of a landscape painting – for example, using background, middle ground and foreground. Those who eventually became identified as landscape designers had often been

trained as painters, for example André Le Nôtre (1613–1700). Le Nôtre, the creator of Louis XIV's gardens at Versailles, belongs to the first group of artists to be identified as landscape artists. The artistic view of the land dominated landscape painting until the early 20th century and landscape design well into the century.

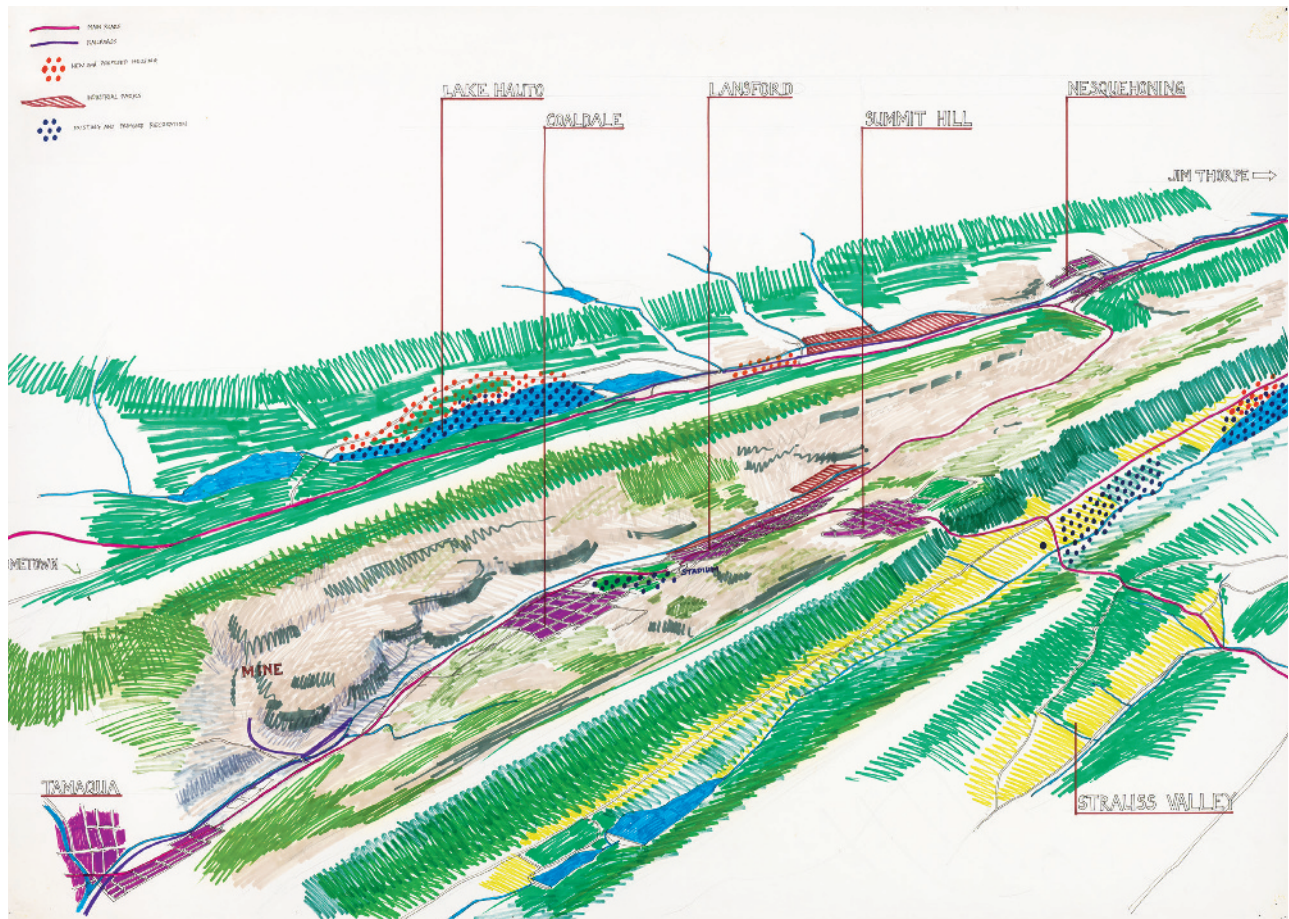
Landscape progressed hand in hand with all the arts until the mid-19th century, when horticulture, botany, geology and scientific ideas began to take over the direction of the field, and its separation from the arts began. So total was this separation by the start of the 20th century, that when all the arts went through a major transformation together in 1911, landscape architecture was nowhere to be seen.<sup>3</sup> It did not go through that revolution at all, and for most of the 20th century it was a minor discipline supporting architectural needs. It was not taught at the famous Bauhaus in Germany, which had been created as a school where all the arts were united and that became an expression of Modernism.

Yet in the mid-20th century, in Sweden and the United States – two countries fighting adverse economic circumstances – landscape architecture demonstrated its ability to confront major urban problems. In Sweden, it defended the environment as a public good. The Stockholm School of Landscape Architecture played an important role in the transformation of the city of Stockholm and its environment under the Social Democratic government,

as in the case of Norr Mälärstrand linear park.<sup>4</sup> In the United States, it played a major role in the development of parkways that followed the boom in automobile production. The suburban parkways of Westchester County, New York State (1913–38) gave form to this new landscape. The Bronx River Parkway and the Taconic Parkway, both in New York State, and the Merritt Parkway in Connecticut, are good extant examples.<sup>5</sup> Landscape architecture also transformed a ruined river valley in Tennessee into a source of picturesque beauty and economic wealth.<sup>6</sup> However, this success was short-lived; after the Second World War, in the United States it resumed a mostly decorative role until it shifted towards the field of ecology in the last third of the 20th century.

Through Ian McHarg's book, *Design with Nature* (1969), landscape architecture made its mark as the earliest design profession to adopt an ecological perspective, and at times was even confused with ecology itself.<sup>7</sup> Simultaneously, landscape architecture also began to engage with urbanism, partly through McHarg's layered mapping analysis of cities and whole regions. In his drawings, McHarg gave an analysis of the different parts of a region which gave an overview of environmental concerns on a particular site.

These developments shed some light on the different associations that landscape design has had with different disciplines over time. In the 17th century,



Ian McHarg, perspective study of the Delaware River Basin III, Ridge and Valley, Delaware, USA, 1968. Marker on paper.

McHarg's bird's-eye-view studies analyse the landscape at a large scale, using different parameters.

when landscape referred only to painting, the first terms used to differentiate the newly emerging field were landscape gardening and landscape design. By the late 19th century, it had become landscape architecture and was codified as such with the foundation of the American Society of Landscape Architects (ASLA) in 1899. Landscape ecology appeared in the 1980s, and now there is another reinterpretation of the discipline, with a new name, landscape urbanism. This history reveals the liminal character of the discipline, which allies itself with different fields at different times, taking on some of their perspectives and concerns but always continuing to exist as a distinct domain. It may now be time for the discipline to assume the word landscape by itself without any modifiers. It has ceased to mean painting, since you need to say landscape painting if that is what you mean, and it does not need to lean on any other discipline, though it does use in its work many different disciplines, but without any of them calling the tune.

### Experiencing Change

Yet even in landscape ecology during the 1980s, nature was still considered static. One clear example of this is the concept of Clementsian succession, the idea of a stable path of a succession of species – for example, those of a forest – that climaxes in a biotic community in a state of equilibrium, where it then remains. *Design with Nature* and other works about

ecology that followed still represented a belief that while nature can be disturbed, it is capable of returning to a steady state. This idea has been supplanted by concepts of non-equilibrium, which show that most natural ecosystems experience changes at a rate that makes a climax community unattainable. The newer Gleasonian succession model incorporates a greater role for random factors and denies the existence of sharply bounded communities. Today, any professional who believes that it is possible for any work to reach a final state is met with scepticism. But there is still a resistance, even among landscape designers, to seeing all nature as being in a state of transition. Some continue to want landscape design to produce nostalgic images of some lost harmony.

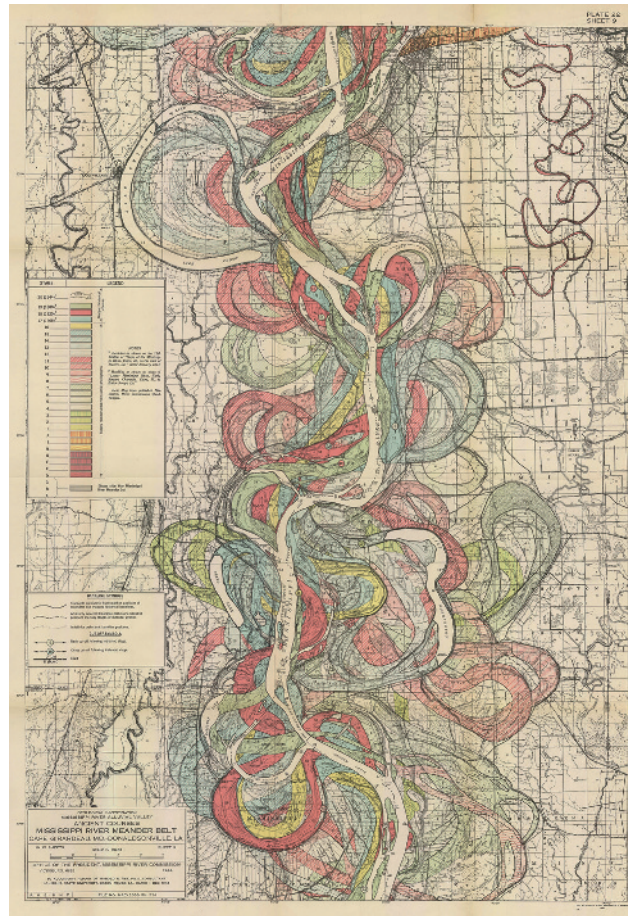
Others, however, may find the reality of constant change to be awe-inspiring. Numerous time-lapse Google Earth images show us 40 years of winters making whole sections of the Earth white with snow; no year is ever exactly the same as the one before, in spite of the cyclical nature of the seasons. Through Google Earth we can also witness the rapid and dramatic diminution of Central Asia's Aral Sea over 40 years, half of it drying up completely. In this case we are seeing the effect of human agency as well, since diverting water from the Aral Sea to agricultural fields is the cause of this change to nature.

Landscape architects have responded in different ways to the understanding that nature is

constantly changing, and have engaged in different issues of representation, as we shall see later in the book. Here, so the reader knows the point of view that informs my writing, I present my own response.

My first clear, conscious realisation of the role of change in my work occurred in 2005 during a project in St Louis on the Mississippi River. As I saw the river rising and falling, its level varying up to 40 feet (12 metres) in a year, and as I looked at a map that showed how the Mississippi had changed its course over hundreds of years, it began to seem absurd to try to contain such a mobile, ever-fluctuating element and fix it in place. At that time, I was reading John M Barry's book, *Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America*.<sup>8</sup> He describes how two clearly opposing visions of managing the river emerged in the late 19th century. The builder of the Eads Bridge in St Louis advocated using reservoirs and outlets – spillways – while the eventual head of the newly formed Army Corps of Engineers wanted to build levees. The Army Corps won, and a levees-only policy was established.

Spending time on that river, experiencing its enormous and continuous fluctuations, and learning about its history,



Ancient Courses of the Mississippi River meander belt, Office of the President, Mississippi River Commission, Vicksburg, Mississippi, USA, 1944. Print.

This drawing captures shifts in the Mississippi River's course since prehistoric times.

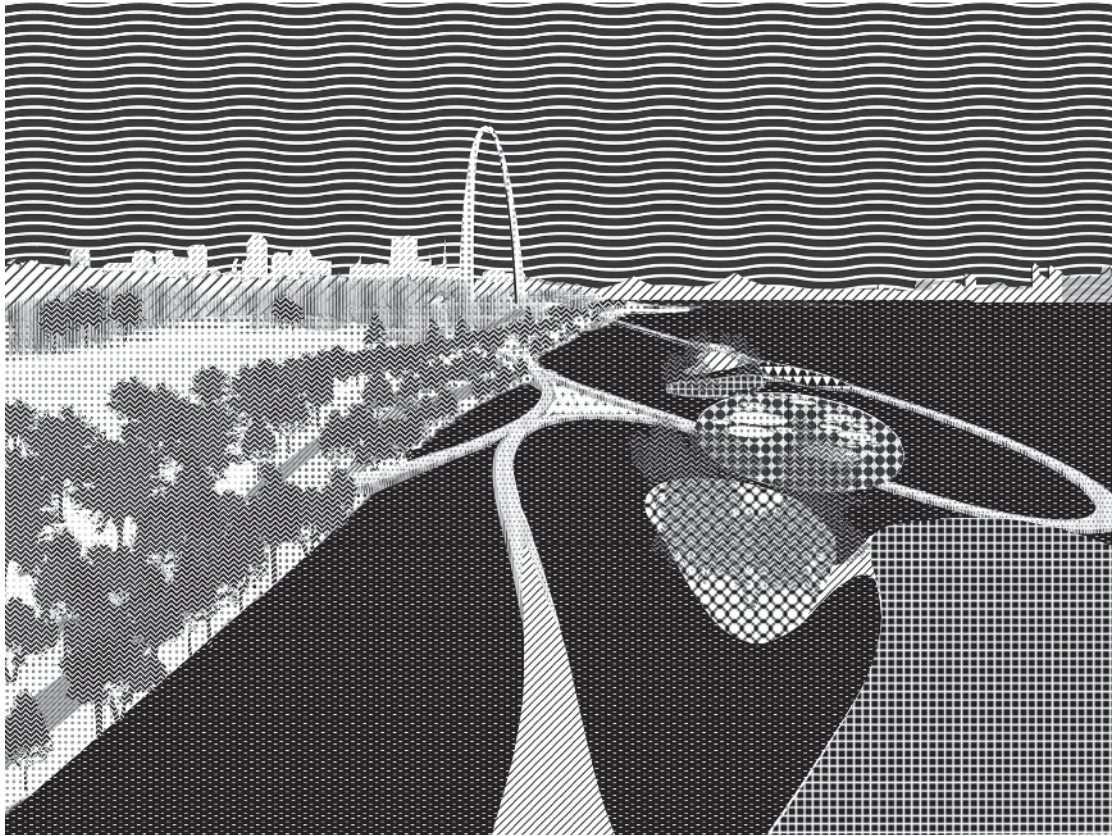
gave rise to a deep sense of discomfort which I had felt before but which I couldn't quite explain to myself. I saw that I was dealing with an extremely mobile, active, changing entity, and that there was a disconnect with the assumption that the way to treat it was to try to fix it in its course. By then, in every city with a river, there was a clear desire to have access to it. At the same time, it had also become evident that the typical treatment of rivers had been to send them through pipes, to direct them through channels, and to line them with railroads or highways, so that they became invisible or inaccessible to the surrounding population. Was there another way of treating them so that they could be seen and directly experienced? Now that we could view both rivers and ourselves as part of nature, was there another way of connecting to them and of accepting that they would be constantly changing?

I made several proposals for the project in St Louis. The public voted enthusiastically for the one that offered the greatest possibility of personal engagement with the river by allowing visitors to walk on floating islands and thus experience its many different aspects. With a very good naval architect, I then developed a system of islands that would be open to public use. They would rise and fall with the level of the water and could be closed off when the river became turbulent. The design would change along with the fluctuations of the river; the floating islands would be raised high at times, looking out

above the shore, and sunken low at others, with only the edge of the shore visible from them.

This was a project to enable the citizens of St Louis to rediscover their long-standing relationship with the river, to perceive their lives as part of a unity comprised of the river and the city, and to reflect together on the changes that would take place over the coming years in this city-river environment. Developing a shared understanding of this dynamic unity is the challenge of the next several decades; landscape architecture has to find a way of helping people to meet that challenge. During the last 40 years, landscape architects have produced pleasurable landscapes as well as some remarkably didactic ones, but none of them has engendered a major shift in people's understanding of nature.

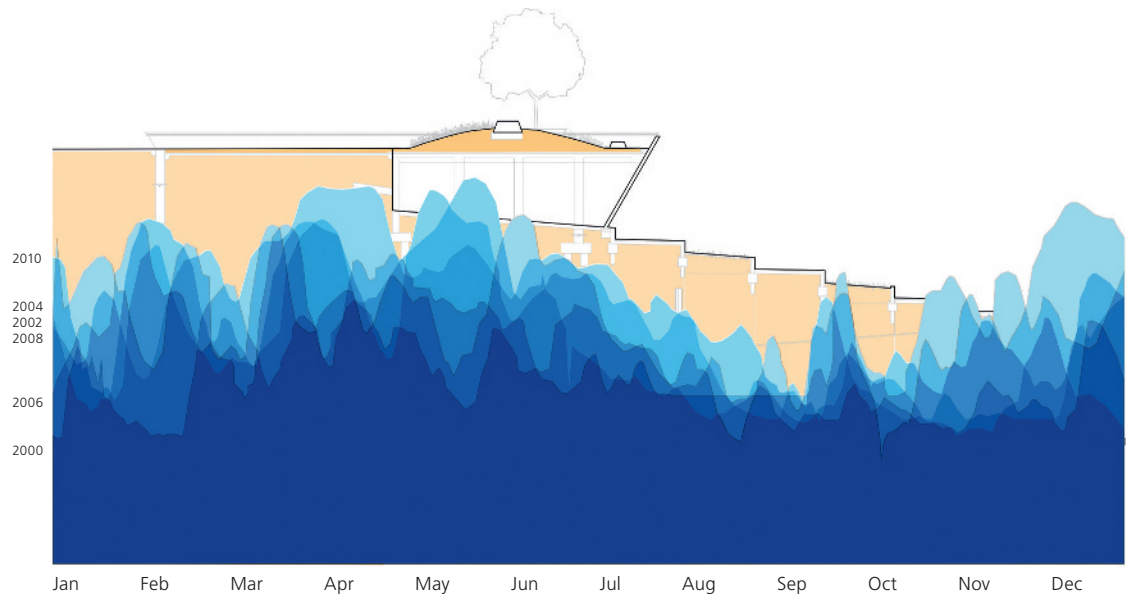
After working on the St Louis project and another one in Memphis, further down the Mississippi, I became extremely dissatisfied with how such projects were represented. Renderings prepared for public presentation highlight public activities and landscape furnishings set in the natural background, which communicates both a distance between people and nature and a sense of nature as a fixed entity. So, together with others in my office, I began to experiment with different ways of representing projects that instead embrace the reality that nature is constantly changing. I'll return to those attempts at the end of this book.



Balmori Associates, St  
Louis waterfront, St Louis,  
Missouri, USA, 2008. Digital  
rendering.

This proposed project in  
Missouri reconnects the city  
with the Mississippi River  
by creating floating islands  
that underscore the river's  
changeability.

Balmori Associates, Beale Street Landing, Memphis, Tennessee, USA, 2011. Digital elevation and chart. Varying colours represent recent vertical fluctuations in the Mississippi River.



Accepting the reality that change is the essence of all living things and of all designed and built landscapes presents many challenges. The experience I had when I was visiting a site in Mumbai for which I was doing a masterplan illustrates some of those issues; two projects in Seattle highlight yet others.

While I was in Mumbai in September 2010, a raging storm hit the area, and by all expectations the site – which was very close to the coast – should

have been flooded. However, there was a very wide stand of mangroves between the sea and the site, and it was extraordinary to see their effect in diminishing the impact of the storm: the site was spared. So I suggested that the client try not only to preserve as many of the mangroves near the site as possible (the land was only partly theirs), but also to introduce new mangroves into the water storage and water purification areas of the site as part of its drainage

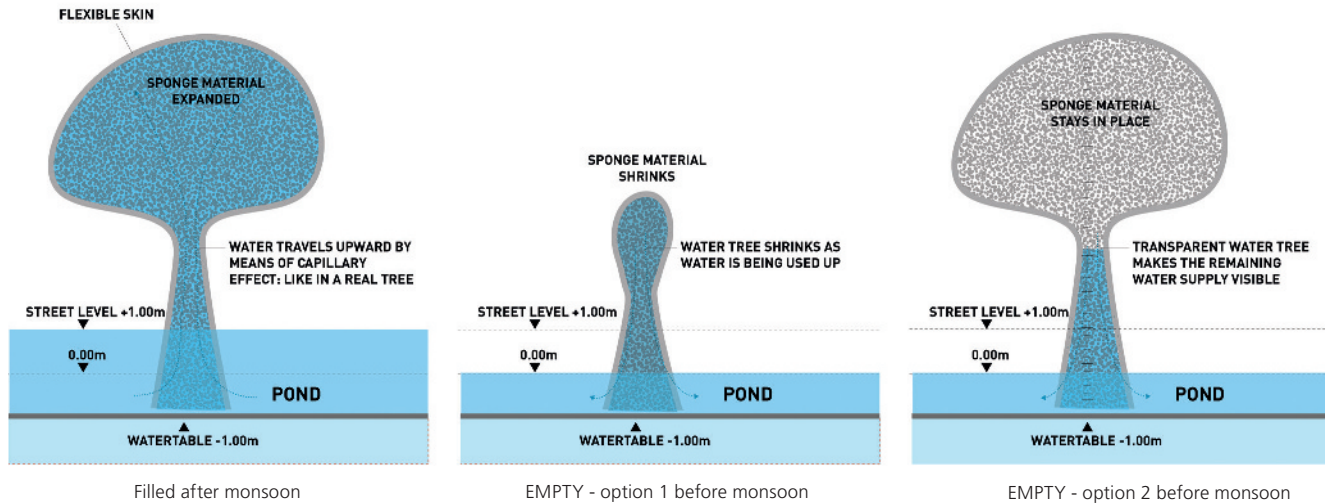
system. Although the client considered mangroves to be weeds and rejected the idea at first, after lengthy discussions agreement was reached.

But this was a short-lived victory. Later, a colleague experienced another storm further up the coast. He was told by people living there that the mangroves were dying and that the multitude of fish species usually found in mangrove forests – which sustain some of the richest variety of biota in the world – had therefore also disappeared. The slow death of the mangroves was caused by the rise in the level of the ocean, which is a worldwide phenomenon. The

mangrove forest is a very sensitive system; the trees and the species that live among their roots can only survive in a certain depth of water. As a result, mangroves – so beneficial in protecting a coastline from storms and in supporting a rich variety of sea life, which in turn supports large human populations who depend on that marine life for their sustenance and as a source of income – are disappearing. In light of this, should we create floating islands that rise with the sea for mangrove forests to grow on?

For a flood control and water purification project near Seattle, Lorna Jordan constructed

Balmori Associates, Godrej masterplan, Mumbai, India, 2010. Digital diagram. Here water trees act as above-ground artificial aquifers that adapt to water quantity available.



Herbert Bayer, Mill Creek Canyon Earthworks, Kent, Washington, USA, 1982. Photographic panorama. Bayer designed rolling hills and depressions to create recreational landforms while tackling flooding issues. This photograph was taken in 2008.



Waterworks Gardens (1990–96), a system of pools and marshes with different landscapes making a loop woven together by a designed path. Over time the system has been overrun by marsh plants. The original series of spaces along the path is completely gone now; only the red ceramic work remains there. Should this landscape have been restored to Jordan’s original design? Should it have been preserved, unchanged, at some specific point? Should it be managed so that the only changes allowed are those that permit the various spaces to remain differentiated? These are the types of questions already confronting us.

In September 2012 when I visited Herbert Bayer’s Mill Creek Canyon Earthworks (1982) in Kent, Washington, with my Yale School of Architecture students, I had a similar experience (Herbert Bayer’s drawing for this project is illustrated in Chapter 3). Also located on the outskirts of Seattle, this famous project, one of the first landscape designs with an ecological

purpose – managing the water that was entering from the heavily built surrounding area and eroding the park – was shaped artistically and became, as originally designed, a successful public space.

I had seen the project 10 years earlier and was surprised by how much smaller it now looked. In addition, its edges were being taken over by forest, making the scheme and the spaces less readable, but the diminution was the most dramatic change. I spoke to Kent’s cultural programmes manager, Cheryl Dos Remedios, who explained that the Corps of Engineers and the local branch of the Environmental Protection Agency had decided to build an earth wall that could withstand a 1,000-year storm at the site. Bayer had been charged with designing a system that would protect the park from flooding in a 100-year storm. I suddenly realised that it was this new colossal earth wall that made Bayer’s structures seem so much smaller. Yet even as miniatures, they still did a much better job of

damming floodwater, although they were diminished by the new intervention and made to appear insignificant alongside it. They were also still beautiful and still created a good public space, while the new earth wall did nothing but read as a structure that annihilated occupiable space. So the park has lost a true work of art and a successful public space, as well as the vision that the earlier town commission had for Kent.

The new standards for flood protection represent the kind of change we will now constantly be facing. The particular conundrum of Mill Creek Canyon Earthworks is not as difficult as some others. In this case, it is clear that what was needed was somebody of the artistic talent of Herbert Bayer to make the changes necessary to meet the new environmental conditions.

## Breaking with the Past

Let me summarise the challenge for landscape architecture that underlies this book. The major transformation in the discipline that occurred in the 19th century, when landscape architecture broke away from all the arts, is now echoed by another break of equal importance and perhaps greater magnitude: the earlier concept of nature as a static, homogeneous entity that is entirely separate from the human race has given way to the understanding that nature is heterogeneous and constantly changing, and that we are an intrinsic part of it. New landscape architecture is engaged in educating the public and the client in the

processes of nature. Creating representations of design projects that guide the imagination in that direction is an essential element of the process.

There are, of course, other important aspects of the current break in the discipline. Seeing ourselves as part of nature demands a different relationship to it, and the change of scale in landscape design projects, which can now encompass whole cities or regions, forces us to search for a different way of looking at landscape. But it is the acceptance of – and considerable vulnerability to – constant change which makes the discipline stand apart, giving it new significance in a world that remains attached to fixity and putting landscape architecture in the vanguard of dealing with contemporary conditions.

This has a profound impact on the forms of representation of landscape architecture. Because drawing is its main tool of expression, it will use drawing in trying, as landscape painting did in the 17th century, to present something that has never been seen before. We will see the new landscape only when we apply an artistic process such as drawing – whether by hand or by computer – to shape the way we see.

# References

- 1** Charles Darwin, *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, John Murray (London), 1859; Ernst Haeckel, *Natürliche Schöpfungsgeschichte*, Reimer (Berlin), 1868; F Herbert Bormann and Gene E Likens, 'Acid Rain: A Serious Regional Environmental Problem', *Science*, New Series, Vol 184, Issue 4142 (14 June 1974), pp 1176–79. Also see François Jacob, 'Le Bricolage de l'Évolution', *Le Jeu des Possibles*, Fayard (Paris), 1981, pp 70 and 86; and François Jacob and Jacques Monod, 'Genetic Regulatory Mechanisms in the Synthesis of Proteins', *Journal of Molecular Biology*, Vol 3, Issue 3 (1961), pp 318–56.
- 2** WJT Mitchell, *Landscape and Power*, University of Chicago Press (Chicago), 1994, pp 12–13.
- 3** Leah Dickerman and Matthew Affron, *Inventing Abstraction, 1910–1925: How a Radical Idea Changed Modern Art*, Museum of Modern Art (New York), 2012.
- 4** Thorbjörn Andersson, 'Swedish Mid-Century Utopia: Park Design as a Tool for Societal Improvements', in Michel Conan and Chen Whangheng (eds), *Gardens, City Life and Culture*, Dumbarton Oaks (Washington, DC), 2008, pp 156–72, see pp 163 and 166.
- 5** Phoebe Cutler, *The Public Landscape of the New Deal*, Yale University Press (New Haven), 1985; Gregory T Cushman, 'Environmental Therapy for Soil and Social Erosion: Landscape Architecture and Depression-Era Highway Construction in Texas', in Michel Conan (ed), *Environmentalism in Landscape Architecture*, Dumbarton Oaks (Washington, DC), 2000, pp 45–70.
- 6** Brian Black, 'Organic Planning: Ecology and Design in the Landscape of the Tennessee Valley Authority, 1933–45', in Michel Conan (ed), *Environmentalism in Landscape Architecture*, Dumbarton Oaks (Washington, DC), 2000, pp 71–96.
- 7** Ian L McHarg, *Design with Nature*, John Wiley & Sons, Inc (New York), 1992.
- 8** John M Barry, *Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America*, Simon & Schuster (New York), 1998.