

27. Evenson, *Two Brazilian Capitals*, 104.
28. "Brasilia," in *Encyclopedia Britannica* (Chicago: William Benton, Publisher, 1993), 108.
29. Staubli, *Brasilia*, 12.
30. Burns, *A History of Brasil*, 403.
31. Snyder, "Alternative Perspectives on Brasilia," 35.
32. Epstein, *Brasilia, Plan and Reality*, 28–30.
33. The quote is attributed to Mario Penna, a leading apologist for the capital's transfer. See Epstein, *Brasilia, Plan and Reality*, 30. On the politics of spatiality and the spatiality of identity, see Jane M. Jacobs, *Edge of Empire: Postcolonialism and the City* (London: Routledge, 1996).
34. Quoted in Holston, *The Modernist City*, 84.
35. Epstein, *Brasilia, Plan and Reality*, 52.
36. Another way to think about these issues is in terms of employment. How does the planner or urban designer set the site in a story of intersecting narratives, a story that brings meaning to their differences and also serves professional goals? See Hayden White, "Interpretation in History," in *Tropics of Discourse* (Baltimore: Johns Hopkins University Press, 1978), 51–80.
37. Auge, *Non-Places*, 108.

## 4

## Groundwork

## Robin Dripps

...If background seems inappropriately modest, we should remember that in our modern use of the word it means that which underscores not only our identity and presence, but also our history.<sup>1</sup>

J.B. Jackson

The purpose of this essay is to develop an awareness and understanding of the structure of the ground so that its potential for making connection can become a part of any architecture that engages it.<sup>2</sup> The term *ground* will be used in a literal sense to describe the structure and processes of the earth, but also as metaphor. Metaphorically, ground refers to the various patterns of physical, intellectual, poetic, and political structure that intersect, overlap, and weave together to become the context for human thought and action. Unfortunately, things operating in the background—including the earth—have not always been well understood or valued. It is easy to understand how the earth's rough and bumpy surfaces, its uncertain and shifting fixity and its damp porosity, could be considered qualities that would destabilize physical, political, and even psychological equilibrium. But, it is not only the intense earthiness of the earth that proves problematic, but the whole question of how humans ground their thoughts, actions,



Figure 4.1. Scarperia, Italy. The structure of agricultural fields merges with and informs the political structure of the city.

and structures so that effective hypotheses can be made about relationships among things. As humans become more confident in the capacity for will to shape the world, the preexisting background contexts that support these acts of will become less compelling. The consequence of an indifference to the ground is an almost terminal insensitivity to the rich subtleties of the teeming wild, the variegated forms and materials of the landscape, the nuanced patterns of urban texture, and the rituals of the every day. This is the very stuff from which special moments emerge and distinguish themselves. It also provides

the necessary complexity to promote an almost endless variety of relationships among things.

### WHAT CONSTITUTES GROUND?

One could imagine that the term *site* might encompass the network of social, political, and environmental connections in operation beyond the confines of a building. Yet this is not the case. Though understanding of site and ground tend to conflate, they have distinctly different meanings. A site, in contrast to a ground, is quite simple. This is undoubtedly why the idea of a site becomes so appealing to architects and planners. A site possesses a reassuring degree of certainty, whereas the ground is always in flux. A site's edges are known and a center can always be found. Connections to the world beyond are limited and tightly controlled. Sites can be owned. In other words, the site takes on many of the qualities of an institution. As such, it reduces the complexity of both human and natural interactions to guide with assurance the polity it has gathered within. It has become a figure and has thereby reduced the potential for accommodating the fullest range of human possibility.

The spatial circumscription of *ground* into the more simply understood gestalt of *site* removes the context required to see and understand how the site is a part of something larger, and therefore limits or alters the scope of its meaning similar to the temporal circumscription of events that takes place within modern historical reporting. Comparing modern historical methodology with vernacular history offers a useful analogy to elucidate the nature of ground relative to site. Within modern history, the duration chosen to circumscribe a particular historical event has typically been short. The consequence of this limited temporal duration has been an emphasis on describing catastrophe, war, and destruction because these are bounded events that take very little time. These slices of life are objectified as autonomous events, making them difficult to reattach to the ongoing unfolding of existence beyond their limited artificial boundaries.

In contrast to modern history, vernacular history has a different view of temporal duration. Here, stories of everyday life record typical events and recurring themes whose smooth running is noticed only when dis-

rupted. The emphasis on repeating pattern and process requires a large enough temporal context to be certain that phenomena are in fact recurring.<sup>3</sup> When actions repeat, they are not objectified or taken out of context, but instead become something continually taking on new meaning through participation in a larger pattern of recurrences whose cyclical nature has no discernible beginning or end. As a consequence, vernacular history gives greater weight to the background. What the modern historian would consider as a proper historical event is nothing more than the interruption or disturbance of the smoothly running background machinery of everyday life. These exceptions understandably command more attention, but as they continue to be further distinguished from their normative supporting context, they become increasingly isolated, objectified, and disengaged from everything that has given them meaning. As a further consequence, genuinely significant events become difficult to recognize as being special when removed from the background field that served to register their difference from the typical.

Comprehension of these temporal cycles can be found in Greek mythology. Homer understood the stabilizing importance of a background of recurring temporal cycles. The heroic episodes of the *Odyssey* are measured against a background ordered by the repeating patterns of external phenomena—the cycle of sunrise and sunset, the action of wind on waves and on leaves, the relationship of heavenly bodies, the movement of birds and animals, the annual cycle of change. Human life and activity are thus brought into the orbit of these natural events. The repeating patterns of simile within his poetry reveal human order by finding a correspondence between this and the order of nature. Modern poetry more typically works in the opposite way by projecting human order onto nature and then abstracting this back to human order.<sup>4</sup>

The valuation of the ground as part of a larger cultural proposition was an essential characteristic within Native American tradition. Speaking to a class of environmental design students, Oren Lyons, the faith keeper of the Onondaga Nation explained his tribe's attitude about the earth: "What you call resources we call our relatives." His comment puts a different perspective on how to value the ground. There is little or no distance between the ground and human artifice so that the theoretical opposition separating natural and human sys-

tems that was initiated in the Renaissance and still persists would be unthinkable. The analogy between the ground and the structure of human relationships implies a similarly intelligible pattern of relationships within the ground. It is interesting to think about the increased particularity and character that the earth must assume when imagined with such anthropomorphic qualities. This metaphorical extended family would immediately have a structure that would connect all its members in a recognizable and understandable way, making the ground an intrinsic part of the human condition.

Primitive societies were not alone in valuing the ground as part of a larger cultural construct. The painters of the Hudson River School in late-nineteenth-century America worked within a similar idea to that seen in the Onondaga Nation. Their paintings reveal their interest in representing the structure, texture, and meaning of the geomorphology and the natural history of the Hudson Valley, where a background, temporal substrate mattered more than idealized, decontextualized landscape figures. For Albert Bierstadt, Frederic Church, Thomas Cole, and other nineteenth-century American landscape painters, it was the emerging understanding of the geological structure of the earth that would ground a contemporary culture. But instead of remaining in the



Figure 4.2. Thomas Cole, *The Course of Empire: Arcadia or The Pastoral State*, 1836.

background, the earth, seen in its literal geological sense, took on a transcendent meaning. As such, it was thought to be a work capable of rivaling and possibly even exceeding the value of the cultural production of Europe. The continuing presence of such a powerful, evocative, and wild nature, something long vanished from European consciousness, became a legitimizing cultural asset with a temporal reach extending beyond history.

...Geology was the Great Myth of the nineteenth century. It offered Americans a past at once more recent and more remote: the wilderness, ever new in its virginity, also stretched back into primordial time. That past was crucial in establishing an American sense of identity—sought nowhere more than in landscape painting. By augmenting science with inspiration, the artist could get closer to the elusive enigmas of Creation, and also approach solutions that might confirm American's providential destiny.<sup>5</sup>

When valued as a cultural product as well as a natural resource the processes, connections, stories, and meanings of the ground take on a different cast. The more readily grasped social, political, and physical structures that give a culture its unique particularity are brought into relationship with the immense and less comprehensible scale of natural process. The discontinuous and fragmented intentions that always compete for cultural authority can also possess a degree of coherence by virtue of being allied with the continuous structure of systems operating over much larger spatial and temporal territory. In turn, the structure of the ground is brought into contact with human artifice and made intelligible as part of this world.

The import of understanding the ground in cultural terms is evident in ancient Greece with its earth-based system of belief. Ancient Greek faith, with its focus on ancestors as the object of worship, has been characterized as a religion of the dead.<sup>6</sup> The souls of the dead did not depart for a foreign world; they continued to exist underground in close proximity to the living, from whom they required regular attention. This gave to the soil a meaning of considerable personal import, suggesting an unexpected vitality. The advice to bury the dead near the front entrance of the house to facilitate consultation with one's ancestors when leaving or returning reveals much about this

vitality and the grounding anticipated from generational continuity. This was not land to be easily abandoned. In fact, a man could not quit his dwelling place without taking with him his soil, or in other words, his ancestors.

Another crucial place in the Greek domestic environment, the hearth, also connects to the ground. As the central focus of the Greek house, this symbol of domesticity was also part of a familial connection to the land. The hearth was engaged in the veneration of ancestors, with its sacred fire representing their constant presence. Hearth and ground are thus intertwined in an intense relationship. The hearth's vertical extension is its most obvious visible attribute. This totem pointing to the sky gives the hearth its initial sense of figural autonomy. But its foundation tells a different story. The material of its massive structure seems to grow directly from the earth, giving the hearth its contradictory aspect of being both figure and extension of the web of relationships intrinsic to the ground. The fire within is just as ambiguous, being at once the means by which humans have kept the wildness of nature at bay, and yet a very part of that same nature.<sup>7</sup>

The hearth also finds special charge and connection to ground within modern history. Writing in the mid-nineteenth century, Gottfried Semper shows the same equivocal relationship between the figural hearth and its situation as part of the earth that the ancient Greeks understood. The hearth, according to Semper in *The Four Elements of Architecture*, was the catalyst and focus for the foundation of political and religious culture. It was the moral element of architecture. Protecting the hearth and mediating its relationships to nature were the remaining three elements: the mound, the enclosure, and the roof. Although few in number, these elements intersect and engage one another in an unexpectedly complex manner. The mound, a part of the earth, serves as the base for the hearth, increasing its figural autonomy but also connecting it to a context of infinite possibilities. Extensive topographic, geomorphic, political, and ecological structures are all brought into focus as they converge on the hearth and provide a substantial grounding for the humans who dwell there. The potential complexity of the ensuing interactions produces an equivalently complex response among the elements within Semper's dwelling. They change the balance between figure and ground that had been the basis for most prior hypotheses on the origins of architecture. As each of

the elements become more independent, each can respond to a different aspect of nature and a wider range of human desire. Both woven mat and masonry wall handle the tasks of enclosure, but in different ways. The mat, loaded with all the connective metaphors derived from weaving, defines the social space of the dwelling, while the masonry wall provides protection and a sense of permanence. Unlike the lightweight mat, with its greater spatial freedoms, the wall is part of the ground. It grows from the making of terraces and thus reveals the underlying topographical structure of its earthen context and grounds local place in a larger world.

A curious note by Semper explains how the human being "...most probably arose from the plains as the last mud-creation, so to speak."<sup>8</sup> Is Semper hinting that the basis for his elemental architecture is in the relationships that the ultimate figure, the human, engages in with the earth? If the muddy ground can quicken into life, then there must be more to the earth than is currently understood to enable the level of complexity, ambiguity, and poetic profundity expected of human relationships. When humans enter into a relationship with the ground, they engage more than its extensive physical network of connections.

The structure and materiality of the ground has figured prominently in literary works as a metaphor for aspects of human consciousness that escape simple description. By reading closely from a wide variety of poetic and literary works, the phenomenologist Gaston Bachelard has proposed a set of spatial relationships common to both, enabling spatial structure and poetic content to be compared. The ground plays an important part in his conclusions. It forms one pole in a spatial construct linking earth to sky that he considers one of the fundamental relationships guiding human thought and action. The attic, with its clearly articulated structure exposed to view, its removal from the particularity of the ground, which gives it its greater sense of perspective on things, and its mnemonic capacity coming from the contents typically stored within, is considered the rational part of the house. The cellar, with walls just barely holding back the vast and formless extent of the earth beyond, is both physically and poetically the dark entity of the house. Bachelard proposes that within the cellar thoughts turn to the irrational.<sup>9</sup> Irrationality, however, must not be understood as negative, but instead as the source of other intu-

itions about our relationship to the world that complement and amplify those that come from the more transparent processes of reasoning.<sup>10</sup>

The special condition of the cellar, a place in and of the ground that humans can occupy, makes its structure and its unique qualities worth study. Properties of the cellar reveal much about the structure and potential of the ground itself. Equating the spatial disposition of the cellar and its loaded poetic content to the unique structure of the ground further demonstrates how architecture can engage this ground.

The cellar is only experienced from within. Without the light of day, its vague and shifting contours, its partial completion, and its many twisting passages contribute to its sense of being boundless, extending beyond easy comprehension. Without boundary, there can be no discernible form and consequently no figure. The cellar, with its actual and implied extensions into the ground, becomes the perfect counter to the figures placed upon it. Its single-sided walls hold back the earth but also make us constantly aware of the ground's immediacy. Actually and metaphorically, this ground becomes a powerful part of the cellar's territory, further extending and complicating its closure.

The cellar contrasts with a site's simple autonomy and provides the antidote to its inhabitant's estrangement with the world. Its depth(s) confound the flat, two-dimensional constraints of the platted site with its defined political and economic limits. "If the dreamer's house is in the city it is not unusual that the dream is one of dominating in depth the surrounding cellars. His abode wants the undergrounds of legendary fortified castles, where mysterious passages that run under the enclosing walls, the ramparts and the moat put the heart of the castle into communication with the distant forest."<sup>11</sup> The heart of the castle requires these enclosing walls, ramparts, and moat for protection, to distinguish it from its context, and give it the figural form needed to operate as an autonomous political center. But the security of human artifice is short lived unless it is capable of responding effectively to the unpredictable changes inevitably taking place outside its control. Forest and ground are just those places that tend to destabilize the authority of human artifice so that these subterranean passages connecting to the distant forest become the necessary complement to a premature foreclosing of political and personal inquiry. Concentration and extension coexist to make this complex whole. Thus, the section

cutting through the castle from sky to earth extends the closed figure of the plan and connects it to possibilities not yet imagined.

### WHERE IS THE GROUND?

Techniques for translating the entanglement of the ground into the cellar appear in the layered archaeological sites common in places built over a long period of time, as in Rome, for example. Successive layers of ground having distinct properties of geometry, dimension, and alignment, representing successive political and cultural moments, coexist in a dense sectional collage. The ground here, however, does not provide a stable datum. Moving across these sites, the shifting section of the terrain reveals its multiple ground planes intersecting, reinforcing, or else contradicting one another to produce a new set of volumes, linking these fragments of the past to conditions of the present. What once was the network of public life—the streets, courtyards, gardens, and squares—is now part of a vast and not easily grasped underground world that on occasion disrupts the certainty of the ground above to participate in this life as well. Contemporary scaffolding, erected as an additional layer to stabilize ancient walls and protect workers and artifacts, often becomes legible as another form of architecture—a more ambiguous set of porches, trellises, and porticos that further intersect with this other architecture of the ground.

Recurring physical and political structures operating in the background are crucial components of the urban matrix. Patterns of streets, alleys, and other urban pathways have a structure, hierarchy, and political and social coding that become a powerful stabilizing datum. The way a section of the city is platted—and the patterns, dimensions, and alignments of this—reveals relationships between public and private property. This often provides clues to conventional modes of construction, such as the repetitive pattern of masonry-bearing walls, that describe a scale of development common to many smaller American cities. The history of changes that this platting has undergone tells a story of constant negotiation between a place, its people, and the political intentions that bear on it from the outside. Not so obvious, but no less crucial, is the structure of public works that supports and determines the scope and pattern of development.

While these are mostly considered in instrumental terms, this has not always been the case. Many American and European cities have revealed rather than hidden their systems of water supply and celebrated this at critical moments through fountains and other public displays. Aside from the obvious potential for this to be a place of public gathering, this visual reminder of the source of water might extend into the private realm. Turning on the faucet might activate, with the water, an understanding of the connection to the watershed and the consequence of water usage.<sup>12</sup>

The pattern of manhole, gas, and water valve covers dotting streets and sidewalks often tells a story about what is there and what has disappeared. Even when obsolete, they remain witness to buildings and people who once were part of a place.

The topographical structure of many urban places is all but invisible, having undergone centuries of change as part of the process of urbanization. Being aware of the topographic past and its history of alteration provides a much broader temporal background to make

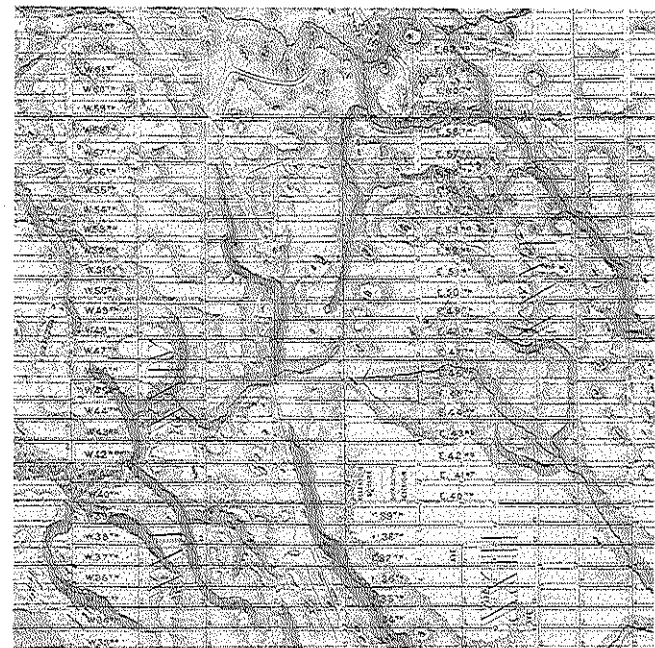


Figure 4.3. Egbert Viele, *Topographical Map of the City of New York Showing Original Water Courses and Made Land*, 1865.

effective and imaginative decisions in the present. When Egbert Viele made his topographical map of the city of New York in 1865, his purpose was to show the extent of the underground water system that was rapidly disappearing from public view as a result of leveling and filling to assist development.<sup>13</sup> Although Viele was primarily concerned with stopping the spread of plague, which he believed to be a consequence of the trapped water beneath the city, his recommendation to open these sources and allow them to flow again suggests a far more ambitious strategy. Using his maps, which are still the most reliable source for anticipating subsurface problems, it would now be possible to take advantage of, or make the best of, these evocative watercourses by bringing them into the design of the city as something with intrinsic value. The meandering streams running mostly diagonally through the city have a logic and pattern of connection different from the rigors of the orthogonal, cellular grid imposed over them. The conjunction of the political, which operates locally, with the extensive pattern of the hydrological structure, offers opportunities to open the bounded site to places far beyond. Along with this comes the ability to use the natural system to create local microclimates as part of a larger project of environmental control.

The movement of animals and humans is another part of the urban ground that needs to be made visible so that its patterns can be effectively engaged. These patterns extend well beyond the boundaries of the site and signal connections to other resources that merit awareness. Animals move with respect to water source, vegetation, and other crucial aspects of habitat that operate at a large scale and require continuity. The local manifestation of this will be subtle and not readily noticed but provides access to a vital source of potential ecological support. The systematic flow of information that is a by-product of human movement is another opportunity needing to be incorporated within the site. These less visible patterns need to be mapped to become part of design thinking.

Outside the city, actual and vestigial agricultural structures create a pattern of fields, hedgerows, and farm roads. This pattern can often be found in older maps and traced in current aerial photographs. When these images are compared with a present condition that has taken a different developmental turn, it is often possible to understand how many planning decisions were unacknowledged responses to

these older patterns. It is clear that the original patterns were the result of very acute observations about local topographical, hydrological, and climatic structures and were modified by consequent movements of people and animals. The scale and orientation of these former agricultural patterns become reliable guides to contemporary development, connecting this to the ecological sensitivity that was a part of the prior life of the land.

### GENERAL QUALITIES OF GROUND

The vast diversity and unlimited combinatorial and connective potential of the ground suggests an expansive account of the site. Perhaps rather than limiting the site to its artificial political and economic boundaries, the site ought to be considered more as a special repository of clues—an opening to more extensive and varied grounds. Here are indications of complex ecological systems too immense to be contained in so small a place. Here is provocative evidence of human purpose, often in conflict and filled with new potential. Also, here are the diverse fragments of individual stories still waiting completion. The potential of these clues lies in the suggestive possibilities that these seemingly incomplete artifacts offer and in their ability to be combined, reconfigured, or hybridized without the formal or intellectual compromises suffered by a more complete and closed entity. In this way, multiple relationships and even contrary interpretations are promoted as a means to engage a broadly diverse audience.

Grounds operate with great nuance. They resist hierarchy. There are no axes, centers, or other obviously explicit means of providing orientation. Single, uncomplicated meanings are rare. Instead, there are open networks, partial fields, radical repetition, and suggestive fragments that overlap, weave together, and constantly transform. Within this textural density edges, seams, junctures, and other gaps reveal moments of fertile discontinuity where new relationships might grow. Relationships among grounds are multiple, shifting, and inclusive. They engage the particular and the concrete rather than the abstract and the general. The rich and even contradictory context needed to enlarge our understanding of self and world resides in the elaborative potential of individual hypotheses about how to put all

these pieces together.<sup>14</sup> In other words, discoveries made within the ground are likely to offer profound and rewarding challenges to the human intellect.

### FORMAL POTENTIAL: HOW ARCHITECTURE CAN ENGAGE THESE STRUCTURES

Despite a continuing project to open architecture to the world beyond, modern architecture has remained obstinately self-contained. Although effective in housing institutions, architecture has been less successful in connecting these to the life of a place and its people through a fabric of relationships. It is not as if architecture is itself unable to make these connections. On the contrary, there have been many promising strategies to extend the interior domain of the building beyond its walled enclosure. Wright's effective breaking open of the box, the neoplastic propositions of Van de Veldt, Rietveldt and Mies van der Rohe, or Le Corbusier's purist explorations into phenomenal transparency are a few examples of inventive ways to defy the closure of conventional rooms. Recent architects have shown even more complex fractured and folded planes that claim to abolish distinctions between inside and outside. And if the modern project has legitimate parentage well before its conventional historic boundaries, then the Mannerist work of Romano, Michelangelo, and Peruzzi all demonstrate the degree to which architectural limits can be successfully breached. But to what end? The absence of any substantial theory regarding the ground makes all of these efforts incomplete. In other words, any theory for opening up, fragmenting, or blurring distinction between inside and out must have a better grasp on the nature of what is outside.

Outside, the ground already exists as part of a broad network of political, social, and ecological systems. If these systems were able to be part of the architectural whole, then the social, political, and environmental alienation that characterizes modern life might be effectively ameliorated. The difficulty, however, is that this ground is multilayered, multivalent, open, and unburdened by the overall consistency and coherency that is the basis for institutional stability. Although an unmediated engagement of this would be problematically chaotic, its current exclusion is just as problematically reductive.



Figure 4.4. Figure-ground drawing.

For architecture to substantially engage the ground, there needs to be effective ways to make this ground as visible and compelling as buildings. Within architecture, the most common graphic for showing a building in a larger context is the figure-ground drawing. In this simple black-and-white graphic, buildings are black and all else is white. Its original intent, coming from Gestalt psychology, was to show how the vestigial space around buildings could itself be formed into a figure just as recognizable as that of the surrounding buildings. The puzzling graphic of the profile of two faces framing a void that also can be read as the figure of a classical Greek vase is a familiar example that convincingly demonstrates how the composition of figures in relationship to one another can reveal a place of value in between that was not previously recognized. The new place, in turn, grounds these same figures. Unfortunately, the common use of this graphic has strayed far from its origins and now represents little more than an unrelated aggregation of objects floating aimlessly within a void. Since this is typically rendered on standard white paper, the black buildings are not just the only thing represented but in fact the only things that are actually ever drawn. The

empty white space is not a pregnant silence waiting to take on meaning from what surrounds it, but instead a space so devoid of character that even the surrounding figures seem to lose a degree of their own quality. At best, it has value as a future building opportunity: a void waiting for its architectural life. What was initially meant to demonstrate reciprocity between figure and ground now serves only to remove the building from its physical context. The ground displaced by the building can hardly be missed because it is shown as having nothing to contribute in the first place. It is easy to see why the empty spaces surrounding much of the built environment become filled with paved parking lots. The fault here lies not necessarily with what is made visible (those black buildings) but with a widespread myopia that makes so much else invisible, including so crucial a presence as the drawing medium itself, for, as Henri Focillon has observed, although a text is invariably indifferent to the paper it is written on, paper is an essential element of life for a drawing.

As buildings accommodate human purpose, they take on enormous weight. Through these projections of individual and collective human will it is possible to take a stand against the indifference of nature to define what it means to be human. The task is so improbably difficult that when something comes of it, this is certainly worthy of notice and celebration. But returning to the pale account of the figural “other”—the missing ground—it seems that this stand (which, of course, is the original meaning of the term *object*) is hollow. When shown without substance, the ground will be easily displaced rather than offering the necessary resistance that produces constructive dialogue.

For architecture to remain a significant part of human existence, it must take up the challenge of entering into a dialogue with the ground. In so doing, architecture would then be capable of poetically and pragmatically mediating the heroic aspirations of human intent and the shadowy outlines of natural process, the shifting and uncertain structures of social formations, and the traces of inherited rituals that show earlier attempts to make sense of everyday life. But the empty, open space surrounding thoughts, actions, and places leaves these ungrounded, unconnected, and at odds with one another. Their random accumulation fails to make substantial contribution to the understanding of the human condition. It seems as though figures of all kinds have been let down, and, as a consequence, human existence

diminished.

The intense interest with figures in contemporary architecture can be seen as a direct outcome of internal debate within the Ecole des Beaux-Arts at a time when long-standing conventions of putting things together were being codified into a system of composition that has overtly and covertly influenced almost all subsequent thinking about the topic. The point of friction at the Ecole arose when considering whether the figure ought to exist on its own, free of contingency, and therefore completely under the control of its author, or else give up some of this autonomy by engaging the intellectual and physical context to such a degree that both figure and ground are significantly transformed. But if the architect was to cede ground to a pre-existing context over which little control could be expected, was this too great a loss? The contested positions are revealed in the course notes of Quatremère de Quincy, where he clearly equivocated on the exact values that might initiate the process of design.<sup>15</sup> Quatremère uses two distinct but related terms in his discussion of the design process: *prendre parti* and *tirer parti*. *Prendre parti*, from which the more common architectural term *parti* derives, means to take a stand. As such, it becomes the starting point or fundamental premise on which a design is based. The successful *parti* must be clear, easily grasped, unambiguous, and unencumbered by attachments that might

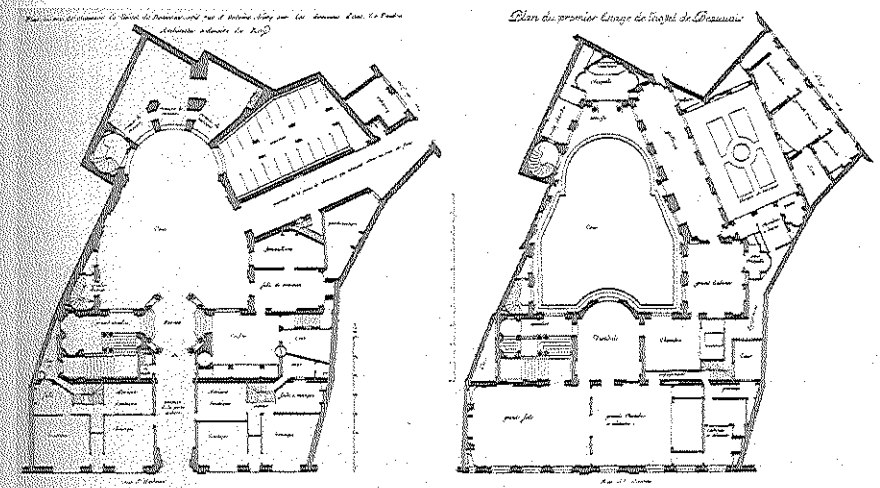


Figure 4.5. Antoine Le Pautre, Hotel de Beauvais, Paris, 1752.

compromise its formal authority. The figural object standing apart from its messy context perfectly fits this description.

But Quatremère also mentions *tirer parti* as the foundation for design thinking. *Tirer parti* means to take advantage of or make the best from what you find. This is a very different proposition. It shifts attention away from the architectural object as an autonomous, abstract formal ideal and privileges the existing physical and political context that a design would have to engage. Le Pautre's Hotel de Beauvais, built in Paris in the mid-seventeenth century, is an inventive example of this. Its site could hardly be more irregular, being made up of leftover fragments of other properties built at different times. Below ground are medieval foundations of substantial size and evocative configuration. Although a regular figure, the central court of the hotel is surrounded by a fantastic variety of rooms with alignments to at least four primary systems of order. Multiple entries respond to two streets of very different character. The typical garden has been displaced to an upper level, giving views onto yet another part of the city so that even the certainty of the ground plane is called into doubt. Although a residence for a single family, its stables and other supporting services—along with its included group of small shops—further confound the sense of clear boundary or simple divisions of public and private activity. Le Pautre did indeed make the best of what he found. The result is a building with the programmatic complexity of a piece of the city. Its architecture reveals to its inhabitants the competing histories of all that surrounds. At the same time, multiple connections, both literal and implied, are established with different parts of a large and varied neighborhood. This was accomplished with no loss to the figure, whose presence remains in the form of the principle courtyard.

Over a century later, the issue of what was to be the basis of design was just beginning to be resolved, as evidenced by Ledoux's presentation of his design for the Hotel d'Evry. In plan this too makes the most of its impacted, complex site. Yet, when Ledoux renders the building in elevation, it is depicted as a simple ideal object with no site encumbrances whatsoever. The structure appears as a freestanding pavilion in a park. *Prendre parti* was clearly becoming the dominant mode of operation. With modern education in architecture being an outgrowth of teaching within the latter years of the Ecole des Beaux-Arts, it is

not surprising that the figural object has continued its ascendancy while the ground has become mute.

The rise of a theory of composition that emphasizes the independence of the building from its physical, political, and environmental context parallels a change in the understanding and valuation of the term *to invent*. With designers freed from contextual constraint, their building could now be assessed in terms of how inventive they were. To be inventive typically describes a condition of novelty or newness and places the most value on things not seen before. The consequence for architecture is an aggregation of unrelated buildings vying for attention by virtue of how they stand out from one another and from the cities and landscapes that surround them. Although this is the common understanding of the phrase *to invent*, historically the term means to come upon and implies a process of discovery in which new relationships are found for things and ideas that already exist. This is remarkably similar to *tirer parti*.

There is yet another term that should be brought to this convergence, and that is *to represent*, which literally means to reveal or to make present something that, although always there, has remained obscure or hidden. In other words, the fundamental activity of representing the world and the place of humans within it, the inventive relationships that underlie creative making, and the inventive opportunities that derive from making the best of what is found, are remarkably entangled. The common ground here is just that—the ground out of which all these relationships emerge. Think of common ground, or being grounded, as revealed by J. B. Jackson when he describes landscape serving as the background for collective human existence.

## FIGURING GROUND

The consequences of our blindness to the rich and subtle structures of the ground extend to the figure. When the ground becomes abstract, general, and less articulate, there is less incentive to find subtle nuance within the figure in order for this to stand out. When so reduced, the figure loses much of its capacity to participate in the multiple conversations of which it is capable. This loss is apparent when considering the many ways figure enters into human thought. The geometrical fig-

ure, the human figure, the musical figure, and the figure of speech each have such particular and different characteristics that reliance on any one meaning fails to capture the potential of their commingled and overlapped coexistence. Instead, this expanded field of meaning can enlarge an understanding of the figure and its operations and then take advantage of the complex and multiple strategies by which figure and ground can engage one another. When the figure opens literally and metaphorically to so many forms of connection, its autonomy will obviously be diminished, but the benefits are substantial. As the junctures, seams, fissures, and gaps in the figure are revealed, these become significant moments of discontinuity, small hooks grabbing onto the world beyond. As figures become more porous and more prickly, they begin to take on many properties of the ground. A more accessible figure, in turn, promotes comparison with the ground to reveal properties there that would have been thought more the province of the figure. As distinctions involving figure and ground become ambiguous and shifting, the limitations of an antagonistic juxtaposition become apparent.

An alternative set of relationships between figure and ground is found within the Confucian yin-yang diagram, where the two are engaged and mutually dependent. If the black shape is the hierarchically privileged figure, then it ought to be found significantly distinguished from its supporting ground, and yet it is the same shape as the remaining ground, only rendered in white, giving figure and ground a shared value. The S-curve separating black from white confounds the reading of either shape as unequivocally figural. As it switches seamlessly from concave to convex to both include and exclude, the curve further compromises a simple reading. Which figure might the curve belong to? Might it belong to neither and be constituted from the juxtaposition of the two? Tracing the contour of the S-curve reveals even more troubling uncertainties. It seamlessly flows into the line demarcating the circumference of the circle containing the two figures so that what once separated figures now contains them. In making hypotheses about how this diagram might have been put together, it is necessary to ask whether the black shape, for instance, was superimposed over the white ground within the original large circle or whether the ground was always black before the white shape was placed on top. Those two smaller circles residing at the center points of each part of

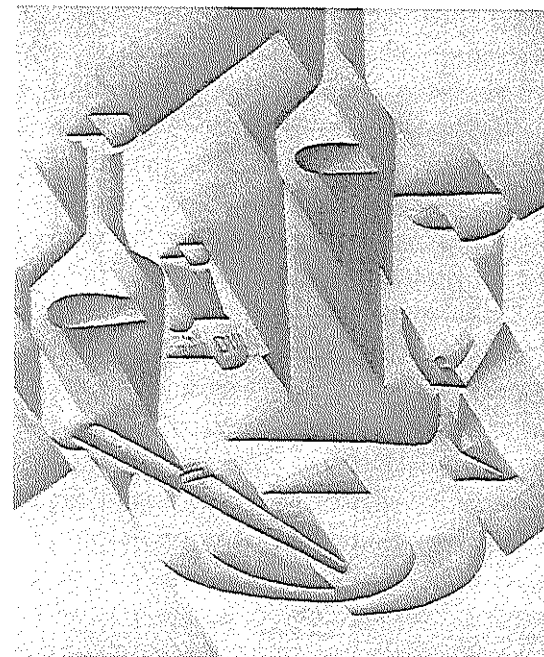


Figure 4.6. Juan Gris, *Still Life with Bottle*, 1912.

the S-curve begin to suggest just this sort of an overlap. Are these apertures into a substrate that reveal the presence of a contrary ground existing immediately below the two shapes that by now seem much less like figures? The point of this interrogation is to show how this simple structure can establish a framework for looking at relationships that is far richer than a reductive juxtaposition of supposed opposites.

The complex ambiguity of the yin-yang diagram and the particular properties of its construction that open the figure to engage the ground are critical components of the intellectual intentions and formal structure of the Cubist painters, poets, musicians, and filmmakers who wanted to make figures more accessible while giving a voice to pictorial, textual, and musical grounds previously operating in silence. Figures of all kinds were carefully taken apart just to the point at which the resulting fragments were the most open to external relationships but not so far that reference to the original whole was lost. The basis for this process of decomposing was the assumption that objects were articulate and assembled from recognizable elements held

together by an understandable internal structure—they are not inherently closed. The violins, bottles, and stemware so prevalent in these paintings are all composed of a complex combination of the S-curves found in the yin-yang diagram and gridded rectilinear components, and thus already contain structures inherent to both figure and ground.

The Cubists perceived the figure as having a life animated by a level of complexity and ambiguity well beyond the static formal, social, and political hierarchies present around the turn of the century. This hidden life is revealed when the figure's constituent pieces are unfastened and displaced to engage the ground on their own terms. This decomposition, displacement, and recomposition shifts attention from an object to a relational view. The primary relationship was to the object's supporting ground or fields. Now valued as an articulate entity in its own right, the dense mosaic of the ground could engage the disarticulated pieces of the figure on equal terms and significantly extend the number and type of relationships among all these parts.

Ground was no longer a neutral datum to display the hegemony of the figure, but a textured and meaningful construct able to direct relationships with authority equal to that of the figure. Within this context, fragmentation becomes an optimistic and expansive process that can include a broad array of pieces—a set of open hypotheses about how things might go together.

Architecture might well draw on some of the explorations of the Cubist theorists to reconsider the closed form of the building.<sup>16</sup> In so doing, architecture would engage in a process of revaluing ground by opening to it. It would find not only an immensely vital realm but also processes, structure, and relationships that, if applied to architecture, would significantly transform the way it engages all that is within and around it. A revalued ground would demand much in return. Similar to the way Cubist painters tested the hold of figural closure on both object and subject while exploring open networks of relationships, architects might question assumptions about *a priori* hierarchies and other forms of premature closure that suppress legitimately dissenting voices within the program, composition, and materiality of their work.

When the ground becomes a part of the architectural project, the resultant open structure will be a more effective mechanism for increasing choices within an inevitably open program than the prior collection of closed figures and attached corridors, stairs, and circulation

shafts. As the ground is understood as much more than a simple, thin, two-dimensional plane, the opportunities its multilayered structure offers for architecture become more obvious. The interweaving of different thickening and thinning layers that gives the ground such sectional complexity provides far more effective a structure for expanding the three-dimensional connective potential among places and activities than the now-common stack of undifferentiated floor plates with point connection by the elevator and fire stair. Within a structure of overlapping and intersecting differential ribbons of space, the limitations of the singular ground plane no longer hold. Multiple ground planes increase the opportunity for more parts of the architectural project to be grounded in the particularity of the larger world. Furthermore, the ground's impressive capacity to extend beyond arbitrary boundaries and its mutable and open structure give it a far greater porosity to surrounding natural and political structure.

Many assumptions about architecture need to be reconsidered when the ground becomes so much a part of its constitution. A building so limits the breadth of architectural potential that it no longer can be considered its most effective product. The increasing size and hermetically sealed situation of buildings preclude relationships with ground other than displacement and erasure. As institutional programs become more complicated and densely variegated, with more autonomy and authority for the individual, the bounding envelope of a building seems a crude mediator between institution and world. The active or verb form of *building* is more promising. Rather than the static and finished product of a building, there is a continuing open-ended and inclusive process much closer to the processes of the ground and to life itself. An even better term would be *constructing*, with its double meaning of fitting things together and, coming from the same Latin root *construere*, its more ambitious task: "to interpret, put a meaning on, to explain."<sup>17</sup> At least one of the things expected from this process of constructing would be a compelling interpretation of the relationship between human action and the structure of the ground.

One of the crucial pieces that will need to be "fit together" within the process of constructing is the room. The room most closely accommodates the presence of the human figure within and thus claims a considerable figural legitimacy. Its interior is a refuge, yet also the means to understand and orient oneself in the world. Its own parts,

such as window, door, hearth, ceiling, and floor, are the means by which rooms mediate relationships among humans and between humans and the natural world, and therefore are the pieces that will directly engage the ground. When this articulate figure opens to and takes on properties of the ground, while simultaneously imparting its own figural identity to the relational structures of the ground, then the human can truly feel connected to the world.

A remarkable representation of the human figure evocatively incised in a room that is also fully engaged in urban life and natural process is Messina's painting of *St. Jerome in His Study*. Here is a room so responsive to its inhabitant's particular physical and intellectual needs that it seems more like a protective garment. Each surface registers the physical presence of the saint, and even without him indicates the special character of its intended task. The room is elevated above the ground and focused inward. Jerome's most explicit contact with his world would seem to be the book that is both part of the room and

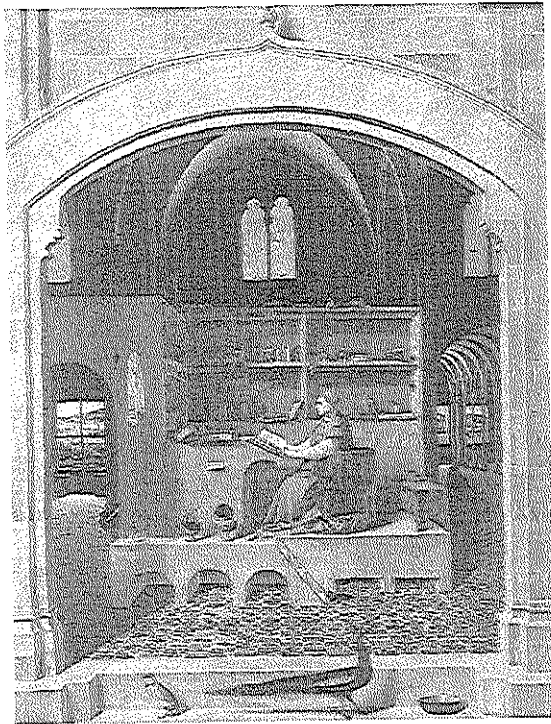


Figure 4.7. Antonello da Messina, *St. Jerome in His Study*, 1475.

an extension of his body. Even the title of the painting suggests a place removed from the world to promote reflection. And yet it is just as apparent that this room is only a fragment of something larger. Its autonomy is mostly a consequence of implied, rather than actual, closure. A carefully calibrated incompleteness situates the study within an implied urban context just in front of the picture plane while connecting this to a landscape framed and ordered by multiple fields of columns, windows, and the scarcely visible network of gridding that ties everything together. To further link the study to its multiple supporting fields, the strongly felt order running in the background is eloquently revealed in the structure of the study fragment itself. The surrounding context deserves further comment. Many qualities of the ground are in evidence here. The dark presentation and obscure edges lend a sense of this space being formless, a ground that extends far into both urban and natural worlds beyond. The intense patterning of the floor, the proliferation of treelike columns in the background, and the exotic animals roaming about all contribute to a reading of this space as some form of ground. All of this lends an air of ambiguity to Jerome's situation. Is his study a fragment of the city, displaced to a landscape outside? Or, perhaps the ground itself has returned to its pre-urban condition? Within this rich contradictory setting, the actions of St. Jerome put figure and ground, and city and landscape into their multiple relationships.

The raw natural setting of the North American continent was a revelation to the first Europeans. Coming from a continent that had long ago lost its forests, where land was cultivated more as an extension of the urban field or else completely acculturated as a garden, their descriptions of the new land are telling. Writing in *The Machine in the Garden*, Leo Marx finds America praised as a bountiful garden of plenty where nothing is wanting and yet at the same time as a hideous wilderness.<sup>18</sup> Marx argues that the tensions within these contrasting accounts have been crucial to the formations of American culture and, by extension, American patterns of settlement. Ground would certainly be expected to have a profound presence. Early examples of architecture and urbanism demonstrate means of representation and strategies of engaging the ground of the New World that differ markedly from what had been known in Europe.

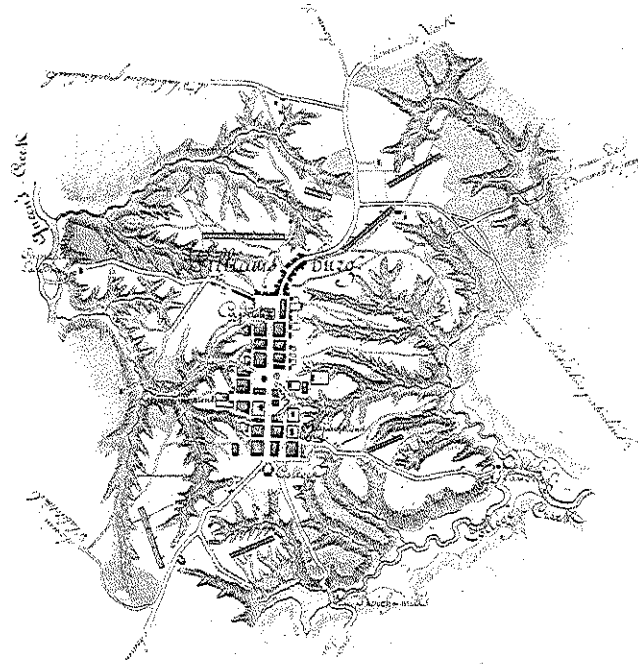


Figure 4.8. Alexandre Berthier, Map of Williamsburg, 1781.

A particularly compelling representation of city structure effectively engaging the ground can be seen in a late mid-eighteenth-century map of Williamsburg by Alexandre Berthier. Instead of the autonomous figure of the European walled city existing in a void, Berthier shows an urban pattern open to the land outside. In fact, the idea of outside seems completely inappropriate. The natural world so permeates the urban order that to refer to it as outside fails to account for just how strongly the ground has been assimilated into this new democratic order. Although there are gardens and cultivated lots, the intense presence of the natural process weaving through human intent stands out. Berthier has blurred distinctions in the way he represents political order and landform. The structure of the watershed with its articulated pattern of streams, creeks, swales, and ridges is rendered equivalent to the spatial structure of streets, alleys, public squares, and gardens that represent the then-current political and cultural aspirations. The complex interweaving of these multiple systems describes a

context in which nature and culture are far more engaged than opposed, and each must be maintained for the others' good.

The same interdependent weaving together of political and ecological structure can be seen at the domestic scale of architecture. The Wythe house, built in Williamsburg around 1752, depicts a rapprochement between ground and constructed form similar to that found in Berthier's map of the same city. The house is typically photographed in a tight composition that decontextualizes it and emphasizes its objectness, but this is more the outcome of a predilection within architectural history to focus on buildings and not their settings. Rather than being contained within the confines of the colonial house, the domestic program here is parsed out and distributed over the entire site, and in some instances even beyond. Kitchen, smokehouse, well, stable, gardens, pavilions, along with fences, hedges, trees, pergolas, porches, and other liminal pieces are deployed so that the ground itself—with its swales, ridges, and other topographical features—is engaged as an active part of a larger construct. Conventional distinctions between inside and out or nature and artifice fail to capture the complexity of this place. Equally challenging is trying to understand differences between public and private activity. With the domestic program no longer constrained to a singular structure, much of the domestic enterprise becomes porous and open to public engagement. The eight separate points of entry to the site allow individual pieces of the domestic program to form their own separate relationship with one another and the town beyond.

These examples show the importance that edges play in mediating relationships with the ground. Whether made by adjacency, juxtaposition, overlap, or by things brought together by seam, the edge registers and responds to similarity and difference. Once architecture or any other figure becomes open to the ground, attention shifts away from the center and toward an increasing number and variety of edges. A less commanding center gives parity to these edges, which in turn are free to engage in their own relationships with grounds.

*Edge, margin, fringe, verge, and rim* are a few of the words qualifying ground. These terms, however, carry a semantic power well beyond their portrayal of the ground's physical structure. The *marginal* notes necessary to a critical reading, the cutting *edge* of new thought, or the alternate forms of community proposed by *fringe*

groups are obvious examples of the rich critical potential inherent to existence at the boundary. The view from the edge is almost by definition a critical one. From this liminal vantage point, it is possible to look outward and inward and more easily recognize and assess problems at the center.

But this is not just the metaphorical construct of critical thought and action. In nature, edges are never thin and unambiguous, but instead thick, overlapping, and even generative. For instance, the ecotone where two ecosystems meet combines qualities of each system. The niches and sanctuaries within this thick boundary make it one of the richest locations for finding a broad diversity of organisms.<sup>19</sup>

The edge's inherently contrary quality of simultaneously separating and bringing together gives it a physical as well as an intellectual thickening at the same time that it is porous. With the edge so involved in the process of engaging ground, it will prompt a substantial reconsideration of the walls, ceilings, roofs, and even floors that define the room so that they too can participate in the expanded network of linkages revealed within the site.

At this point, it seems that the long-standing desire to erase boundaries separating inside and out might be reconsidered and reframed. Inside and out describe more than simple climatic distinctions. Intuition, which is essentially a mysterious process interior to the mind, differs markedly from the externalization needed to rationalize actions. Intimacy itself is an interior condition made powerful by comparison to the vastness outside. Finally, feelings are another part of the interior life of the human that require protection from the outside. In other words, the brain itself would seem to be structured to promote, protect, and mediate relationships between inside and out, making the desire to erase such an inherently important condition a questionable one. So instead of making boundaries disappear or nearly so in the case of the glass curtain wall, it would be logical to make the boundary even thicker. The thick edge is more able to effectively respond to the differing pressures and needs of inside and outside. And as soon as inside and outside edges become entities in their own right, this sponsors a new place in-between, capable of its own special form of occupation. The dense matrix of liminal space within the thick walls of the French Hotel, the urban house of a member of the royal court, is an evocative example of a different form of existence that contrasts

with that led within the public figural rooms that these surround. The highly particular labyrinthine network of connectivity in both plan and section encourages relationships both licit and otherwise to be more freely entered into than do the limited and controlling axial routes within the public realm.<sup>20</sup> The configurations within these thick walls speak to a freedom of choice and consequent vitality that could never be present in those limited figures. Martin Heidegger noted the catalytic potential of these edges when he wrote, "A boundary is not that at which something stops but, as the Greeks recognized, the boundary is that from which something begins its presencing."<sup>21</sup>

Much of the same literal and metaphorical ambiguity is also present in the more ephemeral structure of the porch. Is this part of the landscape, an extension of the room, or a place all its own? As the porch oscillates between interior and exterior as well as between figure and ground, it further explains the nature of the edge. Edges separate things and yet they also bring things together. Thus, the apparent contradictory constructs of continuity and discontinuity are able to be present at the same time and place. With this comes the ability for the human to be part of the larger network of political, social, and ecological systems while at the same time being removed and protected from this excess complexity to reflect on how best to engage it. Are there other forms of porch, and might other constructed edges perform similarly? Like the boundaries found in nature, these thick edges of architecture bring together the different ecologies of human artifice and nature to produce a third system: a liminal microclimatic place capable of mediating inside and exterior environments. Perhaps this form of the edge finally provides the unrestricted passage linking inside and out that has been an elusive goal of architecture for so long. Now, however, it is possible to imagine a richer and more equal relationship between human artifice and natural process as humans freely move physically and imaginatively between their own intentions and the conflicting environmental, political, social, and psychological matrix.

## CONCLUSION

Ground has always been a crucial part of human existence. In almost every discipline, in different form, it is the common reference among

people and the world that makes shared thought and action possible. The ability to connect to a larger world is a direct consequence of the ability to effectively engage the ground and bring this within human comprehension and action. Ground is where human artifice and natural process commingle for the benefit of both. Our myopia and misrepresentation of something so essential seems inexplicable. The reductive representation of ground within architecture, urban planning, and even landscape architecture representation is just as strange. Possible explanation for the suppression of ground is complex and mostly beyond the scope of this essay. However, our ability to contend with one of the inescapable facts of being human, our mortality, tells much about how the ground is valued. When intellectually and emotionally capable of acknowledging their finitude, humans have looked to the ground for solace and support. Its patterns of repetition go on forever and thus contrast with any form of figure, which already having reached a state of conclusion, resists significant intervention and growth. But when culture is unable or unwilling to reach a productive rapprochement with its mortality, then ground, in all its manifestations, becomes an unwelcome reminder of the problematically short span of individual human existence.<sup>22</sup>

Irrespective of causes for this difficult relationship to ground, humans cannot continue to be blind to its opportunities. By questioning assumptions about the relationship of ground to human existence such as those embedded within the figure-ground drawing that polarizes a relationship between things that are mutually dependent, it is possible to come to a better understanding of the value of the ground in human terms. By finding imaginative means to represent what has been invisible for so long, humans can at least bring the ground to attention as something worthy of consideration. Within architecture, once the ground is revealed and its structure made visible, it is possible to give the ground a voice equal to that of the products of human artifice. At this point architecture can open to and take into its domain a rich world that can augment what architecture is capable of. In being open to the ground, architecture will also discover a wealth of means to deal with intractable problems of its own. The consequence of this intense engagement is the effective reattachment of humans to the many worlds that support them.

## Notes

1. Jackson, John B., *Discovering the Vernacular Landscape* (New Haven: Yale University Press, 1984), 8.
2. This essay is an extension of material covered in my earlier book, Dripps, R. D., *The First House: Myth, Paradigm, and the Task of Architecture* (Cambridge: MIT Press, 1997). Mostly, I am developing ideas that were introduced in the epilogue, where I proposed a reevaluation of the Vitruvian Myth of the first dwelling. This myth, which has been repeated in various forms in almost every treatise of architecture, describes people driven from the forest by a fire and into a clearing where they subsequently gather around the fire's dying embers to initiate speech, political structure, and architecture. Language began here as people communicated the pleasure they found in the warm fire and signaled to others to bring logs to keep it burning. Written at a time when the forest was the predominant ground in Europe, this tale seems benign. But from our perspective, it is clear that to maintain the public realm, the forest will ultimately be consumed. I proposed an inversion of the myth where the vitality of a living forest could hold that crucial central position instead of the consuming fire.
3. See Robert Scholes and Robert Kellogg, "The Oral Heritage of Written Narrative," in *The Nature of Narrative* (London: Oxford University Press, 1966).
4. Norman Austin, *Archery at the Dark of the Moon: Poetic Problems in Homer's "Odyssey"* (Berkeley and Los Angeles: University of California Press, 1975), 116.
5. Barbara Novak, *Nature and Culture: American Landscape and Painting, 1825-1875* (New York: Oxford University Press, 1995), 49.
6. Numa Fustel De Coulanges, *The Ancient City; A Study on the Religion, Laws, and Institutions of Greece and Rome*, translated by Willard Small (1873) (Reprint, Garden City, NY: Doubleday Anchor, 1956), 22-33.
7. "What better proof is there that the contemplation of fire brings us back to the very origins of philosophic thought? If fire, which after all, is quite an exceptional and rare phenomenon, was taken to be a constituent element of the Universe, is it not because it is an element of human thought, the prime element of reverie?" Gaston Bachelard, *The Psychoanalysis of Fire*, translated by Alan C.M. Ross (Boston: Beacon Press, 1964), 18.
8. Gottfried Semper, *The Four Elements of Architecture and Other Writings* (1851), translated by Harry Francis Mallgrave and Wolfgang Hermann (Reprint, Cambridge: Cambridge University Press, 1989), 102.
9. Gaston Bachelard, *The Poetics of Space*, translated by Maria Jolas (Boston: Beacon Press, 1964), 18.
10. Dante captured the intensely paradoxical nature of this background while writing about Hell in *The Divine Comedy*: "Midway in the journey of our life I found myself in a dark wood, for the straight way was lost. O how hard it is to tell what it was like, that wild and mighty and unfriendly forest, the very thought of which renews my fear! So bitter was it that death could be no worse. But, to reveal what benefit it brought me, I shall tell of the other things I found." So beginning with a place dark and labyrinthine, a place that made death seem promising, Dante's protagonist finds within

- this chaotic state of multiple orientations the means for his own spiritual redemption. Dante Alighieri, "Hell," in *The Divine Comedy* (1314), translated by Louis Biancolli (Reprint, New York: Washington Square Press, 1968), 3.
11. Bachelard, *The Poetics of Space*, 20.
  12. Italo Calvino, "The Call of Water," in *Numbers in the Dark* (New York: Vintage, 1996).
  13. Robert Augustyn and Paul Cohen, *Manhattan in Maps, 1527–1995* (New York: Rizzoli, 1997), 136.
  14. Actually and metaphorically, forest and ground are dark. This is not only the darkness that contrasts with the clear light of rationality, but a quality essential for our most important creative actions. In *The Human Condition*, Hannah Arendt argues that the privacy of the house ultimately makes public life legitimate. "A life spent entirely in public, in the presence of others, becomes...shallow. While it retains its visibility, it loses the quality of rising into sight from some darker ground which must remain hidden if it is not to lose its depth in a very real, nonobjective sense." Hannah Arendt, *The Human Condition* (Chicago: University of Chicago Press, 1958), 71.
  15. David Van Zanten, "Architectural Composition at the Ecole des Beaux-Arts from Charles Percier to Charles Garnier," in *The Architecture of the Ecole des Beaux-Arts*, ed. Arthur Drexler (New York: Museum of Modern Art, 1977), 506n46.
  16. Architects might also look at the parallel strategies of the musicians who challenged the hegemony of a controlling tonal structure to reveal the musical potential of common sounds, rhythmic patterns, and other more open-ended structures that connected the piece to the everyday world.
  17. See Dripps, "Constructing the Paradigm," in *The First House*, 65–75.
  18. Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (New York: Oxford University Press, 1964), 43.
  19. Bill Mollison, *Permaculture: A Designer's Manual* (Tyalgum: Tagari Publications, 1988), 76.
  20. In the play performed within *A Midsummer Night's Dream*, Shakespeare introduces the character Wall: "This man, with lime and rough-cast doth present Wall, that vile Wall which did these lovers sunder; and through Wall's chink, poor souls, they are content to whisper." The wall is the device that separates the two lovers yet is also the agency by which they reestablish their relationship on even more solid ground. It is notable that what we might have anticipated as an inert piece of building becomes quite literally animated as its own implicit inside is played by one of the characters and is even given a speaking role. During this brief scene the Wall is alternately hailed as sweet and lovely and then as vile, thus demonstrating the wall's double capacity to separate and bring together. William Shakespeare, *A Midsummer Night's Dream* (1595), in *Shakespeare's Twenty-Three Plays and the Sonnets*, ed. Thomas Marc Parrot (Reprint, New York: Charles Scribner's Sons, 1953), 159.
  21. Martin Heidegger, *Poetry, Language, Thought*, translated by Albert Hofstadter (New York: Harper and Row, 1971), 154.
  22. Hannah Arendt, *The Human Condition*. See also Robert Harrison, *Forests: Shadow of Civilization* (Chicago: University of Chicago Press, 1992).