

## 06. FIELD THEORY

### One

Ultimately urban field theory derives from Einstein's revolution in physics, documented in his papers devoted to the special and general theories of relativity, published in 1905 and 1916 respectively. Einstein freed space and time from the metaphysical and absolute character that classical Newtonian physics had formulated. In his equations, which deal with transformations between stationary and moving systems, he reduced time to a dependent, or variable, coordinate. He made a number of theoretical innovations that are interesting and fruitful for landscape architecture. For instance, in Einsteinian physics, space and time are no longer absolute entities but rather a continuum - "space-time," - a field or set of fields with their own frames of reference and, as in Deleuze's notion of difference, no external or material substratum. Reality, according to Einstein, is a four-dimensional manifold, not a three-dimensional system evolving according to a separate and external one dimensional time. Each inertial system now expresses its own particular time, determined as a mutual relation of events to the frame in which they are registered. Time flows at different rates depending on when and where it is measured. It is relative and contingent. Space-time becomes understood as a field that cannot be reduced to component dimensions or conditions.

### Two

Why this is important in landscape studies is that any unification that might be observed within the field, any organizational coherence that appears in the manifold (and let's call it an urban manifold) may well occur in the absence of a supplementary or higher dimension or power. That is to say, urban systems, understood as fields, can achieve coherence within the terms of the system through the ability of the system to self-organize. We have already noted that natural systems do this by means of the matter-energy that moves through them. Movement and the time of movement – what Bergson calls duration, not clock time - these are the parameters of the field.

### Three

The notion of "programming the urban field," the title of Wall's influential chapter in *Recovering Landscape*, edited by James Corner (1999: 233), presupposes a condition that awaits the hand of the maker in order to actualize its potential, and not just to actualize it but also to order, or unify it. But the concept of a space-time manifold or field bears no relation to an urban condition organized by a horizontal spatiality. What Einstein's field prepares us for is the idea of multiplicity, an organization that has no need of unity in order to form a system. The major break here for landscape architecture is the emancipation by Einstein of the field concept from any association with a substratum as a bearer of forces and events. Forces and events are imminent in the field, they are part of it. Field theory made possible the scientific expression of the principles of immanence, dynamism and continuity, qualities of emergent systems with which landscape architects engage. Einstein's unified formulae not only linked space and time but also showed that energy and matter were one, or at least that energy could be created from matter and vice versa. This was a new concept: matter/energy. Landscape architects are orchestrators of matter/energy.

#### Four

The philosopher Henri Bergson, whose *Creative Evolution* was published between the dates of Einstein's special and general theories of relativity, shared with the science of his day a sense of the undividedness of the object-field. For him, as for Einstein, with whom he debated the nature of existence, the world is at once an aggregate of separate fragments *and* a materially indivisible whole. The substance of the world is not resolvable into pure or independent material forms. Rather, these latter shift and fluctuate in and out of formal arrangements (Bergson 1998: 11-15). Bergson re-introduced the importance of the notion of becoming, the ancient philosophical conception of the world that had fallen out of favor after Newton published his *Principia Mathematica* in 1687. In *Creative Evolution* (1911) Bergson repudiates the mechanistic view of time. Understanding becoming, he argues, requires living in it, and therefore in time. The mechanistic philosophy only holds "outside time": Bergson overturns this conception. Experience tells us that we are immersed in becoming, flux, field. We find that movement is not constituted of successive immobile states, as Newtonian science would have it, but that "the body is changing form at every moment; or rather, there is no form, since form is immobile and the reality is movement. What is real is the continual *change of form*..." (Bergson 1998: 302). For Bergson, the world is a moving field of vectors of differing qualities and intensities and that form is "a mere cut made by thought in the universal becoming" (Bergson: 318).

#### Five

Wall describes the contemporary city in terms of this moving field. In the latter half of the twentieth century the idea of the core-periphery city was replaced by a polycentric and web-like sprawl. Here multiple centers are served by overlapping networks of transportation, electronic communication, production and consumption. The daily urban system is dynamic and temporal. There is a shift of emphasis from form to processes, and a corresponding move to a rhizomatic model of urban growth rather than a hierarchical tree-like growth. However, this description does not take into account the qualities of "field" that are of most use to landscape architects. The kind of field that Einstein and Bergson are talking about is not Wall's "dynamic agricultural field" (Wall 1999: 233), though the thickened urban-agrarian condition is full of different becomings. Nor is it the famous thin "vegetal plane" of Rem Koolhaas' Atlanta for it is neither planar nor vegetal. The field of becomings is not a surface at all. If we look a little more closely at Bergson we find that the field is a configuration of qualitative, evolutionary and extensive forces occurring in time.

#### Six

These forces are to do with more than mobility, access, transit; more than postindustrial and interstitial sites; more than networks and infrastructures, plazas, squares, streets, railroad and stream corridors, and the polymorphous conditions that constitute the contemporary metropolis. These sites, which landscape architects wish to provision with multifunctional, flexible services, cannot become multiple unless and until landscape architects develop a love affair with non-metric time and non-metric space - the space-time field of Einstein and Bergson. The production of difference in this field can be accelerated, expanded, slowed, bent, deformed, twisted, layered, in short it can be subject to all the operations, instrumental and otherwise,

that landscape architects wish to deploy as long as they realize that movement and duration are the primary components of their operational ontology. This is the message of the field. If, as is argued in the Ten Point Guide to Difference, landscape architecture is an art of encounter, and that encounter in and with landscapes and all their affordances is our subject matter, then how time and duration operate within the field is very important. Bergson's non-chronological duration is the time of trees and animals, of wheat fields and ruderal urban landscapes together, not reduced to a single representation of becoming.

## Seven

It was in the spirit of this remarkable vision of life and world that in the 1990s a number of writers and designers began to explore the potential of understanding urban conditions in terms of a field structure. Stan Allen and James Corner even named their design firm Field Operations. Allen wrote an influential article called "From Object to Field" in which he argued that a field condition is "any formal or spatial matrix capable of unifying diverse elements while respecting the identity of each" (Allen 1997). Note that Allen confined field conditions to a spatial matrix. Field configurations, he said, are "loosely bounded aggregates characterized by porosity and local interconnectivity." The internal regulations of the parts are decisive; overall shape and extent are highly fluid. Field conditions, then, like open systems, are bottom-up phenomena: defined not by overarching geometrical schema but by intricate local connections. One of the outcomes of the new thinking was to redefine the relationship between figure and field. Figures (buildings, bridges, trees, seats on the one hand, and patterns, pulses, intersecting forces on the other) are not understood as demarcated objects but as effects emerging from the field itself - as moments of intensity, as peaks or valleys within a continuous field - as figure-and-field. What is intended here is a close attention to conditions at the local scale, even while maintaining a relative indifference to the form of the whole. If we take the example of an urban forest, we see how this approach can focus attention on particulars. There are trees, of varying species, heights, density, canopy shape and extent; there are the full range of ecologies that interhabitate with them, including all the microorganisms, the insects, birds and sub-canopy plant species that have developed the structure of the field. There are the territorial human components: roads, curbs, drains, lawns, driveways, houses, flower beds, power lines and subterranean services including water and cables - all these contribute to the field. Then there are the intensive elements: predilections, and habits of walking, driving, gardening, burning, playing: kinds of movement that occur more in the spring and the fall than in the summer and the winter; flows, of groundwater, and those species whose privilege it is, as Levi Strauss once said, to live in the aerial medium, whose ecologies are aerial as much as they are terrestrial. There are the macrofaunal visitors, nomads and migrants: cats, dogs, coyotes and other wild animals. Vectors of pollination and gradients of temperature, pulses of breeze and moving shafts of sun. Children on bicycles, with air rifles, looking for balls, untangling kites, climbing small trees. With this list we have barely begun to describe the field that we call the urban forest. Any coherence we may attribute to this open system rises within the system. And its figures are fields too. Let's come back to Einstein: forces and events are constitutive of the field. Bergson: what is real is the continual change, not the things that are changing. The unique spatial condition of the urban forest is a product of its field condition and this is a product of movement, of becoming, of duration and time. How we start to consider working with this forest field is by thinking of these things, not of a horizontal surface, much less a program. It has its own program.

## Eight

Landscape architecture texts, such as *Landscape Urbanism*, *Recovering Landscape*, *Changes in Scenery* and *The Landscape Urbanism Reader*[i] are full of nomenclature and terminology related to field conditions, moving form, non-Euclidean geometry, temporality, self-organization, differential change and spatial organizations with active parts. Unlike texts on music, biology or mathematics, however, there are few terms to discuss the role of humans as active participants in the dynamic processes these landscape texts investigate, either transmitting or receiving, or simply engaging on different levels with these processes, and in different ways. For instance, the systems that are analyzed by Easterling in *Organization Space: Landscapes, Highways and Houses in America* (1999) are placed “outside” the skins of those who live and work in them. Within the author’s fascinating account of “network interplay” and “relationships among multiple distributed sites” there is no corresponding account of how human bodies are aligned and realigned with respect to these networks, no sense of imbrication of body and site. This is not necessarily a failing of Easterling’s; her attention is elsewhere. There is a need, however, for a theorization of the specifically human dimension of these multiple systems, for there is a lingering sense in Easterling, and in the books mentioned above, that if we are to frame sites in terms of fields, this could be done without reference to the fact that these fields are lived. When Easterling does incorporate the role of human subjectivity it is in terms of what she calls “housekeeping,” the “comprehensive control” of architects, planners and managers over the distributed spatial systems under their care, rather than an active engagement with their possibilities for the imaginative construction of what might be called affective participation. What is needed is a new formulation of practices of human intervention in organizational protocols and systems, in order to spark critical realignments of subject and object in the felt experience of life in the landscapes of the city. Note however that, as an exception to the rule, Mostafavi’s introduction to *Ecological Urbanism* seeks to found that project within a philosophy (derived from Guattari’s *Ecosophy*) that includes human subjectivity as one of its three registers, along with social action and environmental practices (Mostafavi and Doherty 2010).

## Nine

Part of the point of Deleuze and Guattari’s field-like formulation of the *rhizome* is that with this notion they want to get away from analyses based on distinctions between individuals and their environments, whether these environments are physical or sociological (Deleuze and Guattari 1987). The arrangements in space and time to which Deleuze and Guattari point are not subordinated to taxonomic separations of bodies, places, and times. Instead, the problem of making multiples is the problem of how a life is constituted, for as subjects we are never fully constituted but always passing in and out of the systems through which we compose our sense of ourselves. Rhizomatic fields are likewise never given to us but constructed through us, linked to us, and though they may always seem to precede us, nevertheless it is just their possibility that we express to one another through design. Bearing in mind that a field, if nothing else, is a network of relations, there is little to gainsay the proposition that landscape architecture is a relational art. If this is the case then it would perforce take as its theoretical horizon the realm of human-non human interactions and their social, environmental and political contexts, rather than the assertion of an independent, symbolic or semantic space from which different groups were excluded, or included as collectives without a voice. In this case we would expect find,

amongst landscape urbanist projects for instance, the creation of free areas and time spans whose rhythms contrast with those structuring everyday life, encouraging interhuman and human-nonhuman commerce that differ from the habitats and zones that are imposed upon us.

## **Ten**

The work of landscape architect David Hill provides an example of how the temporal dimension cannot be separated from the spatial field. His phenological research studies periodic plant and animal life cycle events and how these are influenced by seasonal variations in climate. In particular Hill is interested in how the structural, spatial, active and performative dimensions of landscapes can be formed through a special attention to their phenological conditions. This requires careful observation of plant and animal communities, their relations, habits and operations. Hill considers that landscape designers too often imagine and present plants at one fixed moment in time. Instead he looks for design opportunities embedded in time and uses the ephemeral qualities of plants to register the changing patterns and structures of complex landscape systems. Hill's own research investigates the spatial and textural qualities of a specific plant palette through a series of photographs taken from the same vantage point at the same time each week through an entire year. In this way he can chronicle the exact changes that plants go through and the myriad ways these changes transform the landscapes in which they are growing through their relationships with light and shade, wind and water, and each other in terms of scale and spatiality.