

## **A Ten Point Guide to Initial Conditions**

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### **one**

Landscape architectural interest in the notion of designing by setting up initial conditions, and then 'managing' the process of realization, has increased in recent years. This development has gone hand in hand with the rise of open systems thinking in landscape architecture and with meeting the challenges of bottom-up design. A number of theorists have referred to this privileging of performance within the design process as an interest in morphogenesis. This term comes from the biological sciences, where it refers to the processes of form generation and pattern-making in organisms as they grow and change.

### **two**

Designers who have investigated morphogenetic processes try to facilitate bottom-up form-finding processes that generate structure and organization. The difference, as Neil Leach puts it, lies in the emphasis on form-finding rather than form-making (Leach 2009). This means that the product of the design process cannot be known prior to it coming into being. The final artifact is not a product of the landscape architect's imagination so much as an outcome of a generative process.

### **three**

One example of this approach can be found in the work of Vista, an interdisciplinary Dutch design and planning practice (<http://www.vista.nl/pr1.html>). Their work on the remediation of the Volgermeer Polder has been cited by various writers (Poole 2004; Raxworthy 2006). For this project Vista developed a strategy that guided the regeneration of a bog landscape by means of the creation of artificial ponds and the separation of toxic groundwater. Essentially a grading project, the landscape architects developed ponds of different depth that were lined to prevent contamination, and permitted water to enter the ponds over time in an uncontrolled fashion. Cattle and sheep interact with the developing water bodies. If a pond was isolated from fauna it could develop into a forest; if grazed by cattle it would turn into grassland. Vegetation would regenerate rather than being planted, its final configuration and composition being a matter of what seeds were already in the soil, and what seeds were carried there by wind and birds. The repetitive interaction of these agents over time will guide the life of the project.

### **four**

The proposition that initial conditions can be designed to direct the future movement of those conditions is illustrated by Roel van Gerwen's figure of a stick in the sand (van Gerwen is a designer with Vista). 'To make a sand pile on the beach,' he writes, 'you can form a mound of sand with a bucket and shovel, then the mound will disappear with the wind over time. The alternative is to place a large stick in the ground where the wind will constantly form a pile, reshaping the pile every time the wind changes direction' (van Gerwen 2006). In van Gerwen's analogy placing the stick is less exhausting, gives a less predictable result, and is more dynamic. It is also bottom-up. In 'process design' as Vista calls their morphogenetic work, the important thing is to use the right 'sticks' in order to 'unravel and manipulate' the landscape-forming processes that are already at work on both urban and rural situations.

### **five**

Another example can be found in the work of Delwyn Shepherd, whose Birdscapes proposal uses a combination of carefully selected tree species, human intervention and bird-foraging and flight-line behaviors to develop an adaptive approach to coastal erosion on New Zealand's west coast. In a project that plays out over time, she restores coastal forest and creates designs for human inhabitation by working with sand dune formation processes and the prevailing wind, literally by placing sticks in the sand (Shepherd 2009).

## **six**

These projects explore the productivity of chance as a form-making device. A process is set in motion and then, through what is sometimes termed autocatalysis (a positive feedback procedure), landscape conditions change and morph as a result of the impact of the initial condition. Given a set-up structure, the system evolves over time. Nothing commands the system to move in a particular direction and, owing to its sensitivity to environmental factors, it can move in many different ways, given the parameters of its possible forms. The interaction of each part with its immediate surroundings causes a complex chain of processes leading to some kind of order.

## **seven**

The question for landscape architects is, What order? Artists have worked with the emergent properties of open systems for some time now, and many have explored the efficacy of establishing initial conditions, production parameters and then standing back to see what happens (see *Emergent Systems*.

<http://serendip.brynmawr.edu/local/scisoc/emergence/burke.html>).

Unlike artists, however, landscape architects need to have some degree of control over the outcome of these processes if they are to avoid unintended (and unwanted) consequences, or 'side effects.'

## **eight**

Despite these challenges there is something particularly landscape architectural about processes that do not require the involvement of external forces in order for form to be actualized. For a long time the genesis of form and structure seemed based on a conception of matter as an inert receptacle for forms that come from the outside (De Landa 2009). The landscape architectural designer is, of course, an outside force. But ecologies do not await the designer in order to evolve structure, responsiveness and conditions for life. Designers do not 'create' ecologies, though they do manipulate the processes, elements and conditions that enable ecologies to develop and evolve. As Corner has put it, landscape architects 'stir' ecologies into different conditions. In ecological situations, design intervention, again, is a matter of setting up the initial conditions.

## **nine**

Is this also the case for urban design? If cities are open systems, as many designers and theorists think, then it must be the case that urban processes, too, can be set in motion by means of an initial intervention and permitted to evolve in response to contextual change.

## **ten**

Projects such as Koolhaas and Mau's Tree City (see Waldheim 2001), and my own Artweb (Barnett 2005; <http://www.artweb.co.nz/>) attempt to address the problematic of morphogenetic urban design. One of the advantages of an 'initial conditions' approach to urban landscape architecture is that it sidesteps some of the difficult aspects of ongoing community participation in decision-making, while at the same time enabling participation in form-generation. If there is a future for bottom-up urbanism, perhaps it is down this path.

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