

### **03. MERIDIAN**

#### **One**

Using a scale is drawing the borderline of a multiplicity – it gives it an edge. Take an estuary and its creatures. Individual species occupy this amorphous borderline in such a way that other species are drawn to its moving edge condition. When they come in, the original population makes an adjustment. Sometimes it is only individuals that realign, moving slightly in or out of the group, even taking members with them; in which case a part of the population redefines the border randomly as it were, re-establishing the group and its place within the estuarial field. These adjustments may occur hourly, daily, seasonally, as a result of tidal fluctuations, long or short-term weather patterns and the migration of species. (A street corner in an urban core may be similarly described). Although this self-ordering assures a kind of stability, even as the multiplicity moves and changes, swells and diminishes, reacting to outside circumstances, it is impossible to define its extent. But scaling implies extent, size. And it is supposed to tell us not only how many components there are in a specific location, but what kinds of relations hold between them.

#### **Two**

Examining a system that is always becoming something else therefore requires more than one scale. As Nowicki notes, "... the condition of being different or having differences does not provide a yardstick with which to measure diversity" (Nowicki, quoted in Lister 2008: 86). To avoid any sense of limit or line cast across a gradient of shifting qualities, different scales must be used simultaneously. When we do this, processes and relationships come in and out of focus, and it becomes clearer which of these we are interested in with respect to the frame we are developing. Scale, then, is observer-dependent, just as the identification of a specific level for analysis is observer-dependent. For biologists examining the estuary described above, the middle scale -- that of the species whose movements were observed - is the most useful. It is in middle that the individuals in which they are interested tend to be most obviously embedded. Observing the interactions between populations, however, requires a different scale. In either case, the relationships that the specific elements enter with each other and other individuals, including habitat structures and passing biota, "there is a staggering degree of uncertainty" (Lister 1997: 126). But the middle scale will always be the most tangible and is often the most common. This is the scale of the macro-organism, of the beast, the bird and the human being - of the holological ecologist. And yet, "It's not so easy to see things from the middle, rather than looking down on them from above or up at them from below, or from left to right or right to left: try it, you'll see that everything changes" (Deleuze and Guattari 1987: 23).

#### **Three**

Serres uses the figure of a surfer catching a wave to make the same point. The surfer waits until the right moment and then, capturing the matter/energy of the wave rides it until it dissipates in a thunderous crash on the shore and becomes undertow, pulling sand and pebbles back into the sea. The ocean is a vast movement system, but the surfer catches the wave in the middle, as it is peaking, before it has broken (Serres: 1995).

#### **Four**

A situation, whether it be primarily ecological or primarily social, will always have components of both, and in each case the potential for using middle scale indicators of situation extent is fraught with difficulties. One way that biologists have in the past attempted to define the extent of a particular ecosystem is by identifying the

keystone species for that ecosystem. For instance there is the designation of the oak-hickory-pine forest of the Fall Line area of the eastern United States, where the upland Piedmont meets the Atlantic coastal plain. These species have been used to identify the characteristics of the ecosystem in which they appear since they have been thought to determine coeval understory plant community probabilities, as well as ecosystem extent. However, it is now recognized that “ecosystems follow cyclic rather than linear paths of development, regularly punctuated by sudden, unpredictable and rapid episodes of change to a variety of other states” (Lister: 141). This requires species to move between multiple operating states, suggesting that a species understood as a keystone species in one state may quite well be redundant in another. Plants, animals - and humans - are likely to perform different functions under differing circumstances, and therefore in different situations (Lister: 141). The relative importance of different actors in a situation will be best discerned by using multiple scales to study the same phenomena. The particular role of individual components may only become apparent under particular conditions that trigger their individual structuring function. These conditions are often discernible only at different scales, which, for instance, demonstrate causal conditions that are beyond the capacity of one scale to apprehend.

## **Five**

As a meshwork, an ecosystem’s connectors and hubs (its keystone species and the species they connect to) may change depending on food supply, the presence of predators, disturbance by humans, drought and other perturbations. This means that it is not possible to get a permanent reading of the ecosystem at any scale. The ecosystem itself is scale-free. There is no characteristic node, no permanent keystone species; instead there is a continuous shifting of primacy with no single species that can be identified and claimed to be characteristic of all the species in the system. While a scale-free network is one that has several large hubs that define the network’s topology, just which species serve as these hubs is a matter of the continual co-evolution of the species in the system and their ongoing responses to disturbance (Barabasi 2002: 70-71; Buchanan 2002: 138-155).

## **Six**

As in a Fall Line forest, so in a Fall Line city, such as Baltimore, Richmond, Columbus or Montgomery. When viewed from different scales different urban relationships emerge. It is therefore not sufficient to reduce information to that gleaned from a single scale. It is necessary to think about the situation from a variety of scales, to identify the relationships that those scales reveal, as well as other considerations that might aid in understanding the situation. But moving from scale to scale really only moves the problem of recording nonlinearity from scale to scale. We can notate probabilities at any one scale and regard these as “good enough,” but then we have to recombine them with the probabilities we have recorded at other scales. The conclusions we draw with respect to the existing conditions with any situation are therefore going to be a simplification of complex phenomena, and in some cases the very phenomena we seek to understand will be lost. The realization that the data-sets that comprise situations, be they a ball park, a river walk, a farm or a polluted wetland, are ultimately and inherently unrecoverable, shows that whatever method we use for discovering the dynamic components, processes, gradients and structures of open systems, the data we retrieve can only give us options.

## **Seven**

How we deal with the fact that our knowledge of the world we wish to change is inchoate and contingent is a matter of the value systems we incorporate into our planning and design procedures, and just how we do that.

Part of the project of *Emergence in Landscape Architecture* (2013) is to use emergence theory to suggest ways of renegotiating values on an ongoing basis. People are aggregates of different types of multiplicities that coexist, interpenetrate and change places – machines, cogs, motors, and elements that are set in motion at a given moment, forming an assemblage productive of statements: “I love you....” Let us invoke Merleau-Ponty once more. He places before us an intimacy with the world that is not primarily visual, but corporeal. The self is not simply in the world but of it. The human body is the medium of this intermingling, rather than the mind, Merleau-Ponty argues. Since we make the world by living it, we cannot map the world by means of visual codes. We are animals, and animals are in the world, as Bataille says, “like water in water.” This is why Shanti Fjord Levy rebukes Corner for his suggestion that aerial mapping processes may discover a site’s essential qualities, as these qualities will always elude the “application of an external order” (Levy 2008). Levy suggests a mode of exploration that can engage with what consists within the structures and operations of the system in all its materiality (counting memories and histories as concrete things). The notion of the situation acknowledges the site as a moving target, distributed, entangled de-centered, connected to other situations. Drenched with potential, it incorporates the plural assemblages of cultural and social histories that are not tangential but constitutive. If all open systems are sensitive to initial conditions and their ongoing historical circumstances they can be explained only in terms of these.

## **Eight**

Understanding the situation means understanding one’s own complicity in its construction, one’s own stories, histories, predilections, dramas and fantasies. Mapping has the potential to engage with the interactive nature of multiplicities but needs, as Levy says, to be supplemented by or at least include “forms of notation” that register the situatedness of the mapper and the shifting registers of the mapped. Levy argues for walking as a way the designer might enter into an “embedded understanding” of a place. “The complex understanding of a place made possible through walking argues for the necessity of situated relational methods to accompany aerial mapping techniques” (Levy 2008). W.G Sebald, whose landscape writing has been an inspiration for cultural geographers, demonstrates this important source of understanding. In the late 1990s Sebald conducted a walking tour of East Anglia and wrote about it in *The Rings of Saturn*. This and his other books conjure what Wylie calls “a strange metaphysics of landscape.” Sebald gets inside the landscapes he visits, is always in the middle, linking themes of exile and displacement, history, memory and forgetting, destruction and fragmentation. He moves seamlessly between concrete landscape elements such as estuaries, clouds, tree clumps, sandbanks and swiftly moving streams and the vast but personal themes of loss and deprivation that motivate his endless inquiries into the connections between landscape and individual becoming (Sebald 1998; Wylie 2007: 207). The maps artists make also offer a way to invigorate normative landscape mapping à la Corner, often insisting on an intense personalization of the material being mapped, such as a street corner or a garbage dump. Levy, like Connolly, argues for a “middle scale of interaction” as this is the scale at which “social collisions” occur and at which community is expressed. She argues that the middle scale of experience “is actually the scale at which we develop and communicate both meaning and identity in the landscape” and that “large scale aerial views privilege those landscape relationships that lie outside of human perception, neglecting those that are experienced” (Levy 2008).

## **Nine**

Landscape architectural designers should be interested in what is actually functioning in an open system, and what the mechanisms of this functioning are. Once these have been identified the designer may effectively select the material with the greatest capacity to generate affective encounters with the world. As Connolly says, the self-organizational material regulates the act of discovery. The designer enters into his or her own affective

relationship with the existing conditions and through this engagement discovers the specific generative mechanisms that comprise and envelop the situation. An ecosystem, as much as a city street or a coastal reserve, is always in the middle, even, or particularly, when it is far-from-equilibrium. From microbiology we know that the genetic algorithms driving mutation are also always, being open-ended, in the middle. From the art of gardening we know that a garden is, as the gardener wearily complains, “never finished.” The middle is not only important, in open systems it is inescapable. The question is how to use the representational notations available to landscape architects adequately to present the open systems of the urban realm, so that the work that is based on these representations can both participate in existing multiplicities and imaginatively achieve new ones.

Connolly exhorts landscape designers to identify “the interacting sets of conditions (forces and relations) that produce functionings.” In fact, “(f)unctionings, conditions, mechanisms, connectabilities and trajectories all require discerning, identification and abstraction in a manner useful for a designer.” Once identified in this way – and this is the only *material* suggestion Connolly makes – “(r)esponding to openness involves plugging what can only be discovered on the ground into what can only be discovered in representations – plugging the affectivity of the world into the affectivity of representation ... and the ground into the map – to produce a single affectual landscape urbanist material” (Connolly: 210). This is a way of saying that designers should understand the processes described above very well for every landscape situation they are asked to “stir.” Indeed, knowing in great detail the physical elements and processes to which Connolly’s list directs us (functionings, conditions, etc) as well as the thresholds, constraints, singularities and phase transitions to which the landscape is susceptible, would seem to be absolutely necessary in order to ensure that one’s data and visualization (the ground and the map) are well-founded in reality.

## Ten

Social processes are as difficult and complex as natural processes to discern, interpret, evaluate and reorganize. The best hope is to work from within, using conceptual frames whose artifice and contingency are acknowledged. What we isolate and frame, for instance, as erosion, is only part of a larger, moving assemblage that includes natural, social, cultural and many other “functionings, conditions, mechanisms, connectabilities and trajectories.” This is the message of Shepherd’s Birdscapes (Barnett 2013: 86) in which social and professional decision-making processes contributed for many years to the problem, and slowly, latterly, to the solution.