Recovering the Wall: Enclosure, Ethics, and the American Landscape

by

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Abstract:

The modern world is marked by legal and political boundaries at all scales; the meeting of two territories is a condition so common as to escape notice in everyday life. Yet the nature of the relationship between these divisions and real things is rarely considered: a barrier at the edge of a territory is taken to embody legal, political, or social difference in simple and transparent ways. This assumption has profound implications for the material and social landscape. Beginning to question it, and suggesting practice in light of these questions, is the goal of this essay.

The essay is divided into three parts. The first considers allotment in several ancient, medieval, and early modern societies. It argues that the practice of dividing land was marked over time by growing tensions between law and matter, and that the European settlement of North America was a quantitatively and qualitatively new stage in this process. The second chapter traces these tensions in the domestic and public landscapes of the United States since the nineteenth century, and argues that they present a practical challenge to design and building. The third chapter responds to this challenge. It returns to the wider geography of the first part to find examples of physical boundaries—'walls'—that not only express territorial difference but stage an array of social and ecological interactions. These examples form the basis for reconceiving the marking of territory: for an ethics of enclosure in the modern landscape.

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In the human cities, never again to
despise the backside of the city, the ghetto,
or build it again as we build the despised
backsides of houses.   Look at your own building.
You are the city.[1]

---

[1] Muriel Rukeyser, 'Despisals.' In *Breaking Open* (New York: Random House, 1973), 5.

Prologue The String in the Grass

It is a heavy afternoon in August. I am standing in front of the house in my shorts and striped shirt, sweating as I listen to the chorus of late summer: cicadas, a dog barking, a distant gas mower.

In my hand I hold a large ball of cotton string. Laying the end in the grass, I walk around a solitary pin oak in the middle of the yard, trying to catch the fibers against the rough bark. Once I have set the string I make several faster passes, each time pulling tighter around the trunk. Then I pick an object—a young dogwood about thirty feet away—and spin toward it as if by centrifugal force. When I reach the tree I pull the line taught and bind the trunk. Taking a red jack-knife from my pocket, I cut the string and tie an inexpert knot.

I go back to the oak. Tying the line once again around the trunk, I choose another object—a telephone pole dripping creosote—and perform the same operation, lashing oak to pole. Sweating heavily, I do this several more times—oak to lilac bush, oak to fence post, oak to downspout—then pause to examine the results.

I frown: this pattern is too regular. I tie the string mid-way along one of the spokes and walk in a random direction. Then I choose a point on another spoke, attach the other end of the string and pull the two spokes out of true. Ten, twenty, thirty times I do this, until I have woven a gossamer of triangles, parallelograms, hexagons shin-height above the grass. I let myself down in one of the shapes and rest. From this angle the string looks like a solid cap suspended over the grass. Passing drivers slow down at the sight of this strange and ephemeral presence in the middle of suburbia.

Perhaps the impulse to subdivide the lawn came from maps. For I remember also—probably around the same time— collecting the survey maps of my small state. These maps became like baseball cards for my peers: certain obscure quadrants, like Rowe on the Vermont border, coveted and almost impossible to find. Gradually, obsessively, I assembled a collection and pasted them together on the living room floor, cutting off two of the wide edges so that the maps would meet seamlessly. The state barely fit—a great inconvenience to parents and visitors alike. I remember hours spent walking over this map that ran under chairs and tables, inspecting every division of land: the real boundaries marked out by rivers, forest edges, roads—and the imagined watershed where the pink of dense settlement hit the green and white countryside that the suburban kid longed for and sensed was under threat.

Years later I owned a narrow strip of land on a hillside in Seattle. From the sidewalk that ran along its edge one could make out the Olympic Mountains between ragged strips of clouds. The lot had been created by subdividing a larger property into two parts: on the first stood the small house where I lived; on the second its ramshackle former garage. This no man's land had been bought by the absentee owner of the larger property above; looking out from my window I wondered when the two parcels would be fused, the squat neighboring house demolished and a more profitable structure put in its place.

Like all the lots surrounding it—like nearly all the lots in Seattle—the parcel was lined on three sides by fences. On the right, a waist-high chain link fence with wire coated in turquoise vinyl. On the left, deer fencing pulled between pressure-treated posts. In the back, where the lot adjoined a dirt alley, panels of cedar lattice awkwardly nailed at an angle so as to follow the slope. There was nothing remarkable about these fences: they were the stuff of American vernacular.

One brilliant spring day I kneeled to plant stalks of raspberry at the base of the chain-link fence, toward which I had a gnawing antipathy. I wanted to hide the fence and yield some fruit in the process. As I tilled the bed I unearthed what every gardener dreads: the ghostly rhizomes of field bindweed, whose vines would soon enough emerge to strangle every competitor. I must dig out every inch, for even a thumbnail-size fragment left in the ground will sire a new plant.

Working toward the fence, I pulled gently so as not to break the brittle roots. Weeding is a rhythm, and as I unearthed more and more rhizomes—two, three, four feet—my mind began to wander as I broke into a sweat. Any gardener will attest that this is where monotony gives way to meditation. Five, ten, fifteen feet. Half an hour passed. Twenty, thirty feet. I grabbed the last string of root and pulled— It led under the fence to another infestation on the next lot, surely just as big as the one I had just eradicated: to break root at fence line would mean my work wasted. I moved closer to the fence and began to pry its mesh away from the ground. It was not difficult: the mesh hung loose from the cross-member. I glanced up for a moment, then began to slip my right hand under the wire.

Suddenly, hand poised over the property line, I stopped.

What stopped me? Not the fence itself: its form invited one to reach across and continue picking away at the earth on the other side. Not the fear of censure: I was all but certain that my neighbors would be indifferent to my transgression. No: what stopped me was a strange sense of being caught between real things and abstractions.

There were two boundaries before me: a fence whose wire mesh I held in my hand, and an imagined boundary somewhere alongside it whose exact course a surveyor, for a small fee, could mark with red pennants. As the owner of the property I could adapt the first boundary as I wished, but it was the second one that really mattered: *it* determined the relationships that might unfold between me and my neighbors: what we could do, where we could do it, and who would be responsible. *It* was the boundary that stopped my hand, more effectively than wire or stone or concrete.

I sat in the wet grass and thought: which is the real boundary? And then, a moment later: how and when did this question become possible?

Not long after this incident I moved to Copenhagen. I had come to Denmark for aesthetic modernism and social and political liberalism in a dark period of my own nation's history.

In the first I was not disappointed: in Denmark modernism is less sensibility than ideology. Yet, despite the coincidence of this ideology with my own tastes, I bristled at the ruthlessness with which it was enforced. Little by little I drifted away from the studio with its long black tables and turned my attention to the landscape outside. The forms I observed changed my stance as a designer and my understanding of the design act itself.

In time I saw that it was not one sensibility that marked the Danish landscape but rather a single overarching spatial idea. This idea was enclosure. It crossed both scales and the divide between 'vernacular' and 'high' design, and marked the rural cemetery and village yard as much as it did the suburban subdivision and urban perimeter block. The boundaries of these enclosures—for there is no enclosure without a boundary—were forms in their own right, designed and maintained with the attention and care that buildings receive in other cultures. Whether as beech hedge, stone wall, or wattle fence, the enclosure boundary was a positive presence in the landscape, appropriate in ways that I could sense but not articulate. While they imparted legibility and clarity to the built world, these 'walls' were easy to see, hear, and pass through. In contrast to the United States, there was always a way through: it was rare to find a locked gate or find oneself trapped in a dead end. Moreover, this appeared to be the result of conscious design and planning.

I wanted to understand the origins and meanings this tendency because I sensed that it held a key to good design that was missing from my own education, marked by an ideology of physical exposure that was tied up in complex and contradictory ways with the notions of democracy and nature. Yet here was a society more democratic than my own where almost all aspects of life unfolded behind walls, hedges, and fences. Denmark was the place where I first had occasion to observe enclosure not hindering social cohesion but reinforcing it.

As I sought to understand the physical landscape the political landscape was shifting around me. In late 2001, a long-standing conflict over immigration brought a nationalist government to power. The new leaders of the country promptly began to implement their promised agenda of halting virtually all immigration, a policy that drew international attention both from those who sought to emulate it and those who condemned it.

This did not conform to my preconceptions of Danish society. Yet more confusing than nationalism was the dissonance between aesthetics and politics. While the designer in me wanted to resolve this conflict by seeing the enclosures of the built world as a realm of expression distinct from politics, the social scientist wondered whether the distinction was quite so neat. Could it be that enclosures and boundaries were permeable, gates were unlocked not because of a more enlightened approach to the marking of territory but rather because of a larger around the 'imagined community' of the nation?[1] If true, this raised an alarming possibility: that the built forms the designer admired and the cultural forms from which the political liberal recoiled were connected. If that was the case, what did it say about design?

I wanted to test whether what I had admired in the built environment in Denmark could be reproduced in an American context. Could a boundary at once provide a sense of enclosure and safety, heighten the legibility of the public and private landscape, and increase rather that limit social contact? What were the impediments to building this kind of boundary in a society where the difference between parcels was often the difference between two competing cultures, languages, world views? And could the results of such an experiment be expanded to urban design at a larger scale?

I had to use the materials at hand: in this case, the narrow lot where I lived. I decided to perform the test along the back alley, replacing the hastily constructed lattice there with a wattle fence. Wattle—woven coppice—is one of the oldest forms of enclosure in many European cultures, but I had never seen it used so extensively in as in Denmark. Rediscovered by modern designers in the twentieth century, it is now one of the three or four most common devices for marking boundaries in both the private and public landscape.

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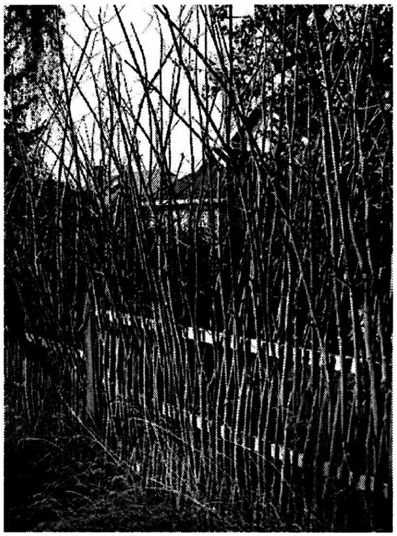
[1] See Benedict R. Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London: Verso, 1983).



The living fence. (Eric Gould, 2003)

I drafted a friend and his old Toyota pickup, which we drove around Seattle to salvage windfall—urban coppice. It had been a stormy autumn and there was no shortage; workers had piled branches on the margins of paths, fields, sidewalks, vacant lots. We helped ourselves, loading slender branches onto the truck as passers-by stared. Necessity trumped discrimination: though the Danish fences I had seen were made of willow—prized because of the suppleness of its shoots—this species was rare on the high ground we could reach. Instead we gathered what was at hand: red alder, paper birch, big leaf maple, the pioneer species of the lowland northwest forest.

After dumping several truckloads of branches in the yard, we tore the prefabricated lattice off the posts and replaced it with three cedar cross-members. Then, over a period of several long afternoons, we rammed branch after branch into the wet earth and wove them carefully between the members. The result was an irregular and variegated mesh. We grew attuned to the particular properties of each wood: from the flaky grey bark of the alder to the rigid shiny shoots of the maple. As we worked down the hill, our glasses of scotch glinting atop the posts (we were desultory workers), we noticed that the interlocking branches had begun to attract birds. Sparrows, Bushtits, Chickadees flew in from all directions and lighted in the upper reaches of the fence, gazing at us as we worked. This unexpected benediction led us to abandon our plan to cut the wattle down to a uniform height. Some weeks later, the lower branches began to sprout leaves.

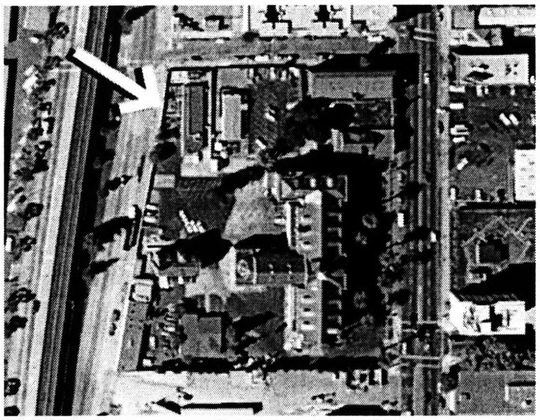
But it was the human relationships around the fence that most surprised me. It was as though the care expended in construction and materials produced friction: people took notice, stopped, talked to us as they made their way down the alley. Later I recorded reactions from the kitchen window: invariably people slowed down, looked, talked when they drew alongside the fence. They ran their hands along the shoots, craned their necks to see into its upper reaches. Like any good design, the fence seemed to make people suddenly aware of their environment. It both estranged and oriented. It thickened relationships and processes—both human and animal.

Of course it might be said that this test and its results, like the fence itself, were full of holes. This part of Seattle was not diverse: the people passing the lot line were white and middle-class. How different would the results have been otherwise? Alleys, too, are not streets: the social relationships there are not the same as those that arise on the street front. But whatever its limitations, the living fence suggested the beginnings of a project for design. When I returned some years later, I discovered that new owners had replaced the fence with standard-issue lattice identical to that I had removed. Clearly the impediment to such a project lay not in particular materials but in human will.

Later I would test the same ideas in design practice.

I was project leader for a redevelopment in an American city with a history of violent crime and racial tension. The site was an abandoned Catholic hospital that occupied two city blocks in one of the worst neighborhoods in town. The structures, which were of high architectural value, were to be converted into residential apartments and housing for senior citizens. It was hoped that the project would stabilize the neighborhood by lifting property values and incomes. The team was good: a developer with a social conscience; an architect with a history of progressive urban design in difficult social environments; a landscape architect with similar values and experience.

Among its other distinctive characteristics, the site was marked by an unusual feature: it was entirely surrounded by a seven-foot-high brick wall. Part of the original complex, the wall was listed as a historic structure; it could not be altered significantly. Thus a project sold to planning officials as a seed for future improvements was destined to be sealed off from its neighborhood. The architects had planned only a single perforation—along the west side where an elevated train ran—for use when the predicted gentrification took place. For the foreseeable future this aperture would be locked by a heavy steel gate opened and closed at the discretion of those inside.



Walled urban site, California. (TerraMetrics, 2008)

The designer in me was drawn to this wall. I saw in it the antidote to the lack of clarity in the American urban landscape. Moreover the wall was exquisitely made: it was clearly worthy of preservation. But again what the designer's eye valued the social critic reviled, and the tension between them followed me through the project. The wall made me question the idea that the valuable part of a territory was its core, and begin to think of the urban landscape as an aggregation of legal boundaries at many scales. Looking carefully, I began to understand just how great the implications of these divisions, and just how minimal the extent of their design. How might an impermeable boundary mediate between people with money and a city of people without it? How could a walled compound be sold to the neighborhood when 'gated communities' are most often associated with the decay of public life? How might the mandated presence of a wall throw the legitimacy of historic preservation into doubt? And finally: what were our obligations—as designers, as citizens—to consider these questions and respond in form?

The perimeter of the site seemed to lie at the very center of the challenge the project posed. Yet in our office and at meetings with the owner and architect, the wall rarely came up as a topic of discussion, its existence either taken for granted or skirted over awkwardly. Like the underground pipes or overhead wires leading into the site, it was just 'there,' a piece of the infrastructure of the city. Forgetting about the wall was not difficult: the line that denoted it simply disappeared amid all the other lines tracing that infrastructure.

For everyone involved, it seemed, the buildings within the wall were the essence of the project. Yet it was the wall, not those buildings, that would define the stance of the development. This wall wall seemed to have no constituency: when I proposed paving and planting along the outside of the wall that would render the development part of its urban environment (but would also be costly), I was gently reminded to 'concentrate my energy'—our time, the client's money—at the center of the site. The center was the locus of economic and social value; our interest lay in those who would live there and what they would pay. Somehow when the time came, the wall—and with it the world outside—would take care of itself.

But walls do not take care of themselves: the forms they assume and the relationships they set in motion are in no sense inevitable. Like the rest of things people build, walls reflect and reinforce values, but they can also create them.

That is the subject of this essay.

Introduction

From the building, to the lot, to the neighborhood, to the city, to the nation—we live in a world of walls. Barriers real and imagined thread together every part of life: we walk along them, follow their lines, take care not to end up on the wrong side. They make us go here, prevent us from moving there. We tend them when they protect us, curse them when they block our path. We use them to convey messages, and are expert at reading the messages they send to us: stop, follow, keep back, come in. Whatever their scale or shape, walls always express the will of some to control the actions of others. They embody the enduring role of territory in the relationships that humans forge with each other and with their environment.

The claim that we live in a world of walls would seem identical to the claim that we live in a world of boundaries. And indeed: the second is also true. But the truth of these two statements is not coterminous, and the difference is one modern people know by instinct. If I say 'boundary' and tell you to mark the first image that comes to mind—what structural linguists call the 'referent'—you will likely cast your mind to a symbolic representation of the earth's surface called a map. Perhaps you will be uncertain about where this boundary runs and what it divides, but it will probably be a line—thin or thick, blue or black or red—that traces the meeting of two territories.

By contrast 'wall' will call forth a different set of images: not graphic symbols but something designed, crafted, made. Unlike boundaries, walls have heft. The object in your mind will probably be opaque, its height greater than its width, its length more than either of these. But these details will depend on the raw materials of your environment: an old woman from Maine will recall granite boulders in a maple forest; a Palestinian boy will think of the sheer concrete curtain two streets away. If one could interrogate the medieval English peasant, he would probably mention the earthwork or ditch running behind his house. But regardless of its shapes in different times and places, the wall is always tactile and material, substance rather than representation.

The separation of boundary and wall is the result of a net draped over the earth in the Renaissance, when the coordinate system developed by the Greeks, perfected by Descartes, and made measurable by the modern clock slowly gave rise to the notion of infinite space. This change divorced land from specific people and uses, and made possible its transformation into a commodity like salt or silver.[1] In North America, for the first time an entire continent was subdivided along abstract geometrical principles. While the body still moves among walls, these boundaries are now stronger than precedent and history. Build a fence on the wrong side of the boundary, let a gate swing one inch over the lot line, and the force of the law will be against you.

This separation of law from matter has yielded great benefits. As the political philosopher Michael Walzer has written, it lies at the heart of entire tradition of liberal political thought during the past three centuries:

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[1] Richard Sennett, *The Conscience of the Eye: The Design and Social Life of Cities* (New York: Norton, 1990), 54.

> The old, preliberal map showed a largely undifferentiated land mass, with rivers and mountains, cities and towns, but no borders... Society was conceived as an organic and integrated whole. It might be viewed under the aspect of religion, or politics, or economy, or family, but all these interpenetrated one another and constituted a single reality... Confronting this world, liberal theorists preached and practiced an art of separation. They drew lines, marked off different realms, and created the sociopolitical map with which we are still familiar.'[2]

By rendering boundaries abstract and equal, by removing them from the realm of mutable things, the 'art of separation' challenged the arbitrary power of states and individuals and gave rise to the liberties that people in democratic societies often take for granted: the rule of law, safety from state intrusion, clear lines of legal accountability. Such boundaries are essential to maintaining a private realm within which people are left alone to pursue their own fulfillment, and the gains they embody are not to be relinquished lightly. But while political philosophers speak of metaphorical divisions between individuals and groups, the walls of the world are things of earth and stone, wire and concrete. And here the problem lies: reliance on legal divisions has meant inattention to the shape and scope of *real* divisions in the landscape. No less than boundaries, walls demand an art of separation.

Beginning to develop that art is the goal of this essay.

I Mapping the Territory

This essay is an exercise in what the Greeks called *teoria*—speculation on the world. Using the terminology of literary criticism, it is an attempt to *defamiliarize,* or make the mundane strange through careful looking. Legal boundaries between territories are so common as to be invisible: but while they form the context in which nearly all design and building occurs in this country, they are barely theorized when it comes to their relationship to real things. If designers frequently look *beyond* the boundary to larger systems, flow, and processes, they rarely look *at* the boundary as a problem of design.

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[2] Michael Walzer, 'Liberalism and the Art of Separation.' *Political Theory* 12:3 (1984), 315.

Through most of history, there was nothing remote about marking territory: dividing land required backbreaking effort building earthworks, digging ditches, planting hedges, or dragging stone. The results of these efforts were objects whose legal force was a function of their immanence. These objects were not distinguishable from the habits, rituals, and beliefs that produced them; walls expressed and embodied social ecology. To speak of walls and boundaries as distinct would have been impossible; indeed the word 'boundary' did not exist in English until the seventeenth century, brought into common use by Bacon and Locke.[3] The development of the idea that legal and economic division transcended objects meant that walls came to be judged according to the accuracy with which they embodied this abstraction. A good wall faithfully reflected and enforced legal difference; in turn its grounding in local social and topographical weakened. In other words, as boundaries came to stand above place, culture, and history, so walls lost grounding in each of these.

It is therefore not coincidental that the society where abstract division were imposed on a continental scale is also the society where the forms and functions of physical division are most attenuated: walls in the American landscape are designed and produced primarily in order to mark legal divisions of land with maximum speed and minimum care. Whether as chain-link curtain, concrete barrier, barbed wire, or picket fence, the impoverished results are apparent wherever one looks. But while this is a clear loss in the realm of aesthetics, it also speaks to a deeper diminishment: the removal of walls from the social, topographical, political, and ecological conditions of distinct places and contexts. Like their counterparts in many other societies, Americans are never more than a few horizontal yards away from a legal division of territory. Yet the way in which these divisions take shape is rarely the subject of either theoretical or practical reflection. This lack of attention has profound implications for the human and natural environment at many scales. Regaining such attention—and with it a sense of the potential of walls to do more than mark territory—is essential to heightening the material and social richness of the American landscape.

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[3] *Oxford English Dictionary,* second edition (Oxford: Oxford University Press, 1989).

This essay traces an arc from history to current conditions to possibilities for practice. Each of these corresponds to one chapter. The first, 'Dividing the World,' considers the practices and meanings of land division in several ancient societies, from Babylon to Rome to early medieval England. It does not pretend to be an exhaustive account of such practices but rather uses these examples to make a central point: that despite vast differences, pre-modern and early modern civilizations shared a tendency to conceive of the physical division of land in terms of larger political, economic, and religious motives. The chapter argues that such integration of bounding and social, political, and economic life began to weaken in the Renaissance. With the development of modern methods of surveying and land measuring, and the growth of a class of men skilled at using them, division of land was conceived in the increasingly narrow terms of abstract geometrical projection. This process was particularly discernible in England, where an array of surveying and land measuring treatises based on Euclid's *Elements* was brought to bear in the sixteenth and seventeenth centuries. Yet even as new methods of laying out and measuring land were introduced—culminating in the parliamentary enclosures of the late eighteenth century—allotment continued to respond to local conditions and depend on physical marking. It was in the new United States, where geometrical subdivision was projected on an unprecedented scale, that legal and political division was nearly sundered from objects. The conclusion of the chapter argues that this change must be understood in terms of a larger transition in modern times toward the dominance of territory in defining social relationships.

'Enclosing the Land' traces the legacy of this change in the landscape of the United States. It argues that as land division grew distant from the social, ecological, and topographical conditions of particular places, boundaries in the American landscape combined in a new way the parallel and interdependent aspects of control and concealment. Tension between these aspects can be traced in American ambivalence toward territorial barriers at different times and scales. The chapter begins with barbed wire, whose minimal yet lethal form was used to assert control over wide territories quickly and cheaply. Yet even as hundreds of miles of this device were unrolled over the West, walls and fences were actively discouraged in the new domestic landscapes of American cities. Here Alexander Jackson Downing and his followers saw physical markers along lines of legal subdivision as antithetical not only to good taste but also to good citizenship. Confined first to the landscapes of the wealthy, the idea that fences and walls were inconsistent with 'community' would reach a height in the Romantic suburbs of the twentieth century, where bans on physical boundaries supported and naturalized other forms of control. By contrast, the greater allotment density and social and economic unease of more recent decades has replaced these bans with increasingly hermetic forms of enclosure designed to disappear in their surroundings. Even as these walls reflect and intensify demands for 'security,' the social value of invisibility is manifested in many ways and at many scales: from the persistence of open lot frontage in new suburbs to the debate currently unfolding on the shape of the national 'enclosure.' The chapter concludes by arguing that these tensions challenge designers and builders to broaden the range of social, economic, and ecological performance of physical boundaries in the landscape.

That 'recovery of the wall' is the subject of the final part of this essay. Drawing from diverse cultures and times, the chapter assembles examples of walls that have performed or continue to perform an array of functions in addition to marking territory—from providing habitat to fostering commerce to staging ritual. Once common, these functions are rarely seen as compatible with walls in American culture, where lack of attention and invention has hardened negative associations. Yet the richness of walls is everywhere to be seen—from the meeting of lots to the boundaries of states—when one begins to regain such attention. Some examples are drawn from settlements of the past; some are the work of modern designers. But most of the walls of this chapter lie close to home, readily available to the sharpened eye. They are the work of ordinary people using simple materials to recover the territorial limit as a site of exchange in a human and natural ecology. These small acts begin to suggest an ethics of enclosure—and with it the lineaments of a fuller, more dynamic, and finally more just landscape.

II Notes on Terms

The subtitle of this essay combines three terms with broad and sometimes elusive meanings. It is therefore necessary to state briefly the semantic range of 'enclosure,' 'landscape,' and 'ethics' as they are used here.

Enclosure. The *Oxford English Dictionary* defines 'enclosure' as 'the action of surrounding or marking off (land) with a fence or boundary.' Yet this form dates only to the mid-sixteenth century; the modern word has its origins in the earlier verb 'inclose,' or 'surround (with walls, fences, or other barriers) so as to prevent free ingress or egress.' In its turn this word is a mutation of two older, interchangeable verbs: 'incluse' and 'include,' or to 'to shut or close in; to enclose within material limits.'[4] In all these diverse forms, 'enclosure' refers not to the construction of volume—a sense popularized by the architect and historian Siegfried Giedion—but rather to the division of land into distinct plots.[5] These plots depended on walls, hedges, berms, or ditches for their definition; the earliest sense of 'enclosure' is what Virgil, in the first *Georgic,* called 'setting out limits' on the land.

It is this early sense—the marking with objects of a limited extent of the earth's surface—that is used in the present essay. 'Enclosure' here will refer first to the physical act and material result of defining land. Yet although this definition will be at the forefront of consideration, it is also vital also to recall the context to which the modern word 'enclosure' emerged: a growing capitalist market in land in sixteenth and seventeenth century England. Early in its history 'enclosure' denoted not only delineation, but also alienation. Both these senses will be present below.

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[4] *Oxford English Dictionary,* second edition (Oxford: Oxford University Press, 1989).

[5] See Siegfried Giedion, *Architecture and the Phenomena of Transition: Three Space Conceptions in Architecture* (Cambridge: Harvard University Press, 1971).

This essay rests on the assumption that enclosure in these senses is closer to the American landscape than the hard walls of the medieval or Renaissance town, however dear the latter remain to architects and planners. Whether by function or metaphor, most of this landscape is agrarian; it is therefore agrarian patterns that offer the most cogent models for crafting theory and building things.

Landscape. In the past twenty years 'landscape' has become a pervasive word in many spheres of knowledge. It is now possible to read about 'linguistic landscapes,' 'market landscapes,' and 'political landscapes.' People speak of 'hardscapes,' 'datascapes,' and 'brandscapes'—to name only a few recent coinages. The landscape architect Alan Berger has recently described much of the American scene as a 'drosscape.'[6]

Yet despite (or perhaps because of) this flowering, the meanings of 'landscape' are more elusive than ever. Many scholars conceive the word in terms of the notion of 'inland scenery,' a sense imported from Holland in the early seventeenth century via Ben Jonson's *Masque of Blackness* ('First, for the Scene, was drawne a Landtschap, consisting of small woods...').[7] Scenography has dominated many recent analyses of the word; the geographer Denis Cosgrove called landscape 'a flickering text displayed on the word processor screen whose meanings can be created, altered, elaborated and finally obliterated with the merest touch of a button.'[8]

While recognizing these meanings as a crucial part of the history of 'landscape,' this essay embraces the more 'substantive' definition suggested by another geographer, Kenneth Olwig, who notes that landscape 'contained meanings of great importance to the construction of personal, political, and place identity at the time [the word] entered the English language.'[9] In the medieval cultures along the North Sea coast, landscape was not representation but a particular kind of political constitution that persisted until the nineteenth century.[10] The older sense can be traced through etymology: the suffix '-scape' is related to the Norse *-skabe* and the German *schaffen*, both of which denote crafting, building, or shaping—hence the modern English 'shape' and the suffix '-ship,' with its dual connotations of land and polity ('township').[11] Folded into the idea of *Kulturlandschaft* by the geographer Norbert Krebs in the nineteenth century, this notion of landscape rested on inextricable connection between human social and material construction and the natural topography in which it took place. In this sense, the turn of phrase 'human landscape' is a tautology.

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[6] Alan Berger, *Drosscape: Wasting Land in Urban America* (New York: Princeton Architectural Press, 2006).

[7] Kenneth Olwig, 'Recovering the Substantive Nature of Landscape.' *Annals of the Association of American Geographers* 86:4 (1996), 638.

[8] Denis Cosgrove, 'Introduction.' In Denis Cosgrove ed., *The Iconography of Landscape: Essays on the Symbolic Representation, Design, and Use of Past Environments* (Cambridge: Cambridge University Press, 1988), 8.

[9] Olwig, 'Recovering,' 631.

'Landscape' therefore denotes a continuous physical, social, and political whole; hence the notion of the 'American landscape' does not draw a rigid distinction between 'designed' and 'vernacular' environments, or among 'urban,' 'suburban,' and 'rural' settlements. But if 'landscape' is continuous, it is far from seamless: indeed, it is those seams that will be at the center of attention in the following pages.

Ethics. How do we know what to do? How does one distinguish good actions from bad? Is it always better to act justly—even when injustice leads to good results? And who judges those results? All these questions revolve around a single problem: how to know when an act and its outcome are appropriate. This is the central question of ethics, or 'the science of morals; the department of study concerned with the principles of human duty.'[12]

At its most fundamental, ethics is concerned with the quality and justifiability of human actions. The roots of the term lie in the Greek word for 'character,' *ethos.* Though Plato spoke of 'ethical virtues' in the *Republic,* it was his student Aristotle who developed ethics into a comprehensive system, overthrowing many of his teacher's ideas. But in these pages 'ethics' owes most to Kant's revision of Aristotle. In the Kantian sense, ethics is 'practical reason,' or standards governing the real acts of real people in mundane situations. There is therefore nothing remote about ethics: it limits what can be justified in everyday life. Kant avoided the Platonic question of what is *absolutely* good—so remote as to be unknowable—in favor of that which is good in a given circumstance.

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[10] Olwig, 'Recovering,' 631.
[11] Olwig, 'Recovering,' 636.
[12] *Oxford English Dictionary,* second edition (Oxford: Oxford University Press, 1989).

This has clear implications for the building of things. As used here, ethics refers simply to those rules that enable people to assess both actions and results; to the degree that it proposes such rules with respect to marking territory, this essay lays out an ethics of enclosure. Yet no practicable ethics can be based on rules alone: as Aristotle taught, ethics is first and foremost a matter of asking the right questions. It is through questions that we build the 'deliberative, emotional, and social skills that enable us to put our general understanding of well-being into practice in ways that are suitable to each occasion.'[13] Beginning to exercise these skills on the walls of the landscape is the final aim of this essay.

III Notes on Method

The French-American historian Jacques Barzun once wrote that history is 'not simply an academic subject among others but one of the ways in which we think.'[14] But if history is a habit of the mind, historiography is something quite different: conventions taught and learned, refined and abandoned. Every age has had distinct standards for the writing of history. In the classical world, the recording of human events was divided into 'moral' and 'political' accounts; for Barzun, Herodotus embodied the first tendency while Thucydides epitomized the second. With the advent of Christian theology the moral tendency took hold and retained dominance until the seventeenth century.

Contemporary standards for writing history owe much of their shape to the theory of evolution and the development of the scientific method in the nineteenth century. While recent historiography 'has abated some of its original scientific claims,' it continues 'to imply certainty and predictive power, as in science.'[15] According to this method a problem or question is posed on the basis of existing literature; an array of primary evidence assembled; and an argument constructed from their interaction. The text then becomes part of that same literature on which it was based, its value measured by the plausibility, reliability, and completeness of its claims. History may be predictive, but it need not guide action in the world in order to gain legitimacy.

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[13] Richard Kraut, 'Aristotle's Ethics.' In Edward N. Zalta ed., *The Stanford Encyclopedia of Philosophy*. Retrieved from 'plato.stanford.edu/archives/spr2008/entries/aristotle-ethics,' 28 February 2008.

[14] Jacques Barzun, *The Modern Researcher* (New York: Harcourt Brace Jovanovich, 1977), 7-8.

Unlike historiography, design theory is explicitly or implicitly normative. The etymology of the English word reveals this dimension. In the seventeenth century 'design' referred to either a 'mental plan' or the 'thing aimed at, the final purpose.'[16] By contrast, the notion of design as 'drawing' emerged only in mid-seventeenth century; the difference between the two senses has persisted in the French *dessein* and *dessin*, the first denoting a 'purpose' or 'aim,' the second a 'drawing, sketch, or representation.'[17] Writing in the design professions has preserved both senses: it begins with the premise that some part of the world needs changing, or the changes of others judging. It also represents these changes by using illustration. Though necessarily directed at practical outcomes, these outcomes are of secondary important to representation of intent through words and images. The standards for judging design writing lie not in adherence to narrow conventions of scholarship but rather in judging the ultimate justifiability of this intent.

The present essay draws from both these traditions. This hybrid method requires adopting broad standards with respect to evidence. The essay therefore relies on a range of primary and secondary materials to buttress its arguments: maps, diagrams, paintings, photographs, artistic writing, essays, and articles. But the most important body of evidence on which the claims below are based is the built environment itself. And this suggests what has traditionally been the largest difference between historiography and design writing: its stance toward the stuff of the world. The vagaries of human perception have often been thought too great to admit the buildings, roads, ditches, manhole covers, water towers, hedges, and walls of the world into the writing of history. Such distrust has lessened in recent decades thanks to figures such as Fernand Braudel and John Brinckerhoff Jackson; this essay inhabits their long shadow.

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[15] Barzun, *Researcher,* 47.
[16] *Oxford English Dictionary,* second edition (Oxford: Oxford University Press, 1989).
[17] *Oxford English Dictionary,* second edition (Oxford: Oxford University Press, 1989).

Neither history nor design theory, this essay shares features with both. It is more than a description of the world, but its normative component does not lie in advocating particular design outcomes but rather heightened attentiveness. What that makes it with respect to genre is less than clear; the closest approximation is the word that has been used up to now. First coined by Montaigne, the essay is now defined as a 'composition of moderate length on any particular subject, or branch of a subject; originally implying want of finish... but now said of a composition more or less elaborate in style, though limited in range.'[18] An earlier age defined this form of writing as simply 'a first tentative effort in learning or practice.'[19] The present essay is both these things.

Consistent with its genre, this essay relies on scholarship in fields far outside those of its author. Hopefully this ecumenicity partly shields it against reductive conclusions. There is no 'literature review' or 'theory chapter': both would give a false sense of finality and closure; readers are instead directed to the bibliography. This openness to other fields of knowledge grows out of my own professional work. A new discipline, landscape architecture has always drawn on different ways of knowing in order to build both theory and things. With few exceptions, it does not have the luxury of a 'canon'; this absence demands the cobbling together of arguments, whether in writing or things, from that which is at hand. The shape of this essay should be understood in this context.

Finally, because enclosure is a territorial impulse, geographical boundaries must be underlined. This essay stakes out some areas for future investigation into questions of bounding, landscape, and ethics; its focus is on the American landscape and its immediate antecedents in those societies at the tip of Eurasia where much of what is called 'modernity' has its origins. This is not because evidence from other places and times would fail to support the claims made here, but because my limited knowledge of those places and times does not allow me to make this more ambitious argument, at least for the moment. As with any speculation I have begun with what I know, worked outward from my own small lot in the world.

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[18] *Oxford English Dictionary,* second edition (Oxford: Oxford University Press, 1989).

[19] *Oxford English Dictionary,* second edition (Oxford: Oxford University Press, 1989).

1 Dividing the World

To gaze over the modern landscape is to see a world carved and sliced for so long that it is hard to imagine it even having been otherwise. Subdivision fades into the background of human experience because it is omnipresent: the parcel is a receptacle for people and events, endlessly moved, exchanged, replaced, forgotten. In its turn this receptacle is a commodity traded for things of similar value in a marketplace. These ideas are so ingrained as to be nearly indistinguishable from nature. Yet one need only look carefully at the world—the hedgerows of southwest England; the chain-link fences ringing properties from Newark to Naples; the ditches and barbed wire of the American West—to see allotment anew.

Humans have been dividing the land since the development of agriculture. By the fifteenth century, as the historian Fernand Braudel noted, the process was nearly complete.[1] What changed between the discovery of agriculture and the emergent capitalist societies of the Renaissance was not the tendency to divide land but rather the social, economic, and technological context in which that division took place. The goal of this chapter is to sketch this change.

This chapter is divided into four parts, each corresponding to a different period in the history of land division. The first part explores the practices and rituals of surveying, mapping, and marking lots in three ancient civilizations: Babylon, Egypt, and Rome. These civilizations were the among the first in which land allotment was used as a device for gaining and maintaining power over people by controlling area. Yet in each one, the building of walls in the landscape was the province of social and political rituals that have few contemporary equivalents. The second part examines the practices of land division that predominated following the decline of the Roman state, with particular emphasis on England. Like much of social life during the Middle Ages, the practice of building and maintaining boundaries between the fifth and fourteenth centuries was based on local conditions and agreements, as the administrative structures required to organize land allotment on a large scale withered or disappeared. Focus in this section is on the practices of agriculture that replaced Roman methods throughout much of Europe. The third part sketches the reemergence of extensive enclosure between the Renaissance and the nineteenth century, with focus on the enclosures in Britain from the seventeenth to nineteenth centuries and the extension of these practices to the larger project of allotment in North America. The final part of the chapter argues that this history must be understood in terms the wider transformation in modern times toward the territorial definition of social, economic, and political relationships.

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[1] Fernand Braudel, *Civilization and Capitalism, 1: The Structures of Everyday Life, The Limits of the Possible* (New York: Harper and Row, 1981), 48.

I Ancient Divisions

Dividing land to control people by controlling area depends a central power sufficient to plan, record, and enforce territorial boundaries on a large scale. While China is the oldest society where such division was practiced, more direct predecessors of modern subdivision are to be found in three societies with roots in alluvial farming: Babylon, Egypt, and Rome.[2] In each of these cultures, the allotment of land assumed a prominent place as a method of collection tax and maintaining political and social order. Any attempt to understand the uses and forms of boundaries in the modern landscape must begin by sketching these 'subdividing civilizations.'

Babylon and Egypt. The role of land allotment in Babylonian culture is attested by a handful of boundary stones and incised clay tablets that have been preserved from the first and second millennia BC. The tablets show 'walls, streets, rivers, and canals, occasionally with wavy lines to denote water.'[3] While most of the records depict urban or sacred spaces, several of them show rural divisions along watercourses. The oldest of the tablets, dated roughly 1500 BC, shows a bend in a river outside the city of Nippur, radiating irrigation canals, and fields whose boundaries are marked by double incisions representing canals. In addition to these remains, records have been preserved of land transactions, sales, and tax. One cuneiform fragment depicts a canal flowing through fields outside the Shamash gate at Tûbu, one of the suburbs of Babylon. Far more numerous are tablets showing only one plot of land, its measurements running along each side for calculating tax.[4] An earlier tablet from the dynasty of

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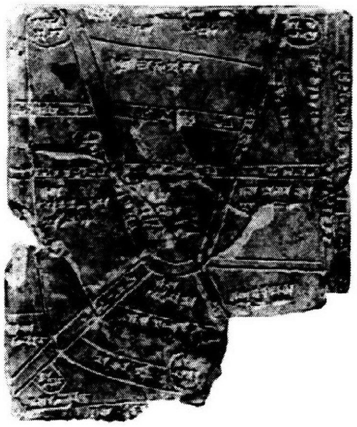
[2] For a consideration of the practices of Chinese allotment and mapping, see Joseph Needham, *Science and Civilization in China, Vol. 2: History of Scientific Thought* (Cambridge: Cambridge University Press, 1991).

[3] A. R. Millard, 'Cartography in the Ancient Near East.' In J.B. Harley ed., *The History of Cartography, Vol. 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago: University of Chicago Press, 1987), 109.

[4] Millard, 'Cartography,' 110.

Akkad (ca. 2300 BC) shows 'a district bounded by two ranges of hills and bisected by a watercourse'; at its center a lot is incised with the notation '354 iku' (roughly twelve hectares) and the name of its owner.[5] These maps were drawn by surveyors who measured land using knotted cords divided into 'cubits' of roughly fifty centimeters.



Plan of fields around Nippur, ca. 1500 BCE. (Reprinted from Millard, 1987)

The importance of accurate land records in Babylon was a function of its dependence on river irrigation. The canals that every farm abutted routinely shifted from year to year, reducing the areas of some plots while increasing those of others. Land divisions therefore had to be fixed with the maximum degree of permanence. Where possible, stone walls were built to mark the boundaries between plots; hedges appear to have been uncommon due to their dependence on water. Where materials for walls were not available, boundaries were fixed either by landmarks such as trees or by boundary stones called *kudurus.* A large number of these stones remain, attesting to the religious and political significance of allotment in Babylonian society.

Many *kudurus* were inscribed with the penalties for breaking or moving boundaries and often invoke curses on potential violators. One invocation on a boundary stone from the reign of Meli-Shipak reads:

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[5] Millard, 'Cartography,' 110.

> Whenever in future times... one shall rise up... and... shall bring and action, or make a claim or cause a claim to be made, or shall send another and cause him to take or lay claim to, or seize it or shall say 'This field was not granted' or the boundary stone of that field, through any wickedness shall cause a fool or a deaf man or one who does not understand, to destroy or shall change it, or break it up... May all the gods, whose names are mentioned on this boundary stone destroy his name, and may they bring him to naught...[6]

Though no earlier boundary stone survives, the architectural historian Joseph Rykwert notes that this should not be taken to mean that there was no way of marking boundaries in pre-Kassite Babylon. 'The placing of sacrificial remains beneath the stone,' he writes, 'would seem, like their phallic character and their association with tombs, to indicate a chthonic implication which is echoed by the fact that the violator of boundaries is 'damned' to the infernal gods.'[7]

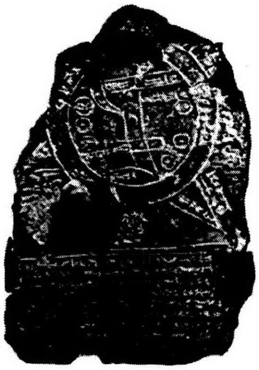

Figure N. Babylonian world map, ca. 600 BCE. (Reprinted from Southworth, 1982)

Thus allotment of land in Babylon did not only have political and economic functions: it occurred within the context of a world view that was immutable and complete. This system of belief is recorded in another incised tablet, a world map that dates to approximately 600 BC. Now housed in the British Museum, this map shows a circular band denoting an encompassing 'Salt Sea,' with Babylon represented as horizontal rectangle in the upper half. The vertical lines bisecting the circle represent the Euphrates flowing from mountains at the top of the circle to wetlands (probably the swamps of lower Iraq) at the bottom.[8] From the outer perimeter of the band radiate three of what were probably eight triangles. Each triangle depicts a region populated by legendary beasts described in the incised text above the figure. Dividing the land took place within this enclosed cosmology where two boundaries took precedence over all others: the river whose diversions marked agricultural fields, and the encircling boundary of the sea beyond which lay the realm of myth.

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[6] L W King ed., *Babylonian Boundary Stones and Memorial Tablets in the British Museum* (London: Printed by order of the Trustees, 1912), 7. Cited in Joseph Rykwert, *The Idea of a Town: The Anthropology of Urban Form in Rome, Italy, and the Ancient World* (Cambridge, USA: MIT Press, 1988), 113.

[7] Rykwert, *Idea,* 115-116.

Marking and registering fields was even more important to social and political order in Egypt, where the extent of yearly inundation was far greater. Egyptian civilization depended on the Nile flood for its survival—as it continues to do today—but this annual event routinely altered or obliterated the lines between parcels of land, whether stones, berms, or irrigation ditches. Because these markers were subject to constant change, the surveyor who could reconstruct them year after year occupied a high position in the social and political hierarchy. The surveyor was called upon to redraw boundaries and arbitrate disputes, and his judgment had the force of law. Each growing season 'officials, including a legal scribe, two scribes from the survey office, a cord-keeper and a cord-stretcher came round to each area to assess the amount of tax. The boundaries were inspected, and owners had in some cases to swear that the boundary-marks had not been moved.'[9] As in Babylon, knotted ropes seem to have been used to measure equal distances. Two other implements were used that allowed for great accuracy in the laying out of buildings and rural limits alike: the *bay*, a palm rib with a V-shaped slot cut at the wider end, and the *merkhet* ('instrument of knowing'), a plumb-line sighter aligned with objects using the notch in the *bay*.[10]

The most detailed contemporary account of Egyptian surveyors' work comes from Herodotus, who emphasized the degree to which Greek methods of geometry had developed on the basis of Egyptian practice:

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[8] Millard, 'Cartography,' 111.

[9] A. F. Shore, 'Egyptian Cartography.' In J.B. Harley ed., *The History of Cartography, Vol. 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago: University of Chicago Press, 1987), 125.

[10] Shore, 'Cartography,' 125.

> Sesostris was also the king, the priests went on to say, who was responsible for the division and distribution of land into individual square holdings, of equal size, among the Egyptians and for making the plots his source of revenue by fixing the amount of tax to be paid yearly on each holding. Should the river encroach upon any holding, its owner might approach the kind and report what had happened. The king would send men to inspect and measure the loss of cultivated land in order that from then on some of the tax proportionate to the report of the loss might be remitted. I attribute the invention of geometry to this cause and from Egypt it spread to Greece.[11]

By the time of Herodotus the Egyptians had been in command of the basic skills of 'measuring, calculating, and registering areas' for many centuries; once this level of competence had been achieved there appears to have been 'no great predilection for change or development.'[12]

The bulk of the evidence for Egyptian allotment consists of 'a large number of private documents concerning the sale, lease, and mortgage of land and buildings' produced during the reign of Kings Ptolemy VI, V, VI, and VIII in the centuries before Roman conquest.[13] The primary purpose of these registrations was for collecting tax, assessed highest on land that did not flood and thus remained arable throughout the year.[14] This was the purpose of the cadaster, or register of lots, undertaken by the village clerk of Kerkeosiris in the early first century BCE, Menches, who 'drew up annual reports showing who owned lands in the area, what crops he grew, and what revenue was obtained from them.'[15] The lands were divided into classes of occupant and owner and ranged from parcels owned by the local authority to religious lands to small-holdings. When royal land was excluded, the last accounted for more than half the land in the district.[16]

Despite the importance of land registration in Egypt, graphic records of allotment are scarce. While this paucity of documentation is due in part to the fragility of Papyrus, those surveys that remain from the pharaonic period lack any form of graphic representation, containing instead detailed written descriptions of title and value.[17] The few extant maps, which date exclusively from the Ptolemaic period, are sketches of fields among diagrams of mathematical problems (reinforcing Herodotus's claim for the link between geometry and the practical problems of land division). These maps also include several schematic plans of orthogonal dikes and canals, which provide the most reliable indication of the shape of parcels. A fragment from Gebelein bearing notations in Greek and demotic script shows a plot of land relating to a private transaction, but little can be determined from it other than the course of a tributary of the Nile, depicted in blue.[18]

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[11] Herodotus, *History* 2/109. Cited in Shore, 'Cartography,' 124-5.

[12] Shore, 'Cartography,' 128-9.

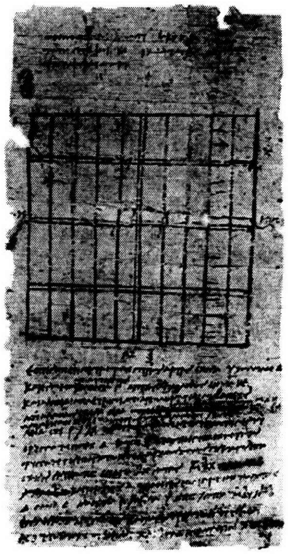
[13] Shore, 'Cartography,' 129.

[14] O. A. W. Dilke, *The Roman Land Surveyors: An Introduction to the* Agrimensores (New York: Barnes & Noble, 1971), 27.

[15] Dilke, *Surveyors*, 27.

[16] Dilke, *Surveyors*, 28.

[17] Shore, 'Cartography,' 128.



Late Egyptian Papyrus map of allotment, 259 BCE. The horizontal lines indicate canals, the vertical lines earthen baulks. (Reprinted from Shore, 1987)

Scarcity of evidence combined with centuries of inundation makes it difficult to speculate on the shape of physical boundaries in the ancient Egyptian landscape. While the size and value of parcels was scrupulously recorded, little notation was made of the ways in which these parcels were delimited. But the evidence from Babylon—a civilization equally dependent on irrigation—suggests the prevalence of dykes, berms, and irrigation canals. Survival in both Babylon and Egypt depended on capturing and distributing water over a large area; subdivision of territory grew out of this imperative; the landscape boundary assumed a central position in the political and religious life of these two civilizations because it channeled life itself.

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[18] Shore, 'Cartography,' 128.

Rome. Like Babylon and Egypt before it, Rome began as a society of alluvial farmers where allotment and registration of rural land had both practical and religious significance. It retained this importance as Rome conquered its near and far neighbors. The most common small unit of measurement, the *iugerum*, referred to the amount of land that could be plowed in one day; from the time of Augustus the frontiers of the Empire were referred to as 'where the scythe and the plough have gone.'[19] The limits of Roman agriculture were indistinguishable from the limits of Roman civilization. Yet at the same time Rome drew liberally on the methods of other societies for the laying out of land, adapting earlier practices to the needs of an expanding empire.[20] And the Roman obsession with documenting the transactions of the state on durable media has left a record of land division that is 'preeminent both in accuracy and output' in the ancient world.[21]

The first recorded Roman survey dates to 170-165 BC, when the praetor Publius Cornelius Lentulus was authorized by the Senate to reclaim 50,000 *iugera* of *ager publicus*—state land—occupied illegally by private individuals in Campania. A map of the area, with records of legal leaseholders was incised in bronze and mounted in the Atrium Libertatis in Rome.[22] State surveys grew increasingly common in the late Republic, notably during and after the civil war, when allotment came to be used not only to reclaim land but also to reward military service. Under Julius and Augustus Caesar, the institutions responsible for laying out and disbursing these awards ballooned into a 'large and elaborate bureaucracy' whose efforts were increasingly turned toward using the subdivision of land as the vanguard of imperial expansion.[23]

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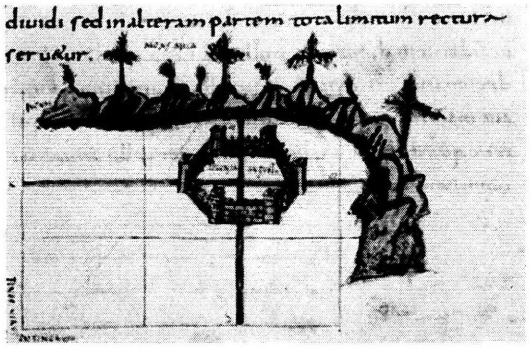
[19] Dilke, *Surveyors*, 37.

[20] O. A. W. Dilke, 'Maps in the Service of the State: Roman Cartography to the End of the Augustan Era.' In J.B. Harley ed., *The History of Cartography, Vol. 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago: University of Chicago Press, 1987), 201.

[21] Dilke, 'Maps,' 201.

[22] Dilke, 'Maps,' 210.

At the center of this bureaucracy stood three figures: the land commissioner, the surveyor, and the augur. Though less remembered than the engineers who labored under them, the commissioners were originally far more important figures. Called *finitores* or 'definers' of the new colony, the commissioners were in point of fact not individuals but rather bodies of three officials called *tresviri coloniae deducendae,* or 'the committee of three men leading out to a colony.'[24] During the Republic, the *tresviri* appears to have been responsible for most of the practical matters: choosing sites, partitioning land, and allocating plots. Commissions had the power to override local authorities, using military means when necessary.


diuidi sed in alteram partem tota limitum rectura
seruatur.

Twelfth-century reproduction from Hyginus Gromaticus of the relationship between walled colony and surrounding fields. (Reprinted from Dilke, 1971)

Land commissions always included surveyors, but it was only with the rapid growth of allocation to discharged soldiers and the expansion of the Empire that the surveyor took on a prominent role in 'defining' new colonies in Gaul, North Africa, and northern Europe. In contrast to the political idea of 'leading out,' surveyors (known after the second century BCE as *mensores* or *metatores,* 'measurers') carried the narrower remit of delimiting the land of a new colony. This meant marking the lines where the enclosing wall of the fortress would run, and marking fields for agriculture. The process of subdivision was the same regardless of whether land was to lie within a city wall or beyond it.

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[23] Dilke, *Surveyors,* 37.

[24] Dilke, *Surveyors,* 35.

Much of what is known about the practices of Roman surveyors comes from the *Corpus Agrimensorum,* a professional guide used throughout the centuries of Roman expansion. Its author, Sextus Julius Frontinus, was an urban praetor and governor of Britain before returning to Rome to serve as the curator of the waters of Rome under Nerva. The depth of Frontinus's knowledge suggests that he served as a land commissioner.[25]

The choice of a site for allotment was rarely based on hygiene or salutary winds as recommended by Virtuvius Pollio in *De Architectura.* Instead it depended on a method the Romans had inherited from the Etruscans: augury.[26] Like all official actions in Rome, the work of the surveyor could not proceed without the benediction of an augur, one of a college of official diviners charged with discovering 'by various signs whether the gods approved or disapproved of a particular action.'[27] Among the augur's methods for determining the appropriateness of a site was haruspication, or examination of the entrails of animals slaughtered in the vicinity. (The augur was also called a *haruspex,* an 'inspector of entrails'). These practices are reflected in the so-called 'bronze liver of Piacenza,' a curious religious relic whose incised map-like image and Etruscan characters date to the third century BCE. The liver was almost certainly used for augury in advance of surveying.[28] As in all their borrowings, the Romans modified the rituals of their predecessors: whereas according to Frontinus the Etruscans 'reckoned from east to west, because the sun and moon face that way,' both Roman augurs and *mensores* faced east.[29] The taking of the auspices spatially presaged the survey itself; the convergence of religion and land division is suggested by the name for the augur's field of vision as he looked over the land: *templum.*[30]

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[25] Dilke, *Surveyors,* 41.

[26] Rykwert, *Idea,* 43.

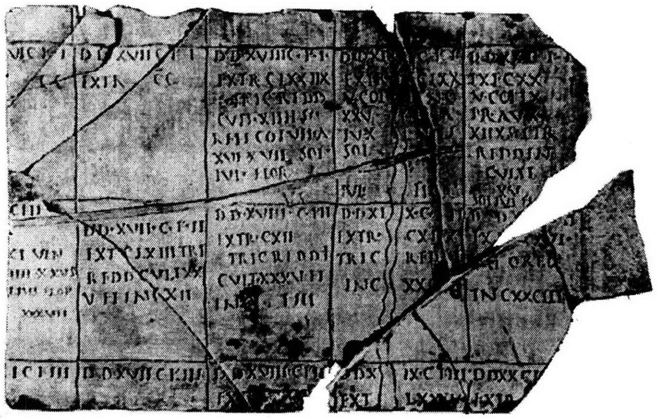
[27] Dilke, *Surveyors,* 35.

[28] Dilke, 'Maps,' 203.

[29] Sextus Julius Frontinus, *De Limitibus* in *Corpus Agrimensorum.* Cited in Dilke, 'Maps,' 202. Though the preponderance of accounts suggests that augurs and surveyors reckoned took their initial readings toward the east, there is also evidence for a 'second choice' of southward orientation. See Dilke, *Surveyors,* 86-87.

[30] Dilke, *Surveyors,* 33.

When the augur had deemed a site propitious for settlement, the surveyor could begin his work. Surveying was officially called *limitatio,* from the Latin *limes*, 'boundary,' a term that denoted any form of boundary, from a path to a wall to a baulk.[31] The word 'centuriation'—often used by modern scholars in place of *limitatio*—comes from the principle unit into which land was subdivided: the century. Before the advent of the Empire the century varied widely in size; after Augustus it was standardized at 20 x 20 *acti* (200 *iugera),* or roughly 125 acres. Centuries were generally square, but there are also examples of rectangular centuries from earlier periods.[32]



Orange Cadaster B, the best preserved record of a Roman imperial centuriation. Each square represents one century, the lines between them denoting *limes*. Century numbers run along the top of each enclosure. (Reprinted from Kain, 1992)

The most important of the surveyor's tools was the *groma*, a word that is probably an Etruscan corruption of the Greek *gnomon* (surveyors would become known as *gromatici* in the late Empire). The *groma* consisted of four plumb lines hanging from either end of two perpendicular rods. In their turn these rods were suspended from an arm cantilevered out from a long shaft with a pointed bottom. When laying out a new settlement, the surveyor first found the cardinal directions using a portable sundial, then planted the shaft of the *groma* in the ground so that the intersection of the rods hung above the central point of the survey. He then took a sighting along the plumb lines (which terminated in weights of two distinct shapes to avoid confusion) that would fix the location of the first four centuries of the survey. These only rarely marked the center of the colony; it was far more common for the surveyor to begin to work wherever he could take the most accurate reading.[33] The east-west axis that lay parallel to his line of sight was called the *Decumanus Maximus*, the north-south axis to his left and right the *Kardo Maximus*. The first four 'lots' of the survey were therefore identified as either on the surveyor's right or left, or behind or in front of him.

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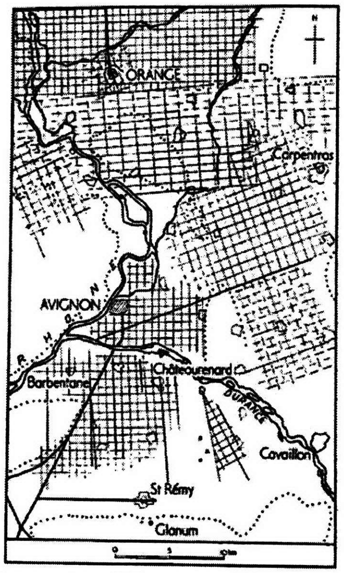
[31] Dilke, *Surveyors*, 87.
[32] Dilke, *Surveyors*, 100.



Eight separate centuriations in the vicinity of Orange (Arausio) in Gaul, first century CE. (Reprinted from Dilke, 1971)

The boundaries between centuries had fixed widths that the surveyor took into account in his calculations; rather than simply the place where centuries abutted each other, the *limes* was a piece of territory in its own right. Its width varied with the time and place, but the *Decumanus Maximus* was always the widest boundary and the *Kardo* the second-widest. For example, in the colonies for veterans constructed during the reign of Augustus, the *Decumanus Maximus* stood at forty Roman feet and the *Kardo* at twenty feet. Subordinate divisions had narrower widths, with every fifth *limes* wider than those intervening in order to be usable for passage.[34] Distinction at the early stage was not made between *limites* that would function as 'streets' and those that would become mere 'boundaries.' The Romans were careful to distinguish between *limites* and *rigores*, or lines of division within a single century.

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[33] Dilke, *Surveyors*, 88.

The result of centuriations performed at different times along different orientations (many solar readings were quite inaccurate) was a landscape in which parcel boundaries were ubiquitous and sometimes even overlapped. Some of these boundaries were marked by existing landmarks such as mountains, hills, watercourses, rivers, or streams. Others were lined with Cypress hedges, stone walls, and clumps of trees. Still others were simply unused *limes*—widths of ground between centuries whose proper maintenance was set forth around 55 BCE in the *Lex Mamilia,* the comprehensive agrarian law passed under Julius Caesar.[35]

But the vast extent of Roman land division meant that the most common object used to fix *limites* were boundary stones, or *termini.* From the late Republic onwards the Roman countryside was increasingly littered with these markers, as the following arbitration from the first century BCE, describing the line between two properties, suggests:

> There is a boundary stone at the confluence of the Edus and the Procoreba. From the R. Edus to the foot of Mt. Lemurinus, where there is a boundary stone. Then straight up the ridge of Mt. Lemurinus; there is a boundary stone on Mt. Procavus, etc.'[36]

A late treatise on the construction and maintenance of boundary stones in the *Corpus Agrimensorum* entitled *De Terminibus* describes many types of boundary stones and details of their placement in the landscape. One passage suggests the extent to which this placement was grounded in topographical and hydrological features, and how messages about these features were conveyed by the stone itself: 'If a boundary stone is hewn square and has a dot on it, it indicates a spring. But if it has a hollow on top, it indicates a well at the boundary.'[37] The treatise also suggests that boundary stones were set not only at the *limites* of centuries, but also wherever a surveyor's line crossed other kinds of boundaries, whether springs, streams, wells, groups of trees, ravines, or rises.[38]

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[34] Dilke, *Surveyors,* 93.
[35] Dilke, *Surveyors,* 104-105.
[36] Dilke, *Surveyors,* 38.
[37] Dilke, *Surveyors,* 103.

Similarly, *termini* also conveyed information on the social landscape as it existed before the survey and after allotment took place. The surveyor Hyginus Gromaticus left a passage in the *Corpus* where he described having to saw up stone altars 'recording on the side facing a colony the boundary of that colony, on the other side the name of the neighboring townspeople.'[39] Inscriptions on boundary stones often functioned as public records of the original constitution of a settlement. *Termini* dating from the second triumvirate at Capua indicate the location of the sacred first furrow with the following words: 'By order of Octavian, on the line plowed.'[40]

If boundary stones served the practical purpose of delimitation and arbitration, they were also objects of veneration and crucial components of what the historian Kurt Latte called 'the striving the delimit boundaries sharply... characteristic of Roman religious thought.'[41] The god who watched over perimeters, *Terminus,* took its name from the boundary stone; to move, disturb, or vandalize a stone would subject the offender to the wrath of the god. But it was not only divine retribution that might await boundary breakers: Roman law provided for 'terrible penalties' to all those who violated Terminus.[42] As in Babylon, threats of divine and legal sanction were frequently engraved on *termini*. This connection between bounding and religious practice is recalled by Sicculus Flaccus, who provided a detailed account of setting up *termini*:

> the ancients when they were to draw up boundaries, would set the same stones upright on the solid ground near that place where a ditch had been made for the stone to be set up permanently: and they would anoint it and crown it with bands and wreaths. In the ditch where they were going to place it, they sacrificed, and when the victim had been set fire to with a torch, they poured blood into the ditch and threw incense and fruit into it, as well as beans and some wine which it is the custom to offer to Terminus. When the fire had consumed all the sacrifices they placed the stone over the still hot relics and made it sure with the greatest care, reinforcing it roundabout with broken stones that it may stand more securely.'[43]

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[38] Dilke, *Surveyors,* 103.

[39] Dilke, *Surveyors,* 99.

[40] Dilke, *Surveyors,* 31.

[41] Kurt Latte, *Römische Religionsgeschichte* (München: Beck, 1976), 41. Cited in Rykwert, *Idea,* 65.

[42] Rykwert, *Idea,* 62.

[43] Sicculus Flaccus, 'De Condicionibus Agrogrum.' In *Corpus Agrimensorum Romanorum,* ed. C. Thulin, vol. I, pt. I, 'Opuscula Agrimensorum Veterum' (Leipzig: B. G. Teubneri, 1913). Cited in Rykwert, *Idea,* 116-117.

But the most famous account of the rituals of land division is Plutarch's description of the founding of Rome in the *Life of Romulus.* Presaging the later importance of augury, Plutarch tells of how Romulus chose the site of the future city by 'a divination from a flight of birds.'[44] Indeed, it was disagreement about the number of vultures seen by the brothers that led Remus to mock Romulus's rites of foundation and to provoke the fatal quarrel between the two. 'When Remus knew the cheat,' Plutarch wrote, 'he was much displeased; and as Romulus was casting up a ditch, where he designed the foundation of the city-wall, he turned some pieces of the work to ridicule, and obstructed others; at last, as he was in contempt leaping over it, some say Romulus himself struck him, others Celer, one of his companions...'[45] Romulus then 'fitted to a plough a brazen ploughshare, and, yoking together a bull and cow, drove himself a deep line or furrow round the bounds; while the business of those that followed after was to see that whatever earth was thrown up should be turned all inwards towards the city; and not to let any clod lie outside. With this line they described the wall, and called it, by a contraction, *Pomoerium*, that is, postmurum, after or beside the wall...'[46] But at the site of the future gates the party 'took out the share, carried the plough over, and left a space' in the sacred furrow, for 'had they adjudged them also sacred, they could not, without offence to religion, have given free ingress or egress for the necessaries of human life, some of which are in themselves unclean.'[47] The Latin word for gate, *portus,* lies in this 'lifting' or 'carrying' (*portare*) of the plow.

Though this story conflates earlier myths of city foundation and fratricide, it points to the sacred nature of land division in Roman culture.[48] The founding of the city of Rome was the basis for laying out all colonies from the first century; even the setting up of temporary encampments by Roman legions was 'a diagrammatic evocation of the city of Rome, an *anamnesis* of *imperium*.'[49] Plutarch's account vividly illustrates the mystical identity of 'first furrow' and the city itself; to cross this trough was to invite the wrath of the gods and compromise the foundations of the future settlement. Plutarch later underscored this when he clarified his earlier account of Remus's murder in *Roman Questions:* 'It seemeth that this was the cause why Romulus killed his owne brother Remus for that he presumed to leape over an holy and inviolate place.'[50]

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[44] Plutarch, 'Life of Romulus.' In *The Lives of the Noble Grecians and Romans,* trans. John Dryden (New York: Modern Library, 1979), 30.

[45] Plutarch, 'Romulus,' 30.

[46] Plutarch, 'Romulus,' 31.

[47] Plutarch, 'Romulus,' 31.

[48] Rykwert, *Idea,* 28.

[49] Rykwert, *Idea,* 68.

It is tempting to see in the rectilinear patterns of Roman centuriation the shadows of a modern consciousness. And indeed, in some ways the *mensores* were closer to their counterparts today than to their successors in medieval Europe. Yet the mere fact that it was used by an imperial civilization does not make Roman centuriation 'modern.' Even as the *mensor* appeared to work in a more systematic way than his predecessors, the objects that demarcated boundaries followed popular belief and the landscape patterns of real places. This is illustrated by another passage from Hyginus, describing the boundaries of a hypothetical estate:

> From the hill called A to river B and over river B to stream C or road C, along that road to the foot of mountain D at the area called E, along the ride of that mountain to the summer and over the summit by the watershed to the area called F, then down to area G and from there to the crossroads of H and so back to the starting-point.[51]

This suggests the extent to which Roman surveys were 'bounded and... linked to pre-existing land holdings and conformed to local topography.'[52] Maps that appear to reveal notions of a larger systematic impulse are the product of nineteenth-century archeology rather than Roman cartography: in their time, the *mensores* recorded each survey as a whole where every incised *limes* corresponded to a real marking on the land. Cadastral maps were a record of physical division, not a template from which such division might proceed: they did not precede the work of the surveyors but followed it.

In other words, in Rome as in the other pre-modern civilizations sketched here, territory was not a 'mold or container with clear and precise boundaries' but rather 'a place on the earth [that] inextricably led to events...intimately and naturally associated with the place.'[53] The practices and rituals of Roman subdivision—the 'obsessional persistence' with which the *mensores* imposed the same patterns over and over, on towns and countryside alike—can be grasped only within the context of Roman cosmology and belief.[54] These practices were not merely tools to be deployed as necessary by an expanding Empire but the embodiment of a divine and immutable order; whether as city wall, first furrow, or *terminus,* the landscape boundary did not challenge this order but expressed and completed it.

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[50] Plutarch, *Roman Questions*. Cited in Rykwert, *Idea,* 28.

[51] Cited in Robert David Sack, *Human Territoriality: Its Theory and History* (New York: Cambridge University Press, 1986), 100.

[52] Sack, *Territoriality,* 130.

[53] Sack, *Territoriality,* 62.

THE ROMAN MAP
RECONSTRUCTION
SERES
INDIA
SCYTHIA
ARIA
PARTHIA
PERSIS
MESOPOTAMIA
ARABIA
ARMENIA
SYRIA
IVDEA
SARMATIA
ASIA MINOR
ÆGYPTVS
LYBIA
CYRENE
DACIA
THRACIA
GRAECIA
ILLYRIA
ITALIA
NUMIDIA
GERMANIA
MAVRETANIA
GALLIA
BRITANNIA
HISPANIA
ASIA
EVROPA
AFRICA

Roman world map, whose basic configuration would persist throughout the Middle Ages. (Reprinted from Southworth, 1982)

II Open Fields

As the Roman Empire succumbed to the barbarian invasions of the Middle Ages, the power that Rome had exerted across the known world for a millennium began to wane. One of the components of Roman imperial administration that was lost was the division of land: during the thousand years that lay between the fall of Rome and the Renaissance, as the European countryside fell under the sway of local potentates, the large-scale surveying and allotment that had been a tool of Roman expansion virtually ceased to exist. The centuries of feudalism saw the disappearance of virtually all the administrative structures necessary to implement and record allotment; instead the conventions and rituals associated with land enclosure grew increasingly private and informal as 'the rotten facade of the state, which had long obscured the underlying social structure, finally collapsed' in the late tenth century.[55]

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[54] Rykwert, *Idea,* 62.

It is impossible to understand the shape of land division in the Middle Ages without recourse to the patterns of subsistence agriculture that dominated medieval life. Whereas in Rome production had been organized within subdivided lands leased by the state to individuals, the principle social and economic unit in medieval Europe was the feudal village. Across the continent, imperial control ceded to an intensely local culture with the manor at its heart; the result was a social landscape where, as the historian Georges Duby put it, 'everything was private, and private life was everywhere.'[56] The manor was like a family, and only the lord provided a shadow of the *Pax Romana*. The world was limited to the distance one might walk in a day: little intervened between the limits of a village and the limits of the world.

Fencepeace. Though it is impossible to do justice to the diversity of agricultural practice across medieval Europe, two features hold true for much of the continent. One is subsistence: for most of the Middle Ages, there was scant possibility of surplus; villages produced for their own consumption and to pay rent to the manor.[57] Once this obligation was met the medieval village was frequently left to govern its own affairs.[58]

The other widespread feature of medieval agriculture was the tendency for medieval villages to farm the land around them in unfenced strips that were used as pasturage for domestic livestock outside the growing season. Particularly prevalent among the Saxons who brought it to Britain, this mode of production is usually called 'open field' agriculture. Warning against a frequent misconception, the economic historian C. S. Orwin—whose monumental *The Open Fields* is still the standard work on the subject—stressed that 'open' in this case did not mean 'common': fruits of production were not shared equally but rather each household was allotted a certain amount of land for its own subsistence and payments to the manor. Lots were redrawn every year.[59]

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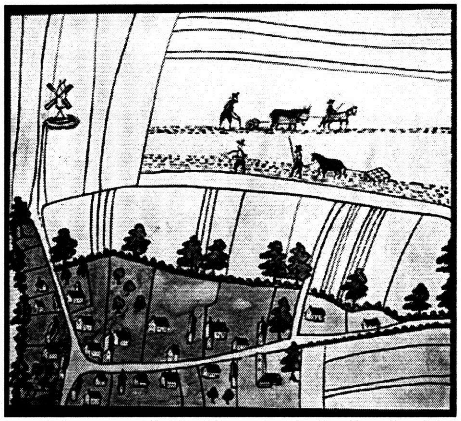
[55] Georges Duby, 'Introduction.' In Georges Duby ed., *A History of Private Life. Vol. II: Revelations of the Medieval World* (Cambridge: The Belknap Press, 1988), 8.

[56] Georges Duby, 'Introduction,' 9.

[57] Karen J. Friedmann, 'Fencing, Herding, and Tethering in Denmark, from open field Agriculture to Enclosure.' *Agricultural History* 58:4 (1984), 585.

[58] Friedmann, 'Fencing,' 587.



View of Laxton, the last remaining open field village in England and subject of C. S. Orwin's classic study in agricultural history. (Reprinted from Orwin, 1938).

The primary unit of land in the open field village was the long strip called a selion, equal to one turn of a moldboard plow.[60] The action of the plough resulted in a characteristic pattern of ridges and furrows that is particularly visible in aerial photographs of former open field villages in England. Between the autumn harvest and spring sowing, individual households pastured domestic livestock on the cereal stubble of these fields, irrespective of which household had cultivated which strips during the growing season. The putative inefficiency of this kind of production was decried by agricultural 'improvers' in the eighteenth century, and its decline was seen by many economists as a crucial step toward the increased agricultural output of the nineteenth century.

The open field village was always presented with a pressing problem: regulating the placement and maintenance of fences in the landscape. Both agricultural production and social harmony depended on elaborate rules to assure that fields under cultivation remained 'at peace'—free from marauding livestock. Most of these rules governed the fences and hedges around private yards (where animals were kept during the growing season) but they also dealt with maintaining ditches for proper field drainage. As Orwin wrote: 'A land's end not fenced on a roadside might admit passing livestock to play havoc with everybody's crops, and a land's width of a watercourse not scoured might flood the strips of a dozen other people.'[61] Thus while boundary maintenance is important in any agricultural economy, in the open field village it was persistent matter of public concern deeply embedded in the social fabric of the community. The records of manorial courts from the late Middle Ages are full of conflicts concerning the maintenance of fences, hedges, and ditches:

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[59] C. S. Orwin, 'Observations on the Open Fields.' *The Economic History Review* VIII:2 (1938), 134. The term 'open fields' is not without its critics; the agricultural historian R. A. Butlin recommended that it be discarded and 'common arable field' used in its place. See R. A. Butlin, 'Some Terms used in Agrarian History.' *Agricultural History Review* IX (1961), 102.

[60] Butlin, 'Terms,' 103.

> It is pained that all they Hedges belonging to the Long Medow & East Ing be sufficiently made betwixt this and the 30th day of this Month and so kept from time to time in paine of Any one Offending...
>
> It is pained that Robert Skiner lope his hedges in back lane betwixt this and the first day of May next in paine of not doing soe...
>
> It is pained that all the Ditches in Shitterpoole lane be sufficiently scowered betwixt this and the 30th day of this Month in pain of any offending...
>
> It is pained that all the fences belonging to the In field be sufficiently repaired and made betwixt this & the second day Feb: in paine of any offend...[62]

Similar conflicts were common throughout northern Europe. As the geographer Sigurd Erixon has written about the open field villages of Sweden in the eighteenth century: 'Fences served not only the purpose of shutting out grazing cattle or keeping them within a certain area, they also had a legal import which is often mentioned directly with reference to sites, fields and meadows in the infield area and to staked fields in the outfield area.'[63]

The case of Denmark, too, illustrates the central place of fences in the political and social life of the open field village and the larger polity. Danish villages were similar to those in England in that they were divided between permanently fenced domestic closes around a central common, and unfenced selions beyond. Local agreements called *vider* governed the maintenance of *hegnfred*—'fencepeace'—around 'arable fields, individual home grounds, the meadows, the fold for estrays, and sometimes...facing the land of another village.'[64] Prior to the enclosures of the nineteenth century, Danish villagers retained the right to the understory of the manorial forest; wattle therefore was the preferred method of fencing.[65] However, as woodland grew scarcer in the late Middle Ages, *vider* increasingly prescribed other materials such as willow hedges or even stakes and stones—less than effective at preserving the peace of the fields. One *vide* in Jutland lamented that 'this is a poor and barren area in which to find fence materials.'[66]

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[61] Orwin, 'Observations,' 130.

[62] Manor Laxton Cum Moorhouse. *Paines made by the Jury at the Court Leet & Court Barron of the Right Honble Will: Earl of Kingston holden for the Manor aforesd, 8th day of October 1686.* Cited in C. S. Orwin, *The Open Fields* (Oxford: Clarendon Press, 1938), 172-173.

[63] Sigurd Erixon, 'Swedish Villages without Systematic Regulation.' *Geografiska Annaler* 43:1/2 (1961), 69.

But fencing was also a subject of rules at higher levels of political organization. As early as the thirteenth century, the 'Landscape Laws' *(landskabslovene)* of Jutland, Zealand, and Scania included extensive passages on fences; the oldest of these, the Jutland Law of 1241, stipulated that 'each man shall place his fences such that all owners agree about what he owns in the town and fields' and that 'he who does not erect his fences on the day legally fixed shall pay the fine that is agreed.'[67] From Easter to just after Michaelmas, the law required that fences protecting open fields 'remain standing unless all the grain has been gathered in before.'[68]

Yet enforcement of fence laws finally fell either to the village or—in difficult cases—the manorial court. General regulations contained in the Landscape Laws were routinely modified to meet the needs of individual villages. For example, no part of the Jutland Law described exactly what constituted an 'acceptable' fence; such questions would be decided locally.[69] 'Only if a wrongdoer refused to cooperate or the matter was especially serious was he taken to [a higher] court or reported to the lord of the manor.'[70] Many Danish open field villages appointed an elder (*oldermand*) to lead regular 'fence viewings' during the course of the growing season; others entrusted oversight to a single 'guard' (*vogt*). In all cases prior to the nineteenth century, however, it was the owner of the fence rather than the owner of livestock who was responsible for violations of 'fencepeace.' Gates left open or gaps not repaired could carry penalties ranging from fines paid in barley, oats, or beer 'on the behalf of all to the village and King' to, in an extreme case, the pillory.[71]

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[64] Friedmann, 'Fencing,' 588.

[65] Bo Fritzbøger, *Det åbne lands kulturhistorie [The Cultural History of Rural Land]* (Frederiksberg, Denmark: DSR Forlag, 1998), 154.

[66] Poul Bjerge og Thyge J. Søegaard, *Danske Vider og Vedtaegter eller gamle Landsbylove og Byskrier [Danish village laws and agreements]*, vol. 1 (Copenhagen: Lehmann og Stage, 1904-6), 363. Cited in Friedmann, 'Fencing,' 588.

[67] *Jyske Lov* [Jutland Law], 1241, Book 3, §58, 'Om agergærde' ['On field fences']. Accessed at 'www.kb.dk/elib/mss/holmiensis/tekst.htm.'

[68] *Jyske Lov* Book 3, §59, 'Hvor længe gærdene skal stå' ['How long the fences shall stand'].

[69] Friedmann, 'Fencing,' 588.

[70] Friedmann, 'Fencing,' 587.

One of the questions that has interested scholars is why and how the open field village arose in the first place. Many historians of Orwin's time, such as F. W. Maitland, suggested that they resulted from a conscious program of allotment, 'laid out in the great patchwork of strips and furlongs as we see them in such maps as have survived.'[72] Orwin was skeptical of this notion not because he doubted that the social advantage in assuring that 'everyone had his fair share of the good and of the less good land,' but rather because the technical mechanisms for laying out and recording subdivisions of land were not available. The idea that each open field village distributed land in systematic fashion 'presupposed a community, considerable in numbers, settling somewhere, marking out the land necessary to sustain them into three great fields, subdividing each field into furlongs and each furlong into strips, and then allocating the strips in rotation. Think what this means,' Orwin urged:

> A land agent must also be a land surveyor, and I doubt if there is a qualified land agent in the kingdom, and I am sure there is no farmer, who, given 1,000 acres or more, most of it probably under scrub, could proceed to lay it out in the multitudinous divisions of the open fields. Even to measure off an open field sufficient for a community of a few families would present some difficulty, when it is remembered that they were not rectangles but that local topographical conditions necessitated every sort of shape.[73]

Subdivision would have required not only tools that were unavailable to the medieval peasant, but a non-existent class of surveyors or land measurers. The lack of technical competence is inextricable from the lack of any propensity to think about land as a subdividable commodity for apportionment. The lack of such a 'subdividing imaginary' can be seen not only at the scale of the field but also in the medieval house, which consisted of one or two rooms where people were born, cooked, ate, drank, slept, and died. Far from a product of land allotment, the open fields were 'an attempt by hungry men to find the best way by which to maintain themselves from the land,' their distinctive pattern created by a process of simple aggregation in a world before land scarcity.[74] The selions of a single household were separated from one another not by intent but because teams plowed next to each other each day: as long as more land was available, 'fresh villagers would rob no one by joining in with their oxen to make additional plough teams.'[75]

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[71] Friedmann, 'Fencing,' 588-590.
[72] Orwin, 'Observations,' 126.
[73] Orwin, 'Observations,' 126-127.

Metes and bounds. In the social and spatial context of open field agriculture, the land survey was not a plan of future allotment but a catalogue of landscape features—from trees to stones to hedges to ditches—in a particular place. Even Master Fitzherbert, whose 1523 *Book of Husbandry* is considered the first modern work on surveying in England, emphasized this aspect. The good surveyor, according to Fitzherbert, must record on a large piece of parchment the 'buttes' and 'bounds' of all holdings and 'state the number of buildings and their location and give a description of the lands, specifying whether they are meadow, grainland, or woodland, and by whom held.'[76] Finally Fitzherbert charged the surveyor with recording the value, rents, and fines associated with all parcels on the manor or in the parish.[77] In Holland the title 'surveyor' was used earlier than in England; it denoted not a person who mapped territory but merely an 'honest man' who could be trusted accurately to record existing conditions and fairly to arbitrate disputes.[78]

There was little need for precise measurement in a local subsistence economy that did not extend far beyond the manor limits; the 'husbandry' Fitzherbert prescribed was more than sufficient.

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[74] Orwin, 'Observations,' 125.
[75] Orwin, 'Observations,' 128.
[76] A. W. Richeson, *English Land Measuring to 1800: Instruments and Practices* (Cambridge: MIT Press, 1965), 33-34. The exact identity of 'Master Fitzherbert' is in some doubt.
[77] Richeson, *Measuring*, 34.
[78] P. D. A. Harvey, 'Local and Regional Cartography in Medieval Europe.' In J.B. Harley ed., *The History of Cartography, Vol. 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago: University of Chicago Press, 1987), 494.

This is not to say that tools of surveying were unknown in the Middle Ages—the 'magnetic needle' had been available since the late twelfth century—but rather that they were not widely used because there was no need for them.[79] Poor understanding of geometry led to many errors in areal calculation.[80] Yet even if geometrical principles had been better understood, lack of standard measures made comparing allotments difficult. For example, like its Roman predecessor the *iugerum*, an acre was originally defined as the amount of land a yoke of oxen could plough in one day. But this amount varied enormously depending on soil type: an acre in regions of light soil was therefore far larger than an acre of alluvial land. Similar variations marked lineal measurement: the northern English 'rod' was twenty-two feet, the southern only twelve.[81] Though nominally standardized under Edward I in the late thirteenth century, differences persisted between 'statutory' and 'customary' measurements until the Renaissance. The historian P. D. A Harvey noted the result: 'Scale, the observance of a fixed proportion between distances on the map and distances on the ground, played practically no part in medieval maps of small areas.'[82]

Combined lack of need and lack of instruments (of course related) meant that virtually no new territorial maps were drawn in the Middle Ages. Medieval maps were either imitations of Roman *mappae mundi*—so-called T-in-O maps, with Jerusalem at the center of the world—or Portlolan charts intended for merchant navigation from the Mediterranean to northern Europe.[83] By contrast, Roman techniques of mapping land division over large territories were abandoned.[84] In the medieval world 'the normal way of setting out and recording topographical relationships was in writing.'[85] In place of maps, therefore, the Middle Ages used what the modern historian François de Dainville called 'cartes parlantes.'[86] These 'terriers' listed 'hundreds, or even thousands, of individual plots of land in a set of fields, giving the exact location of each.'[87] They were judged according not to adherence to coordinates or scale, but rather according to the faithfulness with which they described relationships between people—usually landowners—and their physical environment. Medieval maps were never constructed merely to depict a territory: they were always occasional, designed to fulfill a specific purpose.

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[79] Richeson, *Measuring*, 6.
[80] Richeson, *Measuring*, 46.
[81] Richeson, *Measuring*, 18.
[82] Harvey, 'Cartography,' 466.
[83] Harvey, 'Cartography,' 464.
[84] Harvey, 'Cartography,' 464.
[85] Harvey, 'Cartography,' 464-465.
[86] Harvey, 'Cartography,' 464-465.
[87] Harvey, 'Cartography,' 465.

Among the most important of these purposes was the description of 'metes and bounds,' or the limits of land plots and grants. Such description was in terms of constructed boundaries such as hedges, ditches, and roads, and prominent existing features such as trees, streams, and stones. Because they combined aspects of mapping and census-taking, terriers remain indispensable pieces of evidence about the social and physical landscape of medieval Europe. Citing from a record of a land grant at Hardwell, Berkshire, in 903, Orwin noted that 'nearly all the features named...are still to be seen':

Bounds of Hordwell

> On Swinbroc first, thence up from Swinbroc on to rush-slade, from this rush-slade's corner foreagainst Hordwell-way, thence along this way until it comes to the Icknild way, then from these ways upon the old wood-way, then from that wood-way by east Tellesburgh to a corner, then from that corner to a goreacre, thence along its furrow to the head of a headland, and which headland goes into the land, then right on to the stone on ridgeway, then on west to a gore along the furrow to its head, then adown to fernhills slade, &c. &c.[88]

The rare surveys that included graphic representation were drawn between these landscape elements, usually attaching names of specific people to prominent landmarks. One striking example is a survey map dating from 1150 of the boundary between the manors of Kirkstead and Revesby near Boston. The map shows a length of the Newham drain as a diagonal line along which are arrayed the names of abutting owners and tenants; the drain terminates at the bottom of the map in a wavy line denoting the River Witham. This map was conceived not to represent either manor in its entirety, but rather to document the point of their meeting and source of most likely conflict. Yet aside from the incorrect angle between the two watercourses, this map—like the passage cited by Orwin—corresponds 'quite faithfully' to current conditions.[89]

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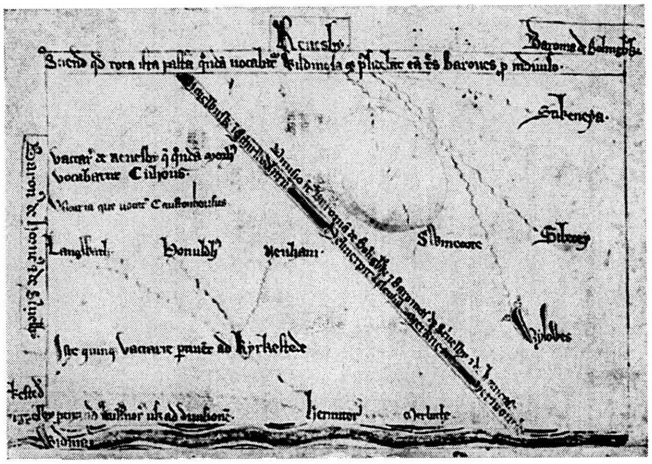
[88] *Chron. Monast. Abingd.* i.56-9. Cited in Orwin, *Fields,* 28.

[89] Derek J. Price, 'Medieval Land Surveying and Topographical Maps.' *The Geographical Journal* 121:1 (1955), 4.



Newham Drain, the boundary between Kirkstead and Revesby manor. The wavy lines connect names to *vaccaria* or bounded pastures. (Reprinted from Price, 1955)

The Revesby map suggests the extent to which the landscape of medieval England was conceived in terms of objects, paths, and relationships between people and places. Boundaries always connected particular landscape features and particular individuals; they were by definition inextensible. Yet the technical knowledge required to lay out and represent land division was never completely lost: rather it was nurtured patiently in the scattered cloisters of the continent. One of these, the Monastery of St Gall, produced the only known scale map of the Middle Ages: a rectilinear depiction of the monastery's lands and buildings with 'accommodation for the monks and their servants, cloisters, gardens, and houses for the estate workers and livestock.'[90] Though this map was to have no direct successor, the skills and tools necessary to implement the vision it embodied would be recovered in the late Middle Ages and Renaissance, as dividing land on a large scale was once again turned to the needs of state and—increasingly—market.

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[90] Harvey, 'Cartography,' 467.

III Subdivide and Conquer

The methods of surveying during the Middle Ages were more than sufficient to meet the needs of an economy organized around subsistence agriculture. The open field village gave to every person 'a degree of security and a chance of economic advancement which no other system [could] give. The right to an acre strip in an open field makes the labourer a corn grower and gives him something to sell.'[91] Yet by the eighteenth century this form of economic and spatial organization was subject to widespread criticism for its supposed inefficiencies. The debate was particularly acute in England, where 'improvers' such as Arthur Young made a life work of assailing waste of land and labor in the open fields. Young advocated the enclosure—alienation to private individuals—of the country's remaining common arable to increase production for growing population, industry, and exports. Yet Young's calls for the dismantling of the old order would not have been possible were it not for steady improvement in the tools for measuring and recording subdivision that began in the fifteenth century.

In the emerging capitalist economy of the late Middle Ages, enclosure proceeded in a dialectical relationship with refinements in surveying: the drive for enclosure drove new methods even as the increasingly exact measurements these methods allowed drove further enclosure. In 1529, the Flemish mathematician Gemma Frisius published the *Libellus,* a detailed description of the survey of large areas using triangulation.[92] In 1570, the first English translation was made of Euclid's *Elements,* thus introducing the essential principles of geometry to surveyors.[93] These works laid the foundation for the development of instruments such as Abel Foullon's 1551 'holometer,' a device that allowed the surveyor to record measurements on a table as he worked in the field.[94] Technical advances in turn broadened the geographical and epistemological scope of surveying: for the first time since Rome it was possible to conceive of surveying a territory at one stroke using a single method. By the conclusion of the sixteenth century, the standard practices of measuring planar and superficial area had been attained.[95]

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[91] Orwin, 'Observations,' 134.
[92] Richeson, *Measuring,* 9.
[93] Richeson, *Measuring,* 47.

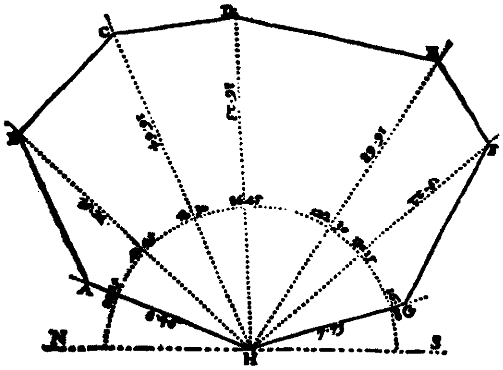

Diagram of one-station corner method for subdividing an enclosure. From William Leybourn, *The Compleat Surveyor,* 1653. (Reprinted from Richeson, 1966)

These advancements were compiled in a profusion of English treatises on surveying in the seventeenth century. The works of John Norden, Arthur Hopton, Aaron Rathborne, and John Love were all intended as practical guides for laying out boundaries in the field. If early sixteenth century surveys had essentially been measurements using lines and rods, these guides increasingly presented land survey as geometrical projection. One of them, the mathematics teacher William Leybourn's 1653 *Compleat Surveyor,* made this information accessible to even the most untrained land measurer. Leybourn used simple and clear diagramming to show how to subdivide an enclosure using a number of different methods. Verifying measurement was facilitated by standardized chains such as those of Rathborne

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[94] Richeson, *Measuring,* 13.
[95] Richeson, *Measuring,* 89.

(1616) and Edmund Gunter (ca. 1620). The latter, which consisted of 100 links of sixty-six feet apiece, would guide the laying out of statutory acres for the next three centuries.[96]

This geometrical revolution 'turned the science of measurement into something more than an incidental branch of husbandry.'[97] In the sixteenth and seventeenth centuries, land survey was invested with the status of an almost mystical art. Ever the pedant, Leybourn described his purpose in the 1694 *Pleasure with profit* as to 'recreate ingenious spirits and to induce them to make farther scrutiny into these sublime sciences, and to divert them from following such vices, to which Youth (in this Age) are so much inclined.'[98] Similarly, in his introduction to the translation of Euclid, John Dee recalled the injustices and confusions that had marked the laying out of land before 'by God's mercy and man's Industrie, The perfect Science of Lines, Plaines and Solides (like a divine Iusticier) gave unto every man his owne.'[99] And Radulf Agas, who made topographical maps of Oxford, London, and Cambridge and authored a widely-used treatise in 1596, published a broadsheet 'apparently in the nature of advertisement':

> To all Persons whom these presents may concerne, of what estate and degree soever, No Man may arrogate to himselfe the name and title of a perfect and absolute Sumeior of Castles, Manners, Lands and Tenements unlesse he be able in true forme, measure, quantitie, and proportion; to plat the same in their particulars ad infinitum and thereupon to retrieve, and beat out all decaied, concealed, and hidden parcels thereof, fitting the same to their evidence, how ancient soever; although blemished, obliterate, and very much worne...[100]

This undated proclamation drew the lines of a new professional class jealous of its technical competences. But it is also striking for the distinction it implies between boundaries as objects—'decaied, concealed, and hidden'—and boundaries as 'true forme' that might be platted out *ad infinitum*. The surveyor's art was slowly turning from recording relationships between people and objects toward projecting 'meausure, quantitie, and proportion' over the land. The results of this change were to be momentous.

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[96] Richeson, *Measuring*, 140.
[97] H. C. Darby, 'The Agrarian Contribution to Surveying in England.' *The Geographical Journal* 82:6 (1933), 532.
[98] William Leybourn, *Pleasure with profit* (London: printed for Nathaniel Rolls, 1695).
[99] Euclid, *Elements*, trans. John Dee (London: By Iohn Daye, 1570). Cited in Darby, 'Agrarian,' 532.
[100] Cited in Darby, 'Agrarian,' 531-532.

Dymock's discovery. In the same year that Leybourn published *The Compleat Surveyor,* Samuel Hartlib—educational reformer, author of tracts and treatises on numerous subjects, and acquaintance of Milton—assembled an anthology he titled *A Discoverie For Division or Setting out of Land, as to the best Form.*[101] Hartlib was the leader of an eponymous circle of 'improvers' who advocated reforming agriculture along proto-capitalist lines.[102] 'These motions, which haply may find acceptance,' he wrote in the preface to the collection, 'concern, as thou maiest see, the Advantages of Husbandry, to remedie some Defects and Disorders, which are found therein; and to lay the foundations of Trade and Commerce to increase the same.'[103]

Yet even as it bore Hartlib's name, the *Discoverie* featured prominently the proposals of another man: the agricultural economist Cressey Dymock. A close friend of Hartlib, Dymock was already widely known for his opinions on a wide variety of topics, from the nature of magnetism to the fertility of the English herring fishery.[104] In Hartlib's collection Dymock turned his attention to the state of English agriculture and his proposals for its amelioration. In a personal letter that Hartlib placed at the beginning of the collection, Dymock deplored the fact that

> all or most part of the Lands, Lordships, Mannors, Parishes, Farmes, and particular Grounds, or Closes in England are not (or rather were not at that time past, when they were first) set out in any good Forme; too much of England being left as waste ground in Commons, Mores, Heaths, Fens, Marishes, and the like, which are all Waste Ground; but some more, some lesse; some being made a little better use of then others; but all capable of very great Improvement, as not now yielding (not one of forty of them through England) the one fourth part of that profit either to private or publique, which they are respectively capable of.[105]

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[101] 'Hartlib, Samuel.' *Encyclopædia Britannica* (2008). Retrieved from 'www.search.eb.com/eb/article-9039398,' 16 March 2008.

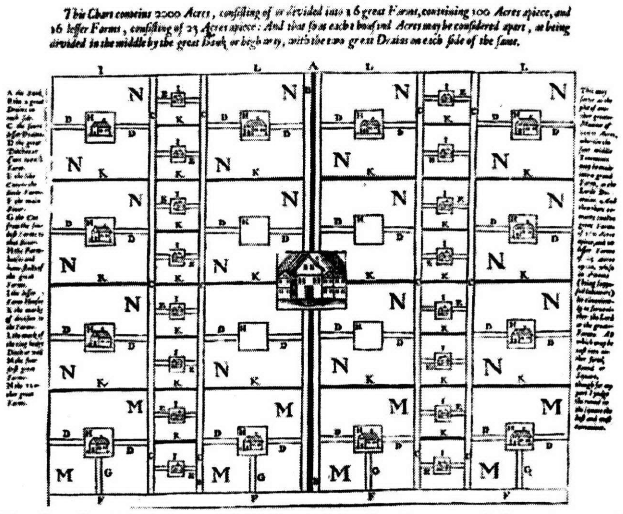
[102] John Dixon Hunt, *Greater Perfections: The Practice of Garden Theory* (Philadelphia: University of Pennsylvania Press, 2000), 182.

[103] Samuel Hartlib, *A Discoverie For Division or Setting out of Land, as to the best Form* (London: Printed for Richard Wodenothe in Leaden-hall-Street, 1653), ii.

[104] Richard Grove, 'Cressey Dymock and the Draining of the Fens: An Early Agricultural Model.' *The Geographical Journal* 147:1 (1981), 36.

[105] Cressey Dymock, 'A Discovery For New Divisions, or, Setting out of Lands, as to the best Forme: Imparted in a Letter to Samuel Hartlib, Esquire.' In Hartlib, *Discoverie,* 3.

Dymock's response—half of Hartlib's book—took the form of two ideal plans for the reclamation of the 'marishes' and fens of East Anglia.[106] The first plan of 'one Entire Lordship, or Manor-house, with its proper Demains' of '100, 200, or 300 Acres' showed the mansion at the exact center of its lands. Immediately adjacent to the house were kitchen gardens, orchards, and dairies, beyond which arable fields extended outward toward an enormous encircling ditch. Beyond this boundary, at the far reaches of the plan, lay 'Pasture for Lean Sheep, dry Cows, or young Beasts.'[107] This circular layout was split into four equal quadrants by double lines suggesting even wider drainage channels.


This Chart conteins 2000 Acres, conſiſting of or divided into 16 great Farms, conteining 100 Acres apiece, and 16 leſſer Farms, conſiſting of 25 Acres apiece: And that ſo as each hundred Acres may be conſidered apart, as being divided in the middle by the great Bank or high way, with the two great Drains on each ſide of the ſame.
A
L
N
M
D
H
K
G
F

Dymock's plan for 2000 acres of reclaimed land. (Reprinted from Dymock, 1653).

The second plan, far larger in scale, recalled a Roman centuriation. It showed '16 great Farms, conteining 100 Acres apiece, and 16 lesser Farms, consisting of 25 Acres apiece.'[108] The mansion occupied the geometrical center of a grid of subordinate farms divided by roads, ditches, and two perpendicular 'greate draynes' that intersected at its doorstep.[109] At the bottom of this elaborate network of boundaries lay a hypothetical 'main River' into which the territory would drain.[110] Each subdivision of this plan, dissected and lined by drainage ditches, was essentially a miniature of the larger scheme. The two plans were therefore not mutually incompatible: the first might form the cells of the second.

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[106] On this see also H. C. Darby, *The Draining of the Fens* (Cambridge: The University Press, 1940).
[107] Hartlib, *Discoverie,* iv.
[108] Hartlib, *Discoverie,* v.
[109] Hartlib, *Discoverie,* v.

Dymock argued that implementation of his plan would greatly increase production on marginal lands, and thus prove invaluable to 'the Common good.'[111] But the plans were not only an argument for enclosure; they also delineated a spatial hierarchy where intensive uses would occupy the center of the farm and extensive ones take place farther afield. Dymock's proposal was therefore a map of functional separation by area—what today is called 'zoning.' As the historian John Dixon Hunt has noted, this separation also mapped the Renaissance notion of three 'natures' by 'implicitly propos[ing] a hierarchy of spaces whereby nearer the mansion are those which demonstrate greater control than those further away, more intensity of labor and greater aesthetic delight.'[112] The mansion occupied the center of this hierarchy. 'Finally,' Dymock wrote, 'here your house stands in the middle of all your little world...enclosed with the Gardens and the Orchards, refreshed with the beauty and odour of the blossoms, fruits and flowers, and the sweet melody of the chirping birds, that again encompast with little Closes, that all young, weak, or sick Cattle may be fostered under your own eye without losse or inconvenience, and all bound together as with a girdle...'[113] The rational ditches, drains, and roads that Dymock proposed were not only means toward agricultural improvement, but also a transparent inscription of social and economic control.

The *Discoverie* was not atypical of its time: similar idealized plans—of both cities and rural territory—were common in the early Renaissance.[114] Yet even as it presaged a modern sensibility in which dividing land has less to do with building than abstract speculation, Dymock's proposal assumed and depended on the implementation of the boundaries it showed; the channels must drain in order for the scheme to work. Thus while it reflected an idealized vision of production and society, the plan was far from abstract: its lines were glossed as ditches, hedges, berms, roads, or rivers. To realize it meant

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[110] Hartlib, *Discoverie*, v.
[111] Dymock, 'Discovery,' 2.
[112] Hunt, *Perfections*, 182.
[113] Dymock, 'Discovery,' 10.
[114] Sack, *Territoriality*, 130.

reconfiguring existing boundaries or building new ones. This was a substantial impediment; as Hunt notes, 'it was not always possible, owing to topographical or financial exigencies, to make this hierarchy of cultural control over territory visible on the ground.'[115] Despite instruments of surveying and geometry that made projecting divisions easy, landscape reconstruction on the scale that Dymock foresaw was feasible only for the richest and largest landowners. Even when financial resources were available landowners often found such reconstruction difficult—particularly in an era when the yeoman, or independent copyhold farmer, was at the height of his political and social power.[116] There were no places in England, even the 'wastes' of the Fens, where Dymock's discovery might be realized without changing the physical and social patterns of a peopled landscape.

The Hartlib circle convened at a time when dividing land was still restricted in scale: as described above, most enclosures took place 'by agreement' either among tenants or between tenants and owners. Such small takings reduced the distance traveled with a plough, accommodated a newly acquired animal, or expanded a kitchen garden. They were not comprehensive attempts to control a larger territory. The marking off these enclosures was ratified at the level of the manor or village; when challenged enclosures were brought before manorial courts. The legal status of a taking flowed from its age: encroachments of greater than twenty-years' standing were generally legally secure.[117] Yet even as Dymock published his scheme the scale and rules of enclosure were rapidly changing. By the eighteenth century, laying out bounds would come to be governed not by local arbitration but rather by landowners backed by the force of Parliamentary law.

Owners' little bounds. The parliamentary enclosures are among the most controversial events of English history. Viewed by many economists as an essential process of agricultural modernization that prevented famine and created English manufacturing, they are seen by others as 'a plain enough case of class robbery, played according to fair rules of property and law laid down by a Parliament of property-owners and lawyers.'[118] In this second view, epitomized by the Marxist historian E. P. Thompson, the enclosures were a program pursued by landowners and their political proxies to force self-sufficient farmers into wage dependency and destitution. The historian Robert Allen recently concluded that on balance 'most English men and women would have been better off had the landlords' revolution never occurred.'[119]

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[115] Hunt, *Perfections,* 183.
[116] Robert C. Allen, *Enclosure and the Yeoman* (Oxford: Clarendon Press, 1992), 21.
[117] John Chapman and Sylvia Seeliger, *Enclosure, Environment & Landscape in Southern England* (Stroud, UK: Tempus, 2001), 16.

Yet there is one aspect of enclosure on which most historians agree: the changes the process worked in the landscape. What Thomas More had only imagined in the sixteenth century ('Each greedy individual preys on his native land like a malignant growth, absorbing field after field and enclosing thousands of acres in a single fence') was to become landscape reality across large swaths of England in the eighteenth.[120]

The parliamentary enclosures, which happened in two concentrated phases between 1760 and 1815, were not the first but nearer 'the last of a long series of processes in which rights to the use of land were defined increasingly clearly and carefully.'[121] The economic historian J. R. Wordie has estimated that at least three-quarters of English arable land was already enclosed in 1760.[122] Unlike the small takings of an earlier era, however, parliamentary enclosures were wholesale subdivisions undertaken parish by parish and ratified by act of Parliament. The first raft of acts converted four million acres of open field arable into bounded pasture; the second claimed two million acres of 'waste'—common land that provided sustenance to a whole rural class—for private ownership. The term 'parliamentary enclosure' thus denotes two fundamentally different processes with distinct social consequences. Generally it is the second of these phases, the enclosure of the commons, that provokes most disagreement among historians.[123]

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[118] E. P. Thompson, *The Making of the English Working Class* (New York: Vintage, 1963), 218.

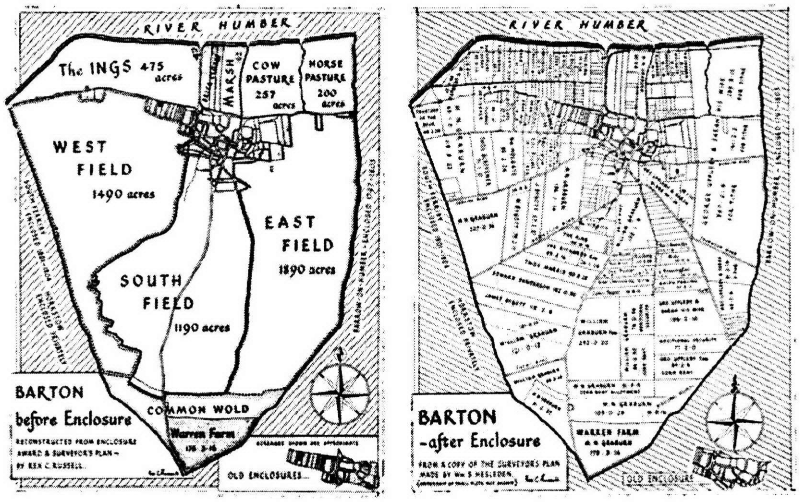
[119] Allen, *Enclosure*, 21.

[120] Thomas More, *Utopia* Book I (Baltimore: Penguin Books, 1965 [1516]), 25.

[121] Ian Whyte, *Transforming Fell and Valley: Landscape and Parliamentary Enclosure in North West England* (Lancaster: Center for North-West Regional Studies, 2003), 10.

[122] J. R. Wordie, 'The Chronology of English Enclosure, 1500-1914.' *Economic History Review* 36 (1983), 486.

[123] On this see J. M. Neeson, *Commoners: Common Right, Enclosure and Social Change in Common-field England, 1700-1820* (New York: Cambridge University Press, 1993).


RIVER HUMBER
The INGS 475 acres
MARSH
COW PASTURE 257 acres
HORSE PASTURE 200 acres
WEST FIELD 1490 acres
EAST FIELD 1890 acres
SOUTH FIELD 1190 acres
BARTON before Enclosure
COMMON WOLD
Warren Farm
OLD ENCLOSURES
RIVER HUMBER
BARTON -after Enclosure
WARREN FARM
OLD ENCLOSURE

Award map of the parish of Barton, enclosed in 1796. (Reprinted from Williamson, 2002)

Whatever the differences between its two phases, the legal and technical process of enclosure by act were similar. An enclosure began with an exchange of letters or an informal meeting between landowners in a parish; a majority was needed in order for an enclosure to proceed. Though fourth-fifths approval among these owners was typically required, in parishes with few men of property this might mean only three or four people.[124] Once an agreement to enclose the land of the parish had been reached, a petition was drafted in which the owners requested the right to introduce a bill of enclosure in Parliament. Upon passage of this bill, an enclosure commissioner and surveyor were appointed by Parliament or sometimes by the landowners themselves, leading to many accusations of conflicting interest that were exacerbated by commissioners' fees, calibrated to the duration of the enclosure process.[125] These 'gentlemen of good standing' or 'quality men' have thus 'not always received a good press, either from contemporary observers or modern scholars.'[126] Yet the modern historian G. E. Mingay has argued that they were generally 'honest and upright, and as fair as circumstances allowed.'[127]

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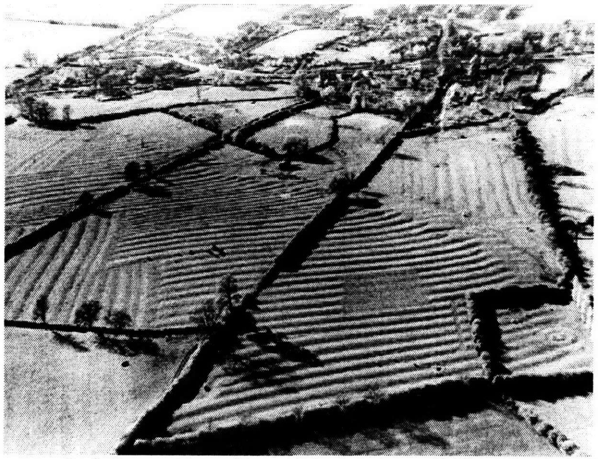
[124] Jan Crowther, *Enclosure Commissioners and Surveyors of the East Riding* (Beverley: East Yorkshire Local History Society, 1986), 9.

[125] Crowther, *Commissioners,* 26.

[126] Crowther, *Commissioners,* 21.

[127] G. E. Mingay, *Parliamentary Enclosure in England: An Introduction to its Causes, Incidence, and Impact* (London: Longman, 1997), 81.



Early nineteenth-century hedges crossing selions of former open fields. (Reprinted from Williamson, 2002)

When these appointments had been made, the surveyor recorded the topography and existing boundaries of the parish that was to be enclosed.[128] It was on this brand new survey, rather than older terriers, that the commissioners based the allotment, whose lines were determined in a meeting that often lasted several days. Many of these meetings took place miles away from the parish itself—particularly when local sentiment ran high.[129] The awards were drawn up on a plan used to stake out the new parcels. Owners were given between three and nine months to implement their allotments with fences, hedges, or walls; those who failed to do so—even if they had opposed the enclosure—were subject to heavy fines. There was little choice about the material of these new boundaries: owners were given 'precise instructions as to where and how they should fence their land, usually with posts, rails and hawthorn sets on two sides of each allotment.'[130]

This requirement created an immediate demand for vast quantities of fencing materials. Awards therefore generally stipulated the minimum necessary in order to demarcate parcels quickly. Hedge composition was simplified to the 'two hawthorn sets' mentioned above; the explosion of demand for this one species created a nursery industry in northern England and Scotland almost overnight.[131] Thus as enclosure shattered traditional livelihoods, the marking of its boundaries yielded both new spheres of production and new demand for wage labor. Indeed, many landowners hired their own dispossessed tenants to plant hedges and set stone. Such labor intensive methods yielded over time to cheaper and quicker devices, including—in late enclosures—the new technology of barbed wire.[132]

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[128] Crowther, *Commissioners,* 10.
[129] Crowther, *Commissioners,* 10.
[130] Crowther, *Commissioners,* 11.

Typical later enclosure road and wall near Kirby Stephen in Cumbria. (Reprinted from Whyte, 2003)

The boundaries of allotments frequently coincided with new roads designed to improve producers' access to urban markets. Up to thirty yards wide and lined on either side by generous verges, these roads often occupied large segments of former common land.[133] Paving them with the new method developed by John Loudon MacAdam created another job for tenants bereft of sustenance: that of stone-breaker.[134] Simplification in the structure of the boundary translated into rationalization in the larger landscape. Particularly during later phases, the demand for ease of survey, layout, and construction yielded a 'painfully regular geometry' of long, uniform walls, hedges, and roads; shifts in direction were often abrupt, and right-angle bends common.[135] The result was what the historian

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[131] William Hoskins, *The Making of the English Landscape* (London: Hodder and Stoughton, 1988 [1955]), 145.
[132] Whyte, *Transforming*, 68.
[133] Whyte, *Transforming*, 72-73.
[134] Hoskins, *Landscape*, 153.
[135] Whyte, *Transforming*, 1.

Oliver Rackham famously dubbed 'planned countryside,' a landscape of 'wide views, sweeping sameness, and straight lines.'[136]

For many, these details and larger patterns symbolized the social and economic disruptions of enclosure and the wresting of the practice of allotment from local communities. While 'improvers' like Arthur Young saw in quickset hedges and straight roads the lineaments of 'thriving industry,' the new boundaries of the landscape were seen by opponents of enclosure as the embodiment a brutal economic order imposed from afar.[137] John Clare, whose identification with the anti-enclosure movement has eclipsed his poetry, described how traditional patterns of movement (both human and animal) were disrupted when ancient rights-of-way, many established by centuries of use, were blocked by 'owners' little bounds':

> These paths are stopt—the rude philistine's thrall
> Is laid upon them and destroyed them all
> Each little tyrant with his little sign
> Shows where man claims earth glows no more divine
> But paths to freedom and to childhood dear
> A board sticks up to notice 'no road here'
> And on the tree with ivy overhung
> The hated sign by vulgar taste is hung
> As tho' the very birds should learn to know
> When they go there they must no further go...[138]

For Clare and those like him the increasingly subdivided landscape of the early nineteenth century expressed not so much the impositions of political authority as a new—and implicitly unnatural—economic order. As the novelist and critic Raymond Williams wrote: 'The many miles of new fences and walls...were the formal declaration of where the power now lay. The economic system of landlord, tenant and laborer, which had been extending its hold since the sixteenth century, was now in explicit and assertive control.'[139] Decisions about where boundaries would run, and what form they would take, lay in the hands of an ever-narrower group.

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[136] Oliver Rackham, *The History of the Countryside* (London: J . M. Dent, 1986), 4-5.

[137] Arthur Young, *General View of the Agriculture of the County of Lincoln* (London: W. Bulmer for G. Nicol, 1799). Cited in Hoskins, *Landscape*, 159-160.

[138] John Clare, 'The Moors.' In *I Am: The Selected Poetry of John Clare* (New York: Farrar, Strauss and Giroux, 2003), 91.

[139] Williams, *City*, 107.

And yet: however ruthless they appeared to contemporaries—and however relentless they still appear to some landscape historians—the boundaries of parliamentary allotments were nevertheless intimately connected to particular places and people. In the aftermath of an award, landowners overseeing subdivision of their holdings might be exposed to ongoing harassment and grumbling of tenants whose 'paths were stopped' by new hedges and fences. In some parishes, the materials for these boundaries were burned or stolen from the fields before they could be assembled. One of the best known cases of such resistance was at Otmoor in Oxfordshire, where the enclosure conflict went on for nearly fifty years—from the 1780s to the 1830s—fanned by an iconoclastic earl who supported the cause of his tenants.[140] But even where enclosures went uncontested, commissioners often accommodated cultural and natural conditions.[141] The reasons lay less in respecting custom than in restricting cost.

Whatever its depredations, parliamentary enclosure was molded to a peopled landscape. While it presaged capitalist agriculture, it also looked backward toward practices of division that had marked older civilizations. Like the Roman or the Babylonian boundary stone, the enclosure hedge or wall bore the imprimatur of state power and the economic order it promoted. However 'modern' their layout and construction, they remained tangible things whose material reality was inextricable from that order. Parliamentary enclosure only faintly reflected the program of subdivision emerging in England's liberated colonies. Here, as the residents of Otmoor broke fences and burned posts, the founders of a new country were laying the groundwork for territorial allotment on a scale that would dwarf the commissioners' work—and every other project of land division before it.

Enlightened allotment. Early surveys and charters of the colonies in America suggest continuity with medieval 'metes and bounds,' or the recording of land in terms of tangible objects. A 1735 allotment survey in the town of Scarborough, Massachusetts read:

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[140] David Eastwood, 'Communities, Protest and Police in early Nineteenth-Century Oxfordshire: The Enclosure of Otmoor Reconsidered.' *Agricultural History Review* 44:1 (1996), 38.

[141] Crowther, *Commissioners,* 21.

> ...beginning at the Foot of the Gulley below his House and running three hundred and twenty Pole North Five Degrees West to Red Oak marked AB. then running Eighty three Pole East Five Degrees North to a Spruce Tree markd AB then running South three hundred and twenty Pole to a Pitch Pin markd then running Fifty Poles West and by South which makes up the one hundred & thirty four Acres...[142]

This account suggests that even as new tools like the magnetic needle were adopted, surveys remained grounded in the existing conditions of inhabited places. The 'red oak' and 'spruce' were not only markers of a boundary: they were practically and ontologically identical to it. The loss of a marker meant a change in the boundary.

Yet outside the early settlements of New England and Virginia, the division of land in America rapidly took on characteristics distinct from its European counterparts. Though among the largest nations in the world on its founding, the United States was also a country of ill-defined boundaries, 'strained in coherence and constricted and unsatisfied in geographic position.'[143] The 'need to subdivide huge areas of land into new constituent geopolitical units' was a pressing problem in the early decades of the nation's existence.[144] This demand went beyond mere physical definition of land: what was needed was a system of territorial organization that would transcend the vagaries of medieval practice and provide the structure within which the new American polity would develop. The result was the largest program of systematic allotment in history—and a quantitative and qualitative break from its predecessors.

The day after Virginia's claim on land northwest of the Ohio River was ratified in 1784, the Secretary of Congress appointed a five-member committee, chaired by Thomas Jefferson, to 'devise and report the most eligible means of disposing of such part of the Western lands as may be obtained of the Indians by the proposed treaty of peace and for opening a land office.'[145] The states of Massachusetts and New York had already begun the process of dividing their annexed territory into square townships oriented along the cardinal points of the compass. 'The old reliance on natural edges and shapes passed' as lines of allotment ran over existing topography and native settlements. Surveyors projected township and lot boundaries only: 'everything else—roads, meetinghouse locations, and schoolhouse sites—they left to the residents.'[146] The territorial subdivision was the empty receptacle for new communities.

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[142] H. W. Richardson ed., *York Deeds* vol. XVII (Bethel, ME, 1903-1910), 260. Cited in William D. Pattison, *Beginnings of the American Rectangular Land Survey System, 1784-1800* (Chicago: University of Chicago Press, 1957), 80.

[143] D. W. Meinig, *The Shaping of America* vol. 2 (New Haven: Yale University Press, 1993), 4.

[144] Meinig, *Shaping*, 432.

[145] *Papers of the Continental Congress* CLXXVI, 151. Cited in Pattison, *Beginnings*, 3.

The committee was charged with adapting these methods on a continental scale. Convinced of the advantages of the decimal system by his experience designing the national currency, Jefferson proposed dividing the lands west of the Appalachians into 'hundreds,' or ten-mile-square townships subdivided into 100 lots of 850 acres apiece.[147] Like their antecedents in New York and Massachusetts, the boundaries of these subdivisions would follow the compass. Each township was to have a justice, constable, militia company, and school, and to serve as an election district; allotment was the precondition of the agrarian republic Jefferson envisaged.[148] But this product of Enlightenment rationality did not correspond to tools inherited from England—particularly Gunter's chain—and it was rejected when put before Congress. The committee modified and resubmitted Jefferson's proposal, which was passed into law the following spring. While it left in place the principle of square divisions oriented to the compass points, the Land Ordinance of 1785 replaced Jefferson's hundreds with six-mile square, 640-acre 'sections' or 'townships' subdivided into thirty-six mile-square 'lots.' These lots were numbered 1 to 36 in boustrophendonic order, or 'as the plow follows the ox.'[149] In the center of each township, the sixteenth lot was reserved for generating income for public schools.[150]

As noted earlier, the magnetic needle had been in use since the seventeenth century. Yet it was one thing to use a compass to lay out hedges or walls in a field; it was another to use the same device to project hypothetical boundaries over an entire continent. As one early historian noted: 'It was a wholly new thing to use parallels and meridians for bounding [land divisions] uniformly over a great area regardless of the topography of the country.'[151] Jefferson instructed surveyors to 'pay due and constant attention to the variation of the magnetic meridian, and...run and note all lines by the true meridian, certifying with every plat what was the variation at the time of running the lines thereon noted.'[152] By extending the line of Mason and Dixon for a distance of twenty-two miles to the southwest corner of Pennsylvania in the summer of 1784, several commissioners had demonstrated that 'infinite prolongation' was practically possible along lines of latitude.[153] But there was an obvious contradiction in imposing meridians on a vast curved surface: their convergence at the poles. As the future Secretary of State Timothy Pickering noted to Congress, 'a difference of six hundred yards in ten miles must surely produce material errors.'[154]

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[146] John Stilgoe, *Common Landscape of America 1580-1845* (New Haven: Yale University Press, 1982), 101-102.
[147] Stilgoe, *Landscape*, 102-103.
[148] Pattison, *Beginnings*, 45.
[149] Stilgoe, *Landscape*, 103.
[150] Pattison, *Beginnings*, 96.

Abstract geometry prevailed over these practical concerns, which had to be resolved by staggering north-south boundaries at regular intervals.[155] The unprecedented scale and detachment from topography of this system distinguished American allotment from its predecessors. Yet as its section dimensions and atavistic lot numbering system illustrate, the 1785 ordinance was moulded by the tools and practices of earlier centuries. These practices did not vanish all at once. Even in contemporary subdivisions in individual states, older ways of thinking about land and boundaries persisted: while prescribing tracts of 'right Lines, running East, West, North and South,' a 1777 allotment in North Carolina also allowed for 'the use of natural boundaries as an alternative way of establishing readily verifiable limits' in the landscape, exempting parcels adjacent to prior grants or navigable waterways. By contrast, the national law allowed no such exceptions.'[156]

The committee was divided on the question of how to distribute sections and lots. Though this may seem a procedural matter, it speaks to an ongoing tension in American culture between political constitution and land alienation. The disagreement arose between proponents of selling individual lots and advocates of granting entire townships. Support for sale came from Southern states, while grants were the preferred method of the delegation from New England. These positions were grounded in the different methods of political foundation among the colonies. In New England individual lots could only be alienated by a group of settlers with title to an entire township. Southerners were wary of any method where land was disbursed 'rough as it runs'—good and bad lots together. By contrast, New England delegates worried that sale of individual parcels would 'destroy all those inducements to emigration which are derived from friendships, religion and relative connections.'[157] Though the final law stipulated a compromise in which type of disbursement would alternate by township, continuous reduction in the size of alienable lots through the nineteenth century gradually enshrined the southern system.[158]

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[151] Amelia C. Ford, *Colonial Precedents of Our National Land System as It Existed in 1800* (Madison: University of Wisconsin Press, 1910), 62. Cited in Pattison, *Beginnings*, 59.

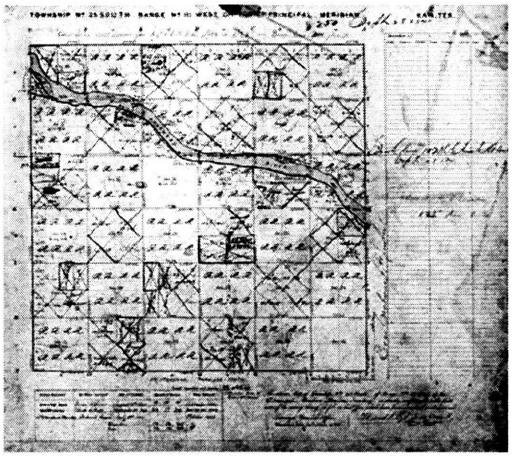
[152] Boyd ed., *Papers of Thomas Jefferson* VII, 141. Find rest of reference. Cited in Pattison, *Beginnings*, 77.

[153] Pattison, *Beginnings*, 20-21.

[154] Octavius Pickering, *The Life of Timothy Pickering* vol. I (Boston: Little, Brown, and Company, 1867), 507. Cited in Stilgoe, *Landscape*, 103.

[155] Pattison, *Beginnings*, 54.

[156] Pattison, *Beginnings*, 51.



Township and lots along the Arkansas River in Kansas territory, 1871. (Reprinted from White, 1991)

The problem of disbursing lots was remote compared to the question of how to mark their boundaries. Members of the commission foresaw settlement of the land beyond the Appalachians as an orderly process in which indigenous people would yield to a prosperous republican society of migrants.[159] In this vision the surveyor preceded the settler. Yet surveyors were often among the last people to arrive in a place, heralded by years or even decades by squatters. By the time the surveyor staked out allotments the landscape was thick not just with indigenous people but with migrants on parcels hastily marked by shacks or scrawny fences; footpaths wandered among the holdings without regard to legal division.[160] Against these lines surveyors beat down the faint grid that would become highways; by the late nineteenth century roughly four-fifths of lot boundaries lay on a road.[161] Defiance of these boundaries was a matter of great political tension in the early nineteenth century. On one hand, New England Whigs saw squatters as 'lawless vagabonds' who threatened to undermine the communities the ordinance was designed to create.[162] On the other, Democrats and westerners such as the senator Thomas Hart Benton saw squatters as the vanguard of Jefferson's agrarian republic, proudly blazing the trail of civilization without regard to minor matters like title. In 1841, the second camp won passage of a 'permanent preemption act' guaranteeing squatters first purchase rights to the section in which his 'improvements' happened to lie.[163]

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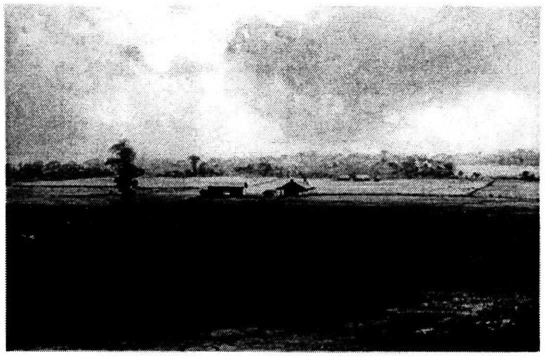
[157] William Grayson to George Washington, 15 April 1785. Cited in Pattison, *Beginnings,* 93.

[158] Stilgoe, *Landscape,* 104.

[159] White, *Misfortune,* 138.



Split rail fences delimiting square fields on the Illinois frontier, watercolor by Karl Bodmer. (Reprinted from Meinig, 1993)

The problem of marking boundaries increased through the nineteenth century and reached a height after the 1862 Homestead Act. The sheer size of the quarter-section, whose perimeter ran two miles, made fencing an ongoing worry. Yet marking boundaries was not only a matter of staking out the perimeter of a claim: internal fences were the *sine qua non* of good husbandry.[164] As one farmer's manual put it: 'Wherever a farm may be located, or whatever may be its production, *fence, fence, fence,* is the first, the intermediate, and the last consideration.'[165] This consideration took on new dimensions as settlement led to shortage. 'More and more anxiously every year now,' one journalist noted, 'are improved methods for fencing inquired for, whereby to lighten the labors and lessen the expense of enclosing the farm and protecting the crops.'[166] But if marking limits was difficult in the humid midwest, it was nearly impossible in the vast dry regions beyond the Missouri River. Only in the last decades of the nineteenth century would these boundaries be marked with a mass-produced material that would alter forever the shape and meanings of American enclosure. That process is described further in the next chapter.

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[160] Stilgoe, *Landscape,* 105.
[161] Norman Thrower, *Original Survey and Land Distribution: A Comparative Study of the Form and Effect of Contrasting Cadastral Surveys* (Chicago: American Institute of Geographers, 1966), 95.
[162] White, *Misfortune,* 139.
[163] White, *Misfortune,* 139.

IV Territory Triumphs

Whether at the level of civilization or village, dividing the land has always served one main purpose in human societies: to control the ways people inhabit and move across the surface of the earth. Yet beyond this first function, the forms and meanings of division are neither stable nor straightforward over time. Delimiting land always took place in the context of distinct social, political, and ecological conditions: the Nile flood, Roman religion, the agriculture of the Middle Ages.

In modern times allotment has gone from practice grounded in human and natural topography to a pervasive and simplified vision of the world. This change can be understood in terms of the increasing importance of territory in modern capitalist society, or what the geographer Robert Sack has called the shift from 'social definition of territory' to 'territorial definition of social relationships.'[167] Because territory is as old as human settlement, the basic properties of 'territoriality' are consistent through history. Sack lists three of these properties as 'logically prior' to all others: classification, communication, and enforcement. Territoriality identifies a piece of land with people and things; discloses extent with a physical boundary; and restricts entry by means of sanction. It tends to be impersonal, 'obfuscating' relationships between holders of territory and the people or groups whose movements are curtailed.[168] These aspects of territoriality have been part of dividing the land since the earliest civilizations. But while division has always limited human movement, in the Renaissance it began to limit human relationships.

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[164] Clarence Danhof, 'The Fencing Problem in the Eighteen-Fifties.' *Agricultural History* 18:4 (1944), 169.

[165] Edward Todd, *The Young Farmer's Manual* 57 (1860). Cited in Danhof, 'Fencing,' 169.

[166] *Indiana Farmer* 7 (1858-9), 171. Cited in Danhof, 'Fencing,' 169.

[167] Sack, *Territoriality,* 36.

The parliamentary enclosures—a modern territorial project in an ancient landscape—demonstrate that there was no single moment when 'socially defined territory' yielded to 'territorially defined society.' Even in early New England, territory was subordinate to community relationships. It was only with the wholesale division and alienation of the new United States that territorial units became the abstract frame to which social, economic, and political interactions were bent. To lay out such a frame was to assume a *vacuum domicilium*—land devoid of human content. 'From the very beginning,' Sack writes, 'Europeans appeared to be employing territoriality to a significant degree abstractly. The conditions the New World presented were so different from previous cases of territorial expansion that the old formulas were forced to have new twists... [What] stands out so starkly is the abstract geometrical nature to the claims of sovereignty over area. These claims appear to be the natural precondition for clearing a place for community and authority and for molding further and more specific social organizations. In its scale and intensity, no less than in its conception, this approach...points to an explicit and intense territorial definition of social relations.[169] The weakened bond between projecting divisions and the land itself was finally broken. Land became merely the 'background for the occurrence of events, a background... described abstractly and metrically.'[170]

The United States was the first modern society where territorial difference was established without objects—where dividing the land was split between law and form. The legacy of this change runs in a thick vein through the landscape today: the physical boundary is the servant of legal and political abstraction, hasty expression of territorial right in a world where the distance between land and money is slight. Yet at the same time another, equally powerful idea of allotment persists: as the frame for the community and polity that Jefferson foresaw and the New England delegates upheld. The tension between these two ideas haunts the walls and boundaries of the American landscape.

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[168] Sack, *Territoriality*, 41.
[169] Sack, *Territoriality*, 127.
[170] Sack, *Territoriality*, 38.

2 Enclosing the Land

To think of the wall and boundary as separate was impossible prior to the Renaissance. The previous chapter sketched how this idea arose as the link between land division and local conditions began to weaken in the sixteenth century. Yet even in places that appear to presage modern processes of subdivision, the break between ideas and things was not complete. In Rome, dividing the land and building walls were part of a single process rooted in traditional religious practices and the topographical and social conditions of conquered places. In England, the land commissioners charged with laying out new subdivisions worked in landscapes layered for centuries with people, things, and stories. It was only in the new United States that the link between legal boundaries and the material objects that marked them decisively broke.

If the first part of this essay sketched the beginnings of this break, the present chapter traces its legacy in the American landscape. It argues that while the origins of subdivision as abstraction lie elsewhere, nowhere have the tensions between such subdivision and real things played itself out in such distinct—and often troubling—ways and on so many scales. From the lot to the city to the nation, there is nothing recondite about these tensions: they are the stuff of everyday life. The aim of this chapter is to begin to see them in both history and the contemporary American scene.

The chapter is divided into five parts organized roughly by chronology. The first part examines one of the first devices that allowed legal subdivision and physical enclosure to be separated: barbed wire. Used throughout the American West by settlers and speculators, cattle barons and immiserated squatters, this simple invention was the first truly modern fence. The second part considers the tension between legal and physical division at the same time in a different place: the late-nineteenth century suburb. Many of the conventions of obscuring allotment boundaries—of naturalizing and camouflaging subdivision—were established at this time by the horticulturist Andrew Jackson Downing and his followers. These conventions would have far-reaching consequences for the American environment in the twentieth century. The third part sketches these consequences a century later in what the architect Peter Rowe (among others) has called 'the middle landscape'—the vast suburban subdivisions built after 1945. Here tension between the concealment and revelation of boundaries can be read in a distinctly American form of enclosure: the parcel split between open and closed halves. The fourth part moves to a higher scale of enclosure nearer the present, beginning with a widespread form of settlement—the gated community—whose encircling walls have changed the shape of American cities in the last thirty years. It then considers an apparently opposite phenomenon: concealment of physical barriers in order to enforce 'security' in the modern city. Finally, the fourth part moves to the larger enclosure of the nation, and to the question of how—or whether—the political boundary of the United States should take shape. The impassioned debate surrounding this question reflects tensions that have lain at the heart of American culture from an early stage. The last part of the chapter argues that these cases embody a central problem: an impoverished notion of how real walls can or should perform in the American landscape. The chapter therefore concludes with a call for alternative models—the subject of the last chapter of this essay.

I The Devil's Rope

From the earliest stages of American expansion, demarcation of allotments was a continuing problem. Even in areas with sufficient timber, 'the fencing question' was a matter of pressing public concern. Like their medieval predecessors, most first-era towns had fence laws; New England even preserved the public office of a 'fence viewer' appointed to inspect walls and gates and levy fines where necessary.[1] Most regulations in the eastern United States concerned fences along roads and property lines, but local custom also 'required that the farm be divided into a number of fields, each one fenced.'[2] Some critics held that requirements for division within a single holding led to the shortages in materials that marked even timber-rich communities as the frontier grew thick with settlers.[3]

But if such problems were a nuisance in forested regions, they assumed far greater significance on the arid and treeless High Plains and West. Here, for much of the nineteenth century, Jefferson's vision of land allotment as the mechanism for founding new communities remained little more than an idea. The reality on the ground was a confusing and ever-shifting patchwork of squatters' claims alternating with swaths of territory controlled by Eastern cattle interests. Even where small owners held legal title there was no way to prevent herds of livestock from fanning out over the landscape. The unfenced range gave rise to the northward cattle drives of the 1870s and 1880s, toward distribution centers at railroad heads, like Abilene, Kansas, whose culture of violence and lawlessness have entered into American myth.[4]

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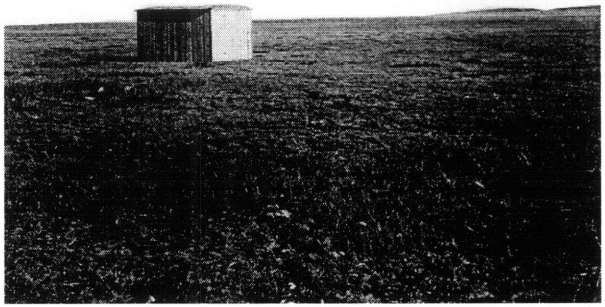
[1] Stilgoe, *Landscape,* 192.
[2] Danhof, 'Fencing,' 178.
[3] Stilgoe, *Landscape,* 192.
[4] White, *Misfortune,* 222.



A claim shack on the western range. Such fraudulent 'enclosures' were common after the passage of the Homestead Act. (Reprinted from White, 1991)

The Homestead Act of 1862, which granted settlers title to a 160-acre parcel of land (one quarter of the 640-acre sections laid out by the 1785 ordinance) if they remained on and improved it for five years. Designed to encourage the disbursement of western allotments nearly a century after they were laid out, the Homestead Act was consistently undermined by the lack of cheap and plentiful material with which settlers could protect claims against marauding herds. In their turn the cattle barons concocted their own fraudulent 'improvements' that fulfilled the letter, but not the spirit, of the law.[5] 'Fencepeace' remained an elusive dream. Yet even at the height of the cattle drives, a deceptively simple device was changing the balance of power on the western range.

Many settlers had tried to make fences out of steel wire in the 1860s, but these fences were prone to sagging in the summer heat and breaking in the bitter Plains winter. More important, early wire fences 'had no terror for the livestock of the open range; they loosened the posts and broke the wire by constantly rubbing against it.'[6] As early as 1860, the French inventor Léonce Eugène Grassin-Baledans had thought about how to remedy these defects, conceiving a 'system of twisted iron' that might be used for 'everything that ought to be enclosed or fenced.'[7] As a consequence of growing need for fencing materials in the West, the 1860s saw a flurry of attempts in both the United States and France to improve the durability and 'terror' of wire fencing. These efforts culminated in the first patents for wire with 'thorns,' those of William D. Hunt in New York and Gilbert Gavillard in France, taken out within a month of each other in 1867.[8]

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[5] White, *Misfortune*, 143.

[6] Earl W. Hayter, 'Barbed Wire Fencing: A Prairie Invention: Its Rise and Influence in the Western States.' *Agricultural History* 13:4 (1939), 189-190.

[7] Alan Krell, *The Devil's Rope: A Cultural History of Barbed Wire* (London: Reaktion Books, 2002), 13.

Shortly after took out his patent, Hunt sold it to one Charles Kennedy of Hinckley, Illinois, a small town on the edge of the Plains. This was probably the avenue by which the inventor of modern barbed wire, J. F. Glidden of nearby DeKalb, conceived a method of improving upon Hunt's idea. Early barbed wire had been suffered from an important problem: the tendency of the barb to slip on the wire.[9] In 1874 Glidden patented a modification of Hunt's invention where two wires were intertwined and the barb fixed firmly in place. He quickly sold a half interest to a local hardware dealer, Isaac Ellwood, and the two began producing several thousand pounds of wire per year.

Because it was exceedingly simple, barbed wire was easy to manufacture—literally by hand. Given a small amount of capital 'almost anyone' could start a barbed wire business.[10] This simplicity and low cost resulted in rapid growth in production during the final decades of the nineteenth century. The center of the industry was the upper Midwest, close to the railroads needed to distribute the new material. By 1883, 'local publications referred to at least 13 different concerns in the immediate vicinity of DeKalb.'[11] Chicago and Joliet had eight factories apiece in the same year, and St. Louis had eleven three years later.[12] Exploding production—from 80,000 tons between 1880 and 1884 to over 157,000 tons in 1895 alone—led to a drastic fall in price. Twenty cents per pound when production began in the 1870s, barbed wire had fallen to two cents per pound by 1893. Within the space of a only several years it had become possible to fence vast territories with minimal effort at low cost. This ease of enclosure encouraged migration under the Homestead Act, which in its turn drove ever-increasing demand for more wire. This demand was heightened by the shrinking size of lots. 'Farms were becoming smaller in size as the population increased, and this in turn increased the demand for wire; for, as the size of the enclosure decreased, the number of rods of fence per acre increased.'[13] By the 1890s a single settler could enclose a field with a three-wire fence at a cost of about 150 dollars per acre, or less than half that of boards and pickets.[14] The barbed wire enclosures of isolated farmsteads often became the parcels of new cities within a few years.

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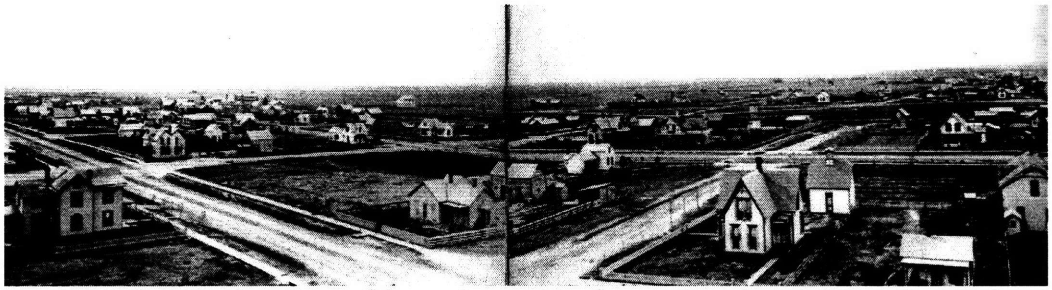
[8] Krell, *Rope*, 19.
[9] Olivier Razac, *Barbed Wire: A Political History* (New York: New Press, 2000), 6.
[10] Hayter, 'Fencing,' 191.
[11] Hayter, 'Fencing,' 191.
[12] Hayter, 'Fencing,' 191.



A vivid illustration from Kansas of the seamless transition from rural to urban subdivision. (Reprinted from Kostof, 1992)

Wall as weapon. But cheap and plentiful fencing hardly resulted in orderly incarnation of the legal divisions of 1785. Instead, barbed wire led to the opposite: a frenzy of enclosure as smallholders and speculators battled to mark territory. As settlers staked claims on the eastern Plains, they pushed westward 'stockmen' who in their turn used barbed wire to secure remaining open lands without regard to legal title. The conflict between smallholders and cattle interests led to widespread fence-cutting, which in several cases caused local 'wars.'[15] Thus 'barbed wire not only aided [the] small farmer to gain a foothold in the Great Plains; it enabled the cattleman as well to secure and hold range land for his herds.'[16]

The result of this conflict was a social and physical landscape where fencing was used as weapon for asserting territorial control. Legal boundaries meant little as 'barbed wire was thrown up everywhere, irrespective of titles, roads, or laws.'[17] While few were guiltless, the exasperated

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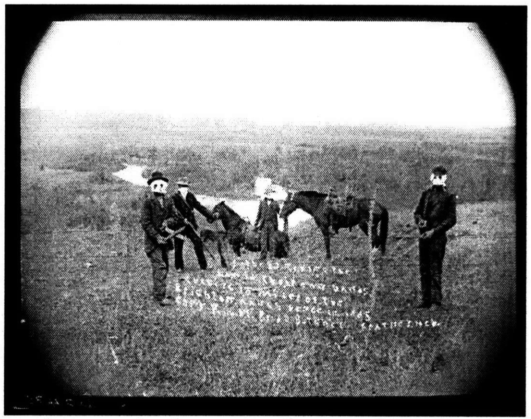
[13] Hayter, 'Fencing,' 194.
[14] Hayter, 'Fencing,' 195.
[15] White, *Misfortune,* 385.
[16] Hayter, 'Fencing,' 196.

Commissioner of the General Land Office reserved special ire for the cattle barons and their local proxies. 'It is doubtful if the world has ever witnessed such criminal prodigality,' he wrote. 'Whole counties have been fenced in by the cattle companies, native and foreign, and the frauds that have been carried on by individuals on a small scale are simply innumerable.'[18] Barbed wire fences were widely destroyed in the 1880s and 1890s by both large and small owners. The drought of 1883 'forced small landholders finally to recognize that streams and water-holes, once open to all, were now enclosed'—the subject of Mollie E. Moore Davis's novel, *The Wire Cutters.*[19] Wire cutting 'found its way to the fireside of every home, [where] the grievances [*sic*] of the lawless element of the communistic fence-cutters were held up in glowing colors.'[20]



'Settlers taking the law in their own hands—cutting fence on old Brighton Ranch,' 1880s. (Library of Congress)

Given the extent of its use, it is striking just how few advocates barbed wire appears to have had. While Arthur Young and other 'improvers' saw beauty in the subdivided landscape created by hedging and fencing, barbed wire attracted the fury of large and small landowners alike, acquiring the menacing moniker 'devil's rope'.[21] The first saw it as the device used by small claimants to destroy the

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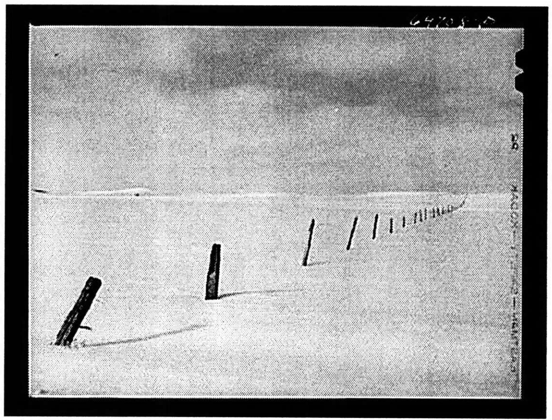
17 Hayter, 'Fencing,' 203.
18 *Democratic Leader* [Cheyenne], 10 December 1885. Cited in Hayter, 'Fencing,' 203.
19 Krell, *Rope,* 39.
20 *Galveston Daily News,* 13 December 1885. Cited in Hayter, 'Fencing,' 204.
21 Krell, *Rope,* 39.

ranching economy; the second viewed it as the tool of absentee owners to keep out 'nesters.'[22] And the benefits of barbed wire for both were frequently offset by its tendency to trap cattle during storms. Yet this property also made barbed wire useful for eliminating bison, whose remaining range it turned into a 'killing factory' where animals trapped in a mazes of wire were picked off by rifle. The result was the destruction of 5.5 million animals in the 1870s alone.[23] The cruelty of barbed wire—perceived only when it killed domestic livestock—led many states to ban its use in the early years of its existence.[24] It also yielded refinements in which subsequent inventors used smaller barbs and entwined wood blocks in the wire to increase its visibility to animals. 'Within five years,' the historian Henry MacCallum wrote, 'the types of barbed wire which were plainly "vicious" gave way to newer types of "obvious" wire.'[25]



'Stark Country, North Dakota. Barbed wire fence poles.' Taken by Farm Security Administration photographer John Vachon in 1942. (Library of Congress)

But 'bristling barbs' did not only affect animals: draping thousands of miles of wire across the western American landscape also changed the patterns of human movement. Since barbed wire might be unrolled *ad infinitum* without gates or openings, it was more disruptive than the Parliamentary enclosures despite the sparsely peopled landscape where it was used. Its effect—from the settler's standpoint, is benefit—was greatest in pacifying indigenous tribes by blocking access to hunting grounds.[26] Barbed wire 'made the Indians' geographical and social environment hostile to them, so that it became a foreign territory where the tribal way of life was unimaginable… It created the conditions for the physical and cultural disappearance of the Indian.'[27]

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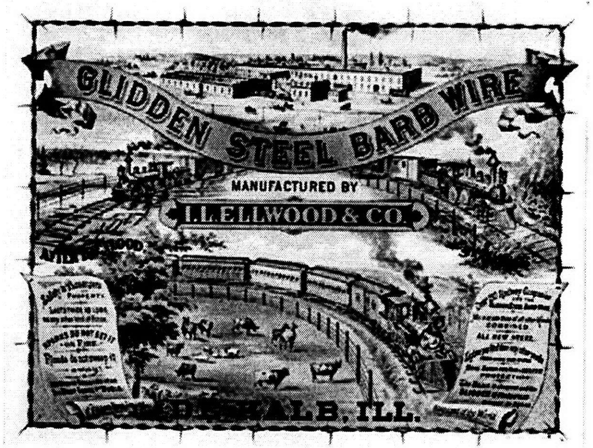
[22] Hayter, 'Fencing,' 196.

[23] Reviel Netz, *Barbed Wire: An Ecology of Modernity* (Middletown: Wesleyan University Press, 2004), 13.

[24] Hayter, 'Fencing,' 193.

[25] Henry D. and Frances T. MacCallum, *The Wire that Fenced the West* (Norman: University of Oklahoma Press, 1965), 138.

Yet barbed wire changed habits and practices even among recent settlers. Whereas before its invention people had tended to ignore surveyed paths and roads and cut across fields, new networks of fences 'compelled travelers to follow the roads.'[28] Yet barbed wire did not always follow roads: fences were often unrolled across rights-of-way, and 'the main highways were occasionally reduced to third-rate trails, since the fences compelled the traveller to open and close gates.'[29] Mail service was routinely disrupted by wire 'that stretched for miles across the plains irrespective of roads or trails,' and one writer suggested that indiscriminate enclosure threatened 'the cheering influences of Church & School' by preventing 'further settlement of the public domain.'[30] Another journalist called barbed wire and the absentee 'agrarianism' it symbolized 'a system of spoliation.'[31]


GLIDDEN STEEL BARB WIRE
MANUFACTURED BY
I.L. ELLWOOD & CO.
DE KALB, ILL.

Advertisement for 'Glidden Barb' from 1877. (Reprinted from MacCallum, 1965)

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[26] Krell, *Rope,* 38.
[27] Razac, *History,* 22.
[28] Hayter, 'Fencing,' 193.
[29] Hayter, 'Fencing,' 202.
[30] James Jenkins to H. M. Teller, Pratt County, Kansas, 26 May 1883. Cited in Hayter, 'Fencing,' 202.
[31] Galveston Daily News of 28 Nov 1882, p. 2. Cited in Hayter, 'Fencing,' 203.

These disruptions were a consequence of the greatest novelty of barbed wire: its capacity to appear suddenly and without trace of authorship in the landscape. What had once taken months or years could now occur nearly instantaneously: a new fence might rise literally overnight. This characteristic made barbed wire the handmaid of absenteeism. Though the cattle barons were the most notorious of these distant owners, the last decades of the nineteenth century saw more and more barbed wire unrolled by the other main landholder in the West: the railroads.[32] By 1881 railroads owned over 90,000 miles of track; states required linear grants to be fenced if the railroads 'expected to escape responsibility for damages.'[33] In an example of one technological system supporting and extending another, Ellwood reported selling 'Glidden Barb' to fifty-nine railroads in 1879 alone, and a single concern—the Western Fence Company of Chicago—was responsible for 'thousands of miles of wire fence, employing from four to five hundred men with their own equipment of sleeping and dining cars.'[34] Throughout the late nineteenth century railroads and barbed wire producers were prominent allied lobbies in Washington.

There was no precedent for the changes that barbed wire brought to land enclosure at the end of the nineteenth century. For the first time a single device could embody the political subdivisions laid out a century before. In the space of only two decades, More's 'single fence' became landscape reality across large stretches of the West. The material shortages of earlier decades gave way to boundaries of 'indefinite prolongation'—though not always along the surveyor's lines. What had once required hard and long effort could now be accomplished though a market transaction, a spools of barbed wire were sold directly off train cars. The result was a landscape where physical boundaries began to take on the characteristics of the other systems (like the railroad) coming to dominate the American economy and landscape. Unlike any wall before it, barbed wire was produced in one place for use hundreds or thousands of miles distant.

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[32] Krell, *Rope*, 27.
[33] Hayter, 'Fencing,' 194.
[34] Hayter, 'Fencing,' 195.

Barbed wire presaged the fencing 'systems' that crisscross the American environment today. Though first unrolled by settlers to demonstrate 'improvement,' the invention was of far greater utility as a means of efficiently asserting control from afar. As the critic Olivier Razac has recently written: 'Barbed wire was a step toward virtualizing spatial delimitation, because it favors the light over the imposing, speed over obstruction, transparency over opacity, the potential over the actual. But to virtualize control does not make it less real.'[35] Barbed wire was a means not toward the agrarian communities envisioned by Jefferson, but toward land grabs by people and institutions with access to material, transportation, and labor. If it promised physical expression of enlightened allotment, barbed wire also undermined the philosophical basis on which that allotment rested. The 'devil's rope' had its own fierce logic, a logic that embodied the vision not of Locke but of Hobbes. Marking the grid came down to a battle in which the wall was used as a weapon. Yet even as settlers and landowners fought for control over the range, tensions between legal boundaries and physical enclosure were finding expression in a very different environment: the new suburbs of America's exploding cities.

II Downing's Legacy

Like its counterpart in England, the industrialization of American society provoked what Alfred North Whitehead called a 'Romantic reaction.'[36] As the Transcendentalism of Emerson and Thoreau, this reaction runs through late nineteenth-century American culture. But its roots are older, reaching back to the 'pastoral ideal' that has 'define[d] the meaning of America ever since the age of discovery.'[37] That ideal is no less potent now than in past centuries.

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[35] Razac, *History,* 95.
[36] See Alfred North Whitehead, *Science and the Modern World* (New York: The Macmillan Company, 1967 [1925]), 75 passim.
[37] Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (New York: Oxford University Press, 1964), 3.

The present section considers how this 'sentimental and complex burden' took shape in the landscape of the early American suburb.[38] As speculative subdivision at the fringes of growing cities made the 'pastoral ideal' available to an unprecedented number of people, sustaining this ideal required new standards and conventions when it came to marking the edge of the lot. And no figure was more seminal for promoting these new standards than Andrew Jackson Downing, whose legacy is visible throughout the American landscape to this day.

Natural subdivisionalism. Despite his short life—he died at age thirty-seven in a steamboat fire—Alexander Jackson Downing left an indelible imprint on the American scene. Born in the Hudson River town of Newburgh, New York in 1815, Downing attended an exclusive boarding school where he learned to draw; this was the extent of his formal education. On the death of his father the sixteen-year-old took over the family nursery. In 1838 Downing married into the family of a wealthy land speculator with investments in railways and ferry lines.[39] Using capital from this alliance, he was able to build a Gothic revival house for himself and his wife on land inherited from his parents. From here Downing embarked on a meteoric career as a 'horticulturist' and arbiter of taste for the country's elite, among whom he counted many friends and solicited cash. Downing penned numerous treatises on the practice of gardening and 'rural architecture,' and was among the most active promoters of early suburbanization.[40]

Downing's central passion was the picturesque sensibility he had learned from the works of Uvedale Price, Richard Payne Knight, and John Claudius Loudon. In 1841 he published *A Treatise on the Theory and Practice of Landscape Gardening Adapted to North America,* a work heavily indebted to Loudon's *Suburban Gardener,* released just three years before.[41] Downing considered the ragged clumps of trees, narrow winding lanes, and turreted cottages of the picturesque well suited to the topographical conditions of the Hudson River Valley, which was slowly being carved into 'country places'—permanent rural residences for the well-to-do. Downing's *Treatise* was the first exposition of picturesque principles written for an American audience and American conditions, and it spawned scores of imitators in the years to follow. One of Downing's associates, Calvert Vaux, would go on to become the partner of Frederick Law Olmsted.[42]

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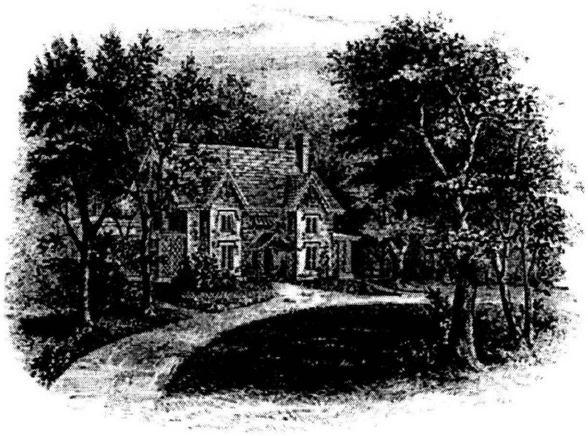
[38] Marx, *Garden,* 33.
[39] Dolores Hayden, *Building Suburbia: Green Fields and Urban Growth 1820-2000* (New York: Vintage, 2003), 26.
[40] Robert Fishman, *Bourgeois Utopias: The Rise and Fall of Suburbia* (New York: Basic Books, 1987), 123-124.
[41] Hayden, *Suburbia,* 26.



Andrew Jackson Downing, 'Mrs. Carmac's Residence,' 1844. (Reprinted from Major, 1997)

In his books and *The Horticulturist,* the journal he edited from 1845 until his death, Downing promoted a social and aesthetic vision of year-round country living. In landscape gardening, he wrote, 'we seek to embody our *ideal* of a rural home; not through plots of fruit trees, and beds of choice flowers...but by collecting and combining beautiful forms in trees, surfaces of ground, buildings, and walks, in the landscape surrounding us.'[43] Like his contemporary, the author and amateur architect Catherine Beecher, Downing tended toward a moralistic sentimentality that held up the 'simple cottage' and nuclear family as the prime repository of social value.[44] Against the industrialization rapidly transforming the landscape, Downing saw the rural plot as the refuge protecting family life from the disruptions of modernity. 'The family, whose religion lies away from its threshold,' he opined, 'will show but slender results from the best teachings, compared with another where the family hearth is made the central point of the Beautiful and the Good.'[45]

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[42] Fishman, *Utopias,* 124.

[43] Andrew Jackson Downing, *A Treatise on the Theory and Practice of Landscape Gardening, Adapted to North America; with a View to the Improvement of Country Residences* (New York: Orange Judd Agricultural Book Publisher, 1865 [1841]), 18.

[44] Hayden, *Suburbia,* 29.

This vision of family life in a pastoral landscape was accompanied by distaste for the American city. Though Downing recognized that it was 'needful in civilized life for men to live in cities,' he believed that 'in the United States, nature and domestic life are better than society and the manners of towns. Hence all sensible men gladly escape, earlier or later, and partially or wholly, from the turmoil of cities.''[46] This aversion was not only moral but aesthetic: Downing fervently opposed the 'mere rows of houses upon streets crossing each other at right angles' of most American cities, and excoriated the subdivider who 'covers the ground with narrow cells, and advertises to sell or rent them as charming rural residences' for extending the gridiron to the rural landscape.[47] Such opposition reflected Downing's more general disdain for geometrical form, which he inherited from his English forerunners. Of Versailles he wrote dismissively: 'Almost any one may succeed in laying out and planting a garden in right lines and may give it an air of stateliness and grandeur, by costly decorations.' By contrast, only the refined few could 'realize and enjoy the more exquisite beauty of natural forms.'[48]

Distaste for the shape of American subdivision hid a telling irony. If the city was a demonic machine that 'all sensible men gladly escape,' it was also the source of the clients on whom Downing's erratic income depended. The 'simple cottages' of the *Treatise* were far beyond the means of rural people and were scorned by the agricultural press, which 'dismiss[ed] their floor plans as inefficient and their cost as absurd.'[49] Downing's audience was not farmers but urbanites: it was precisely spatial and economic expansion of the city that fed demand for 'landscape gardening.' No less than the narrow lots against which he constantly inveighed, the 'country places' where Downing's clients settled were the product of speculative subdivision, their fate tied ineluctably to that of the city.

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[45] Andrew Jackson Downing, *The Architecture of Country Houses* (New York: D. Appleton & Co, 1851). Cited in Dolores Hayden, *Building Suburbia: Green Fields and Urban Growth 1820-2000* (New York: Vintage, 2003), 34.

[46] *The Horticulturist* III (1848), 10. Cited in Kenneth Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1985), 64.

[47] Andrew Jackson Downing, 'Our Country Cottages.' *The Horticulturist* IV (1850), 539. Cited in Jackson, *Frontier*, 65.

[48] Downing, *Treatise*, 12. Cited in Judith K. Major, *To Live in the New World: A. J. Downing and American Landscape Gardening* (Cambridge: MIT Press, 1997), 39.

[49] John Stilgoe, *Borderland: Origins of the American Suburb, 1820-1939* (New Haven: Yale University Press, 1988), 102.

One of the spheres in which this tension between economics and aesthetics found expression was the lot boundary, or the 'threshold' where the family refuge met the expanding city. Downing acknowledged that the landscape of early suburbs was growing ever more crowded; the question was therefore how to sustain the illusion of extent:

> Suburban villa residences are, every day, becoming more numerous; and in laying out the grounds around them, and disposing the sylvan features, there is often more ingenuity, and as much taste required, as in treating a country residence of several hundred acres. In the small area of from one half an acre to ten or twelve acres, surrounding often a villa of the first class, it is desirable to assemble many of the same features, and as much as possible of the enjoyment, which are to be found in a large and elegant estate.[50]

Setting up these 'features' demanded that other houses, neighboring properties, and public streets be concealed by artful planting. 'The grand object,' Downing wrote, 'should be to open to the eye, from the windows or front of the house, a wide surface, partially broken up and divided by grouped and masses of trees... In the more distant parts of the plantations will also appear masses of considerable extent, perhaps upon the boundary line, perhaps in particular situations on the sides.'[51] Such configuration 'where no boundaries are conspicuous, conveys an impression of ample extent and space for enjoyment.'[52] Often this meant hiding the infrastructure of streets that connected 'country places' to the city; thus in an 1850 editorial Downing commanded his readers: 'Thou shalt plant trees, to hide the nakedness of the streets.'[53]

The ideal of concealing the lot perimeter explains Downing's consistent antipathy toward fences, which he called 'among the most unsightly and offensive objects in our country seats... To fence off a small plot around a fine house, in the midst of a lawn of fifty acres, is a perversity which we could never reconcile, even with the lowest perception of beauty. An old stone wall covered with creepers and climbing plants, may become a picturesque barrier a thousand times superior to such a fence. But there is never one instance in a thousand where any barrier is necessary.'[54] While Downing acknowledged that 'it is frequently the case that, on the side of the house nearest the outbuildings, fences are, for convenience, brought in its close neighborhood,' he recommended that they be 'concealed by plantations.'[55] On the other hand, Downing was a fervent advocate of 'verdant hedges [which] are elegant substitutes for stone and wooden fences,' and voiced 'surprise that their use has not been hitherto more general.'[56]

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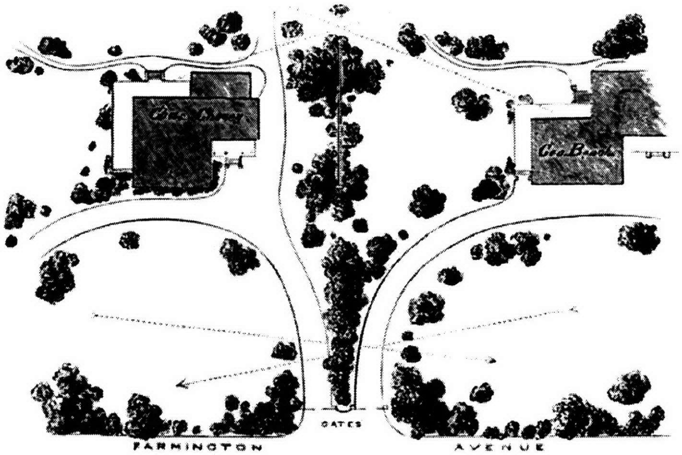
[50] Downing, *Treatise*, 96.
[51] Downing, *Treatise*, 87.
[52] Downing, *Treatise*, 87.
[53] Andrew Jackson Downing, 'Our Country Village.' *The Horticulturist* V (1850). Cited in Cynthia L. Girling and Kenneth I. Helphand, *Yard Street Park: The Design of Suburban Open Space* (New York: John Wiley & Sons, 1994), 49.



Plan for adjacent 'undivided pleasure grounds, the dotted lines showing the unobstructed views across the lawns.' (Reprinted from Weidenmann, 1870)

Downing's followers would continue to promote boundary concealment in the last decades of the nineteenth century, as more and more of the wealthy made their ways to the borderlands of American cities. Among the most important of these later popularizers was the Swiss immigrant Jacob Weidenmann. In *Beautifying Country Homes* Weidenmann called fences 'decidedly objectionable. When there is no necessity for a fence, do not build one to cut up the land, and define its limits to the spectators. Landowners would have the credit of owning more land than they really possessed could they do away with fences, which always make the property appear smaller than it is. Therefore, we prefer such fences as are least conspicuous, expect when something rich and tasteful is made.'[57] In a similar vein, Frank J. Scott, whose *Art of Beautifying Suburban Home Grounds* was dedicated to Downing and went through scores of printings, wrote that 'for country, or large suburban grounds, it is safe to say, except where hedges are maintained, that *that kind of fence is best which is least seen, and best seen through*... Our fences should be, to speak figuratively, *transparent.*'[58] Scott went on to suggest that 'fences formed of horizontal rather than vertical pieces are preferable; and the openings between the bars should be as wide as insurance against animals will permit... To unite strength, beauty, and "transparency," is the object to be gained.'[59]

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[54] Downing, *Treatise,* 295-296.
[55] Downing, *Treatise,* 295.
[56] Downing, *Treatise,* 296.

Where a fence was unavoidable, Weidenmann advocated the 'wire net-work' first produced on English textile looms in the 1840s.[60] 'Though little known at present in this country,' he promised, 'they will soon gain the favor they merit... Their durability, lightness, and little cost, place them above all others. Being almost imperceptible, they do not obstruct the view on ornamental grounds, while they possess all the desirable qualities of a good fence.' Weidenmann's prophecy would soon be realized, though perhaps not in the social context he imagined. Elevation of transparency to the highest aesthetic value also led Weidenmann to depart from his predecessor on the question of hedges, which he recommended 'only where unpleasant objects need to be kept out of sight... As the house ought not to be cramped in space, and should afford as liberal a view as possible, it is better to remove such things as require a hedge to cover them further away from the house.'[61] Scott agreed, going so far as to call hedges a kind of atavism: 'The practice of hedging one's ground so that the passer-by cannot enjoy its beauty, is one of the barbarisms of old gardening, as absurd and unchristian in our day as the walled courts and barred windows of a Spanish cloister, and as needlessly aggravating as the close veil of Egyptian women.'[62] The ancient link between fencing and civilization was broken.

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[57] Jacob Weidenmann, *Beautifying Country Homes: A Handbook of Landscape Gardening* (New York: Orange Judd and Company, 1870), 17.

[58] Frank J. Scott, *The Art of Beautifying Suburban Home Grounds of Small Extent* (New York: D. Appleton & Co., 1870), 51.

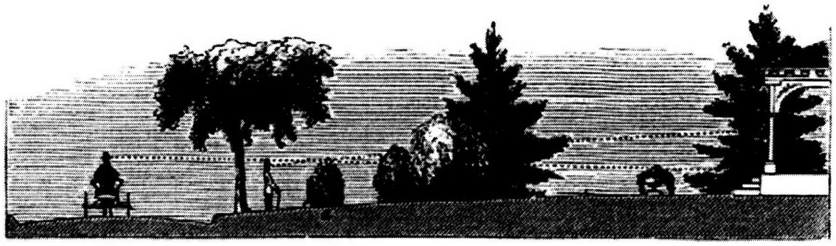
[59] Scott, *Grounds*, 52.

[60] Norfolk Record Office, 'Records of Barnards Ltd. of Salhouse Road, Norwich.' MS 23124. Accessed at 'nrocat.norfolk.gov.uk.'

[61] Weidenmann, *Beautifying*, 17.

[62] Scott, *Grounds*, 55.

Fig. 12.



Camouflaging the lot boundary. (Reprinted from Scott, 1870)

Gate and shrub. One of the earliest attempts to implement Downing's principles on a large scale was the exclusive suburb of Llewellyn Park, New Jersey. In 1852 the drug merchant Llewellyn Haskell purchased several large parcels above the Hudson River thirteen miles from Manhattan and on the new Delaware, Lacakwanna, and Western Railroad. The site's ravines, waterfalls, and views seemed to call for picturesque treatment. The picturesque also accorded with the religious sensibilities of the owner: Haskell belonged to a group known as the 'Perfectionists,' who believed that 'by correct living they might attain the prefect existence on earth.'[63] Haskell hired the architect Alexander Jackson Davis, author of the 1837 *Rural Residences* and a close friend of the recently-deceased Downing, to plan the first Romantic subdivision in the United States. Davis laid out large lots (the average size was over three acres), curvilinear roads that followed the topography, and a fifty-acre space—the 'Ramble'—to be left virtually untouched save for paths. The Ramble thus created the illusion of an undivided landscape even as private parcels radiated discreetly from its perimeter.[64]

Llewellyn Park was quickly (and hyperbolically) named 'the most sensible real estate development in American history.'[65] Among the novel aspects of Haskell's subdivision was the explicit prohibition of boundary fences. Individual lots were to be left either unmarked, the sweeping lawns of one 'cottage' flowing into those of its neighbors, or defined by the clumps of shrubbery and trees that

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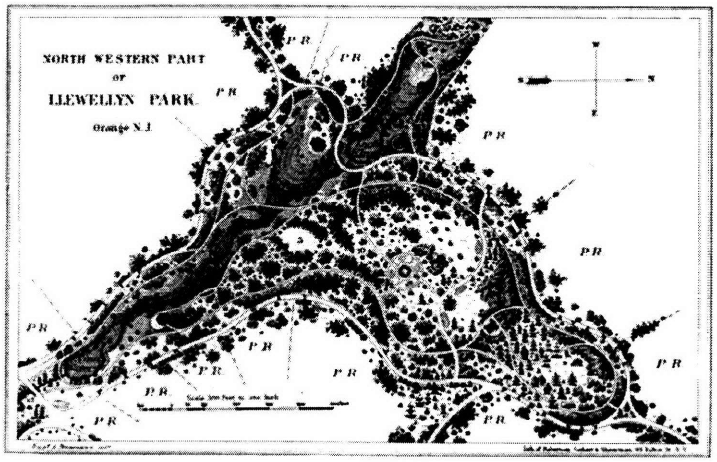
[63] Jackson, *Crabgrass Frontier,* 76-77.
[64] Jackson, *Crabgrass Frontier,* 77-78.
[65] Calvert Vaux, *Villas and Cottages* (New York: Harper & Brothers, 1864), 339. Cited in Jackson, 78.

Downing had promoted. 'Owners were free to landscape their lawns according to individual preference,' the historian Kenneth Jackson has written, 'but every effort was made to harmonize each site with the natural fall and character of the land.'[66] The author of a contemporary review noted with approval that 'a number of the holders of lots, entering into the spirit of the place and the design, intend to improve their lots with reference to each other and the whole enclosure, so that the appearance of one large estate may be suggested.'[67] An early resident, the editor Theodore Tilton, affirmed that 'each estate being isolated from the next, yet each, by a happy partnership with every other, possessing the whole park in common, so that the fortunate purchaser of two or three acres becomes a virtual owner of the whole five hundred.'[68]



The Ramble and radiating property lines, Llewellyn Park. (Reprinted from Downing, 1865)

These passages suggest how concealing property lines underlay a deeper economic and social interest. Haskell had always conceived his plan in terms of a utopian community; early residents celebrated May Day in the Ramble, and Davis also planned a 'Lyceum,' greenhouse, and other public facilities (which were never completed).[69] But the 'happy partnership' embodied in open lawns and sweeping views also depended on a 'larger enclosure' whose residents were increasingly drawn from

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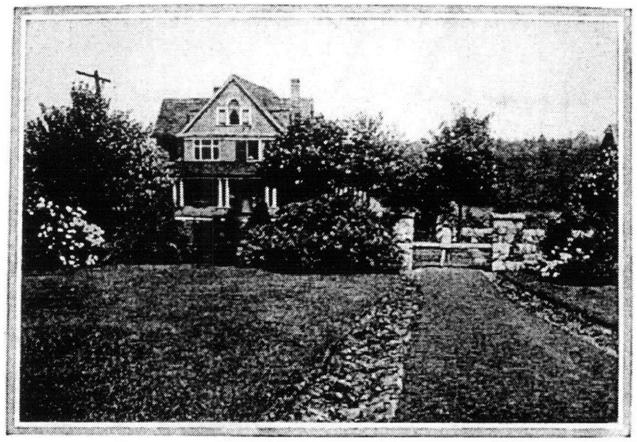
[66] Jackson, *Crabgrass Frontier,* 78.
[67] *The Crayon* 4 (1857), 248. Cited in O'Malley, 'Lawn,' 82.
[68] Theodore Tilton, cited in Hayden, *Suburbia,* 59.
[69] Hayden, *Suburbia,* 60.

the wealthiest segment of society. If the pioneers of Llewellyn Park had been abolitionists, poets, painters, and editors, later settlers included Thomas Edison, George Pullman, and Elisha Otis.[70] Over time Haskell's communitarian vision withered, and the only remaining affinity between residents was wealth. To this day, access to Llewellyn Park is restricted to residents and their guests who, after obtaining permission in writing, must pass through a manned gate nearly hidden in vegetation in order to enter an unbounded landscape within.[71]



'Trees and Shrubs Appropriately Arranged on the Lawn and in Front of the Dwelling.' From Samuel T. Maynard, *The Small Country Place,* 1908. (Reprinted from Ponte, 1999)

The image of a gate amid masses of shrubbery (Scott wrote that 'there are few matters in which the taste of the proprietor...may be more pleasingly illustrated than in the designs for stone gate posts') captures the tensions of marking boundaries in the Romantic suburb.[72] On one hand, artfully composed verdure and lack of internal walls suggested a community living in harmony with nature; on the other, the perimeter around this idyll was backed up by the legal authority to deny access to the poor, the black, the immigrant. Downing's clients and the residents of Llewellyn Park did not need to mark lot boundaries because their interests substantially coincided. By contrast, the perimeter of the 'larger enclosure' took more and more potent form: the nearby development of Tuxedo Park, whose residents were even wealthier than those of Llewellyn Park, was delimited by a barbed wire fence eight feet high and twenty-four miles long and guarded by private police.[73]

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[70] Hayden, *Suburbia,* 60.
[71] Hayden, *Suburbia,* 61.
[72] Scott, *Grounds,* 57.

Streetcar suburbs. As subdivision of the urban fringe continued in the twentieth century, the tensions forged in early suburbs found new forms of expression, particularly along the perimeters of the 'narrow cells' that Downing decried. The principles of openness and extent were difficult to sustain in the dense suburban neighborhoods that sprang up in the last decades of the nineteenth century. As described by the historian Sam Bass Warner, many of these 'streetcar suburbs' were speculative enterprises undertaken by small builders who bought several adjacent lots in subdivisions of farmland along new trolley lines. Here they constructed detached houses and small apartment buildings whose 'uniform building lines...with equal side-yards gave all residents on a street rough equality of light, air, and access.'[74] The result was a dense pattern of streets that looked 'orderly, prosperous, and citified': exactly the opposite of the principles Downing preached.[75]

The differences between the streetcar suburb and its cousins on interurban train lines were not only aesthetic but also social and economic. In contrast to affluent subdivisions like Riverside, Illinois, laid out by Frederick Law Olmsted, the streetcar suburb was what sociologists in the early twentieth century would call the 'zone of emergence': the first ring of looser settlement where recent immigrants could buy a house and small yard without sacrificing urbanity as they understood it. 'Here,' Warner writes, 'first and second generation immigrant families moved from their original ethnic centers and began to take their place in the general life of the American middle class.'[76] Part of 'taking one's place' meant adopting the aesthetic standards embraced by classes above. The setbacks of the streetcar suburb allowed for ornamental plantings in the front and kitchen gardens in the rear; owners were thus able to duplicate in miniature the 'country places' to which they might one day aspire.

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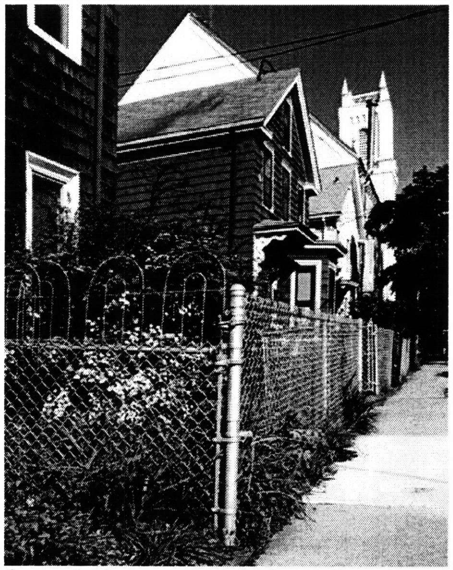
[73] Hayden, *Suburbia*, 67.

[74] Sam Bass Warner, *Streetcar Suburbs: The Process of Growth in Boston, 1870-1900* (Cambridge: Harvard University Press, 1962), 136.

[75] Warner, *Streetcar Suburbs*, 135.

[76] Warner, *Streetcar Suburbs*, 66. The term 'zone of emergence' was coined by Robert A. Woods in *Americans in Process* (Boston: Houghton, Mifflin, 1902).

Yet Downing's vision of living in harmony with nature was difficult to sustain in a landscape of five-foot rather than five-hundred-foot setbacks. The proximity of nearby houses yielded a degree of social intimacy that did not differ substantially from the tenement neighborhoods residents had recently left. There residents—most of whom were from Ireland, Italy, and eastern Europe—did not share Downing's sentimental vision of the nuclear family in its private refuge: builders often designed houses for an extended family, business, and workshop.[77] Nor did they follow Downing's sensibilities when it came to marking the lot boundary. In the cultures from these immigrants had arrived, fences were not a 'barbarism of old gardening' but a hallmark of urbanity and civilization—as had been the case in the United States before Downing's intercession. Fences had both symbolic and practical value: not only to keep chickens or protect kitchen gardens but also to communicate citizenship. Residents of streetcar suburbs were thus among the most enthusiastic users of the mass-produced iron and wire fencing that Weidenmann endorsed. While serving practical functions, these fences conveyed the new immigrants' adherence to middle- and upper-class conventions of invisibility and boundary concealment.



Downing's legacy in the streetcar suburb. (Author photograph, 2008)

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[77] Warner, *Streetcar Suburbs,* 128.

The result was 'a homogeneous statement of social and economic status despite great variety of ornament.'[78] While Downing would have found this ornament distasteful—to say nothing of the platting that underlay it—the 'carefully tended lawns and shrubs...all ranged along a neat planted and finished street' attested to the broad dissemination of his ideas by the late nineteenth century.[79] Lot boundaries in the streetcar suburb embody the tension between these ideas and older associations of fences with citizenship, progress, and public order. To this day, the deep narrow lots of these neighborhoods are nearly always marked by barriers, mostly mass-produced fences that differ but slightly from those of the 1870s; in some places original iron and wire can still be seen. As much as architectural style, these fences distinguished the streetcar suburb from its affluent Romantic cousin from an early stage. Yet when it came to the dominant standards for marking boundaries, it was that cousin who would emerge victorious five decades later: here, in the subdivisions of mid-twentieth century America, Downing's legacy would be most fully realized.

III A Middle Landscape

The subdivisions of the late nineteenth century began a long transformation of American society and the American landscape. Once divided between dense cities and vast agrarian territories, the United States today is distinguished by an intermediate environment whose extent Downing could scarcely have imagined. The original term denoting this environment, 'suburbs,' has come to seem insufficient when more than half the population lives and works in what was once a marginal landscape. Many scholars have therefore invented new monikers, from 'sprawl' (used by Patrick Geddes at the turn of the century and adopted by William H. Whyte in the 1950s) to 'technoburb,' 'edge city,' and the derogatory 'slurb.'[80]

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[78] Warner, *Streetcar Suburbs,* 136.
[79] Warner, *Streetcar Suburbs,* 137.

But the most suggestive name is the 'middle landscape' coined by Leo Marx and used by John Brinckerhoff Jackson. Most recently the term has been adopted by the architect and planner Peter Rowe to refer to the suburban city, whose landscape is 'marked by 'pluralism and a mosaic of neighborhoods and land uses... What were once far greater distinctions between broad, largely homogeneous areas like city, suburb, and countryside have now diminished to be replaced by the subtler boundaries between urban realms with specific functional and social identities. The resulting patterns of suburban metropolitan settlement represent a different symbolic landscape as well.'[81] The principle unit of the mosaic that Rowe describes is the private lot. In itself this is not new: American history can be read as a long process of allotment. But if division of land had always lain at the center of political, economic, and social life in the United States, the twentieth century saw such allotment grow beyond all previous measure. The result was a landscape where the tensions between legal and physical division were played out on an unprecedented scale.

Living in Levittown. If a single subdivision captured the suburbanization of American society at mid-century, it was the vast development laid out by Abraham Levitt and his two sons on potato fields thirty miles east of Manhattan after the second world war. By using assembly-line construction techniques, vertically integrating suppliers, and replacing excavated foundations with concrete slabs, the Levitts were able to complete thirty houses per day at the height of production.[82] When it was finished in 1951, Levittown, New York (which despite its name was not a town but spanned three municipalities) contained 17,400 houses and 82,000 residents, making it the largest subdivision ever constructed by a single builder in the United States.[83] Other developments followed in Pennsylvania,

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[80] See William H. Whyte, 'Urban Sprawl.' *Fortune* 57:1 (1958), 103-109; Fishman, *Utopias*, 182-207; Joel Garreau, *Edge City: Life on the New Frontier* (New York: Doubleday, 1991).

[81] Peter Rowe, *Making a Middle Landscape* (Cambridge: MIT Press, 1991), 63.

[82] Jackson, *Crabgrass Frontier*, 235.

[83] Jackson, *Crabgrass Frontier*, 235.

New Jersey, and even Puerto Rico, and the name 'Levittown' quickly became 'a synonym for the mass-produced postwar suburb.'[84]

Though Levittown was novel in its methods of construction and delivery, there was more than one realm in which it looked resolutely backward. Among these was landscape. Levitt and his sons fully embraced the aesthetics of the Romantic suburb, applying the principles of Llewellyn Park and Riverside to a development of far greater extent designed for a different class. The Levitts took Downing's commandment to 'hide the nakedness of the streets' warmly to heart: an article in *House and Home* promised that 'every house will have its own "park" when all the trees are grown... Trees and shrubs will make this the most completely landscaped city in the country; evergreens screening houses, around each lot, plus thousands of street trees. In addition to the slow-growing evergreens already planted, each back yard will get three fruit trees.'[85]

Whereas Haskell and Davis divided Llewellyn Park into broad undulating parcels, the Levitts shoehorned their buyers into a flat, faintly curvilinear gridiron that would have appalled Downing. In the middle of each 60 x 100-foot lot stood a 750 square-foot Cape Cod 'cottage'; the distance between neighboring houses, approximately thirty feet, was not much more than in the streetcar suburb. This was a radical change from the 'country places' of the late nineteenth century, where extensive side lots yielded the impression of a park encircling the house. In later developments, the Levitts adopted new methods of simulating extent, using staggered setbacks and alternating gable orientation to break up street frontage. The clumps of trees and lawn-framing shrubbery that Downing advocated were crucial to achieving the effect of 'houses in a park' in a monotonous and mass-produced environment. Twenty years later, the sociologist David Popenoe noted the success of that effect: 'Many of the Levitt streets, with their overhanging trees and abundant front-yard and shrubbery, have a luxuriant facade, obscuring the fact that the homes basically look alike and are for families with modest incomes.'[86] Thus, as the architect Robert A. M. Stern wrote, the Levitts 'adapt[ed] the reality of real estate to the illusion of country living.'[87]

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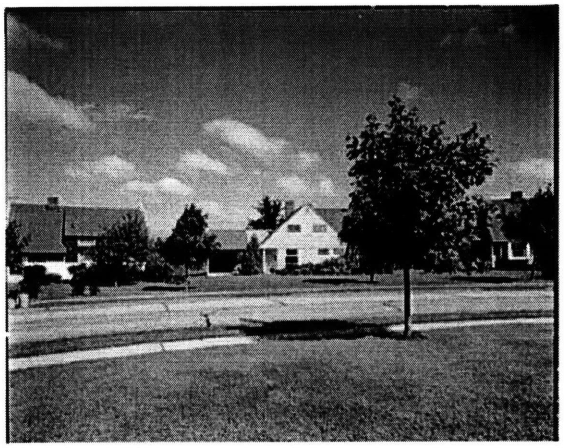
[84] Girling, *Yard,* 94.
[85] 'Biggest New City in the US.' *House and Home* 2:6 (1952), 83; 86. Cited in Girling, *Yard,* 95.
[86] David Popenoe, *The Suburban Environment: Sweden and the United States* (Chicago: University of Chicago Press, 1977), 115.



Fenceless boundaries in Levittown II, New York, 1950s. (Library of Congress)

No structure was allowed to vitiate this illusion: the covenant the Levitts made their buyers sign prohibited all boundary fences and walls, including linear hedgerows.[88] As an early booklet issued by the 'Levittown Property Owners Association' (initially a front for the developers) put it:

> Fences may not be erected without permission from Levitt & Sons. Even if you get authority to erect a fence, consult your neighbors before you go ahead. Many fences have become complete barriers to friendship.[89]

A later edition, published after the Levitts had relinquished legal control, contained a similar prohibition: 'Fences are restricted by covenant... Be a good neighbor and a wise citizen. Do your share in keeping Levittown a "Garden Community."'[90] In the early landscape of Levittown, marking boundaries was explicitly connected not only to bad taste but poor citizenship.

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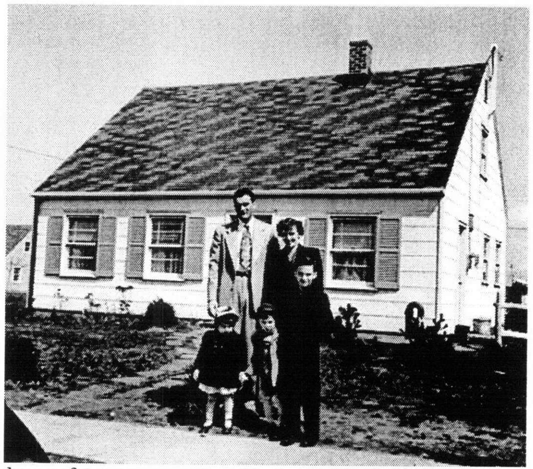
[87] Robert A. M. Stern, *Pride of Place: Building the American Dream* (Boston: Houghton Mifflin, 1986), 36. Cited in Barbara M. Kelley, *Expanding the American Dream: Building and Rebuilding Levittown* (Albany: State University of New York Press, 1993), 78.

[88] Kelley, *Dream,* 208.

[89] *Our Town—Levittown* (Levittown: Levittown Property Owners Association, 1952), 16. Cited in Kelley, *Expanding,* 202.

[90] *Levittown—Our Town* (Levittown: Levittown Property Owners Association, 1957), 14-15. Cited in Kelley, *Expanding,* 207.

This prohibition did not mean that there were no walls in the early landscape of Levittown, only that those present had been sanctioned by the developers themselves. From the very beginning, the 'package' the Levitts sold to buyers included a short length of fence between house and lot line on the kitchen side. Like the four 'Cape Cod' variations with their cross-in-bible doors and candle motifs on the soffits, buyers could choose between 'short sections of pickets, split rails, or latticework "fencing" that adorned each entrance and suggested the small-town America of the nineteenth century.'[91] The function of this length of fence was not to mark the perimeter of the lot but rather to evoke a set of myths about self-reliance on one hand, and community on the other. Like the open landscape around it, it symbolized the 'individualistic yet communitarian ethic' that had lain at the center of American suburbanization since the nineteenth century.[92]



Five of the first residents of Levittown, New York, with allotted length of fence in background.
(Reprinted from Rowe, 1991)

In *The Great Gatsby* the narrator Nick Carraway marvels at the greensward of his friend Gatsby, which 'started at the beach and ran toward the front door for a quarter of a mile, jumping over sun-dials and brick walks and burning gardens.' As Leo Marx has noted, 'this suburban greenness...is misleading. It too is a mask of power.'[93] The fenceless landscape of Levittown, not far from West Egg and home to a very different class, concealed a similar degree of social control. This control was most notable in the realm of race: Levittown was the largest segregated settlement in the United States, and the developers forbade owners from re-selling houses to anyone 'not of the Caucasian race.' As in Llewellyn Park, a landscape devoid of physical walls within was secured by legal and economic walls without.[94] But the Levitts' ban on fences illustrates how this social control also extended into the most intimate practices of the residents themselves.

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[91] Kelley, *Dream*, 65.

[92] Therese O'Malley, 'The Lawn in Early American Landscape and Garden Design.' In Georges Teyssot ed., *The American Lawn* (Princeton: Princeton Architectural Press, 1999), 85.

The narrowness of Levittown lots meant that the house divided each parcel into two distinct spaces. The sociologist Herbert Gans described the 'gendering' of these spaces in his classic *The Levittowners.* The front lawn was the realm of the husband, who was required by covenant to maintain it to a standard consistent with surrounding lots, mowing and removing weeds at least once a week from April to November.[95] 'Care of the yard is obligatory,' Gans wrote, 'and the work must be done during spare time.'[96] One of Gans's informants remarked wistfully: 'It's all lawn now. I don't do as much reading; I have no time. It doesn't bother me; my mind is more occupied here, I have more ambition and I am more active around the house.'[97] As this comment indicates, men were also expected to build 'sweat equity' through constant improvement to the house; Abraham Levitt famously remarked that 'no man who has a house and lot can be a Communist. He has too much to do.'[98] Yet even as the Levitts encouraged such work in theory, they failed to provide any place on the lot (notably a garage) where it might occur.[99] Other than lawn care, no trace of toil was to mar the pastoral landscape.

By contrast, the back yard was the realm of women, children, and family life. But the Levitts' paternalism held equal sway here: the developers forbade hanging out wash on weekends—a practice familiar to new residents, most of whom had moved from rental housing in the city. At the same time, Levitt 'provided no space within the floor-plan in which to place an automatic dryer, even had the residents wanted to purchase one.'[100] Housewives were therefore forced to hang laundry on temporary 'dryers' in the back yard on weekdays—and were thus subtly prevented from taking work outside the home.[101]

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[93] F. Scott Fitzgerald, *The Great Gatsby.* Cited in Marx, *Machine,* 357.
[94] Hayden, *Suburbia,* 135.
[95] Popenoe, *Environment,* 116.
[96] Herbert Gans, *The Levittowners: Ways of Life and Politics in a New Suburban Community* (New York: Pantheon Books, 1967), 268.
[97] Gans, *Levittowners,* 268.
[98] Kelley, *Dream,* 70.
[99] Kelley, *Dream,* 72.

The rules about laundry underscore the way that landscape both concealed and embodied social control at Levittown. The dicta issued from the Levitts' office and printed in local papers did not need to be enforced by the builders themselves: most 'residents supported the efforts of Levitt and Sons to police the community... In a world threatened by political subversion and atomic annihilation, nonconformity was interpreted as a danger signal.'[102] Maintaining such conformity was easy in an open landscape where, one early resident recalled, 'we walked back and forth like it was one big yard.'[103] The sociologist William Dobriner called this 'the visibility principle' of early suburban communities.[104] The social and physical landscape of Levittown 'provided no place for solitude'—either inside or outside the house.[105] Though the front lawn was nominally more 'public' because it faced the street, in the early years of the development the lot backs were equally open, their aggregation forming an internal 'common.' This common was also a panopticon, a place where wives and children were always exposed to public view and judgment. Lack of walls was thus essential for furthering the political and social vision of the developers.[106] The fenceless pastoral landscape of Levittown concealed a project of social engineering equal in ambition—and far greater in extent—to those of Robert Owen or Charles Fourier.

Yet the later development of Levittown demonstrated the difficulty of sustaining this project over time. Levitt and his sons relinquished personal control over the property owners association in the late 1950s; by the 1960s and 1970s residents had begun to make substantial modifications to their houses to accommodate growing families, a process that has been traced by the architectural historian Barbara Kelley. Changes in the domestic environment reached beyond the house, however, to margins of the lot: with the growth of children, acquisition of domestic animals, and installation of private swimming pools, residents began to ignore the Levitts' fence ban. By the late 1970s, Popenoe observed that '75 percent of the houses had backyard fences, though very few had front-yard fencing. In the upper-middle-class districts the use of fencing was significantly less.'[107] This was due not to a difference in aesthetics but to the larger size of the lots in wealthier areas—the same condition that had allowed Downing's clients to eschew walls and fences a century earlier.

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[100] Kelley, *Dream*, 68.
[101] Kelley, *Dream*, 68.
[102] Kelley, *Dream*, 62.
[103] W. D. Wetherell, *The Man Who Loved Levittown* (Pittsburgh: University of Pittsburgh Press, 1985), 14. Cited in Girling, *Yard*, 98.
[104] William Dobriner, *Class in Suburbia* (Englewood Cliffs: Prentice-Hall, 1963), 9.
[105] Kelley, *Dream*, 56.
[106] Kelley, *Dream*, 209.

Over time, the unbroken pastoral landscape envisaged by the Levitts was increasingly divided by fences and hedges.[108] As Popenoe noted, however, proliferation of physical barriers in back yards did not extend to the lot frontage. Where fences were used along public streets they did not create enclosed space or prevent the movement of children or animals, but—like the original lengths of split rail or picket they often mimicked—evoked symbolic associations. Yet on the vast majority of parcels, the principles first imposed by covenant continued to be obeyed voluntarily: to this day most lawns in Levittown are open to the street. The lot boundary thus began to take two different forms and serve two distinct purposes. But if Levittown illustrates this change, it does not epitomize it: the splitting of the lot was already far advanced in the subdivisions of California.

The split lot. Wherever it has occurred, suburbanization has depended on an essential process: the subdivision of agricultural land on the edge of cities. In California this process reached a magnitude greater than ever before. In the city of Los Angeles subdivision became the main engine of the urban economy, as orange and almond groves yielded inexorably to new crops of houses and yards in the years after the second world war. One early subdivision, the gigantic new city of Lakewood—an unending grid of 50 x 100-foot lots, the smallest permitted by County law—would finally exceed even Levittown in size. Captured from the air by the photographer William Garnett, the sprawling, identical plots and houses bleeding off the page embodied either the success or excess of post-war America, depending on the politics of the observer.[109]

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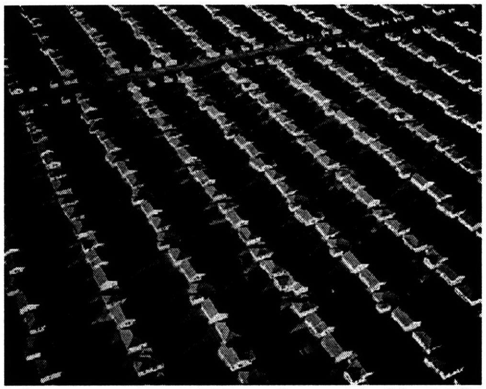
[107] Popenoe, *Environment,* 116.
[108] Hayden, *Suburbia,*



Lakewood, California under construction, 1950, as photographed by William Garnett. (Library of Congress)

Against the myth of the 'California dream' Garnett's photographs revealed the reality of the California subdivision. As migrants eager for a small fragment of that dream poured into the state in the 1950s and 1960s, the price of land skyrocketed.[110] The result was steadily increasing density of allotment; to this day subdivisions in California are as a rule packed tighter than their eastern counterparts. The high density of most middle-class neighborhoods meant that neighbors were always visible just over the lot line. At the same time, the landscape gospel of Downing, embraced fervently by both developers and homeowners throughout the east, was never as strong in California; speculators and boosters had been marketing the state as a Mediterranean paradise since the 1920s. The result was a different set of practices when it came to marking the perimeter of the suburban lot.

Physical barriers along lot lines were a common feature of the California suburban landscape from an early stage, and their hardness and uniformity only increased with the decades. Like the Levittowners, residents of Lakewood left the front of the lot unfenced: here, as elsewhere, the open lawn conveyed success, conformity, and community. The difference between Levittown and Lakewood lay rather in the back of the lot. Whereas residents of Levittown were prevented from marking boundaries, those of Lakewood—whose builder Ben Weingart, unlike Abraham Levitt, was interested not in social projects but in quick profits—enclosed the back of the lot almost immediately on taking occupancy.[111] The most common material for these enclosures was not the symbolic split rail or picket that the Levitts offered, but a simple opaque vertical boards that kept children and animals in, and the prying gazes of neighbors out.

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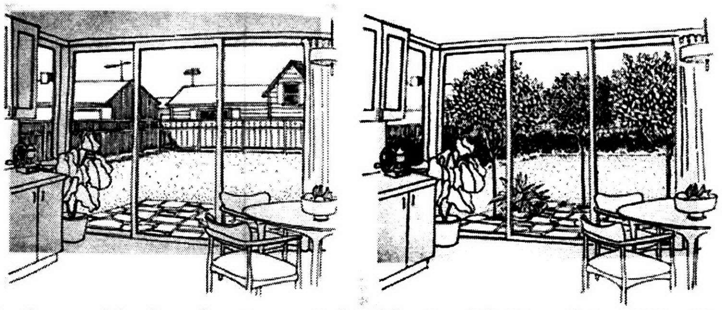
[109] Hayden, *Suburbia,* 138.
[110] Rowe, *Middle Landscape,* 94.



Concealing the fence and lot boundary in a typical California subdivision of the 1950s. (Reprinted from *Sunset,* April 1963)

As the California middle landscape grew, what had begun as informal division of the lot into open and closed halves was reinforced by changes in the floor plan of the house itself. Inspired by the interior gardens of Japanese architecture, modernist developers such as Joseph Eichler and William Streng introduced open plans whose living spaces were connected through 'glass walls' to the hermetically sealed interior of the lot; the entire orientation of the house was thus reversed. As Rowe writes: 'A continuum was established, moving from the garden landscape through the patio, glass external wall, and into the rooms of the house. Rather than being a gradient from public to private realms, this spatial arrangement was contrived to bring the out-of-doors indoors, and vice versa.'[112] Part of this shift toward 'indoor-outdoor living' meant treating the boundary of the lot as a virtual 'wall' of the house. The result was an increase in the height, opacity, and standardization of this boundary: high board fences increasingly became part of the package delivered to the consumer, their shape determined by the developer and their efficacy judged by how effectively they screened out their immediate surroundings while framing more distant topography. The view from the open-plan living room through a glass wall into an enclosed back yard was reproduced in scores of lifestyle magazines throughout the 1960s, emerging as one of the emblems of affluent yet informal 'California living.'[113] The opaque board fence was the indispensable backdrop to that social and economic vision. As the subdivisions of the 1950s and 1960s gave way to the denser 'planned unit developments' of the 1970s, the rear lot fence grew higher and higher; one article in *Sunset* magazine reminded its readers that the twelve-foot-high walls around the tiny back lots of one planned unit development were 'included for privacy.'[114]

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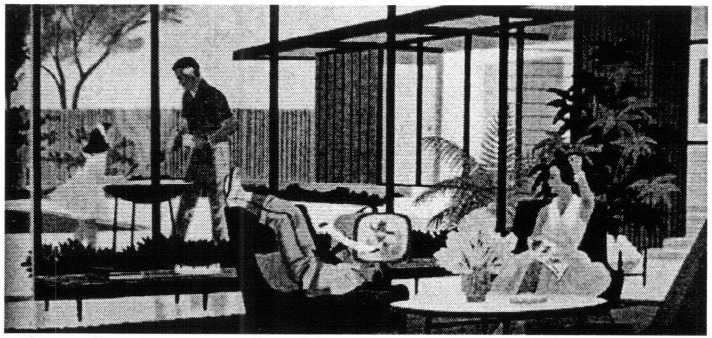
[111] Hayden, *Suburbia,* 140.

[112] Rowe, *Landscape,* 93-94.



The package: glass wall, swimming pool, and board fence. (Reprinted from *Sunset*, November 1961)

Even as designers, developers, and popular magazines lavished attention on the increasingly hermetic back yard, street frontage took on an ever more vacant aspect. Again, changes in the floor plan of the house were instrumental in this transformation. While living areas and kitchens moved toward the back of the lot, bedrooms, bathrooms, and utility closets with their minimal fenestration were brought streetward. The garage the Levitts had failed to provide to their first buyers now occupied one third of the facade. In this way the house itself—spanning nearly the entire width of the lot—became the fourth wall of an enclosed rear garden rather than an object sitting on a parcel of land. Yet even so, Downing's ban on fences continued to hold sway on the lot frontage, where a rump open lawn remained firmly in place.

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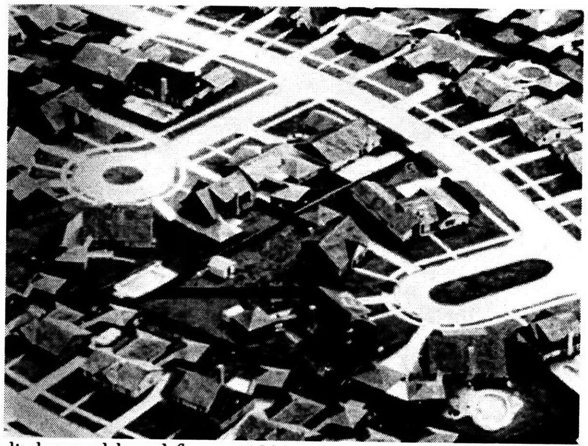
[113] Thomas Oles, 'Inventing the Modern Suburb in California and Denmark: *Sunset* and *Bo Bedre*, 1960-1970.' Unpublished.
[114] *Sunset* 4 (1969), 77.

The conventions governing the layout of the California split lot would have widespread consequences in the decades to follow. Though subject to regional variation, the division of residential parcels into open and closed halves is now nearly universal; the split lot embodies persistent tensions in the 'individualistic yet communitarian ethic' of the American suburb and arguably of American culture as a whole.[115] And if only for the sheer extent of its proliferation in the landscape, the board fence—a wall designed exclusively to block sight-lines and prevent contact—is the among the most problematic legacies of this division. Cheap, quick, and hermetic, it has spread into new territory: in the streetcar suburb Weidenmann's wire frontage fences are slowly but inexorably giving way to opaque seven-foot boards. The implications for the social and physical fabric of these old neighborhoods have scarcely been considered.



Split lots and board fences, 1980s. (Reprinted from Rowe, 1991)

The split lot was one stage on the road toward the impoverishment of walls in the American landscape. This impoverishment was substantially a matter of ever-growing automatism: the blank board fence was the face of an economy in which both legal and physical enclosure were controlled by the developer; the wall was a product whose cultural and economic value depended on the completeness with which it sustained the illusion of private paradise amid what John Ruskin, speaking to the women of Manchester in the late nineteenth century, called 'a world of secrets which you dare not penetrate, and of suffering which you dare not conceive.'[116] In a social landscape that appeared more and more frayed after the riots of the 1960s, the sealed back of the private lot was increasingly seen as a last sanctuary from which all the world fell away.

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[115] O'Malley, 'Lawn,' 85.

Ruskin's exhortation illustrates that the notion of the parcel as a refuge from which all the world fell away was old long before Eichler or Weingart began carving up the fields of California. The most corrosive legacy of the *split* lot was that, in taking walls out of public view, it took them out of public debate. Open lot frontage has meant that walls are rarely if ever subjected to wider judgement and scrutiny in daily life. Rather, the wall is associated exclusively with private privilege and an elusive notion of 'security.' Ironically, by banning fences altogether the paternalistic Levitts had kept them in the realm of political discussion. By contrast, the standardization of lot fences has placed the wall even more firmly within the realm of economics. Walls are now caught between the disappearance and impermeability pioneered on the split lot. Yet in a world aggregated from lots, the effects of this reach far beyond the individual parcel: the tensions of the split lot are, increasingly, the tensions of the landscape as a whole.

IV Hard Perimeters, Invisible Walls

During the last two decades, geographers have considered how the shape of the American landscape both reflects and heightens the traumas of 'globalized' capitalism: disinvestment, economic restructuring (a bland word for replacement of high-wage industrial employment with low-wage service jobs), and growing economic and social polarization.[117] Much of this theory has emerged from Los Angeles, where scholars of the 'LA School' have used that city as a post-industrial laboratory in the same way Robert Ezra Park and Ernest Burgess used Chicago to study patterns of immigrant assimilation a century earlier.

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[116] John Ruskin, *Sesame and Lilies* (New York: Longmans, Green, 1905), 90. Cited in Fishman, *Utopias*, 102.

The economic and social transformations of the 1970s and 1980s were accompanied by unprecedented levels of urban dispersion as suburbs emerged as economic entities in their own right. Cities like Detroit and St. Louis illustrate vividly that the suburb is no longer tied to the central city—and often works against it. At the end of the 1980s, the historian Robert Fishman coined a term for this new suburban environment:

> For most Americans, the real center of their lives is neither an urban nor a rural nor even a suburban area, as these entities have traditionally been conceived, but rather the technoburb, the boundaries of which are defined by the locations they can conveniently reach in their cars. The true center of this new city is not in some downtown business district but in each residential unit.[118]

Against the backdrop of economic and social disruption, the private lot has only tightened its hold on the American imaginary. The increasingly hermetic forms of residential enclosure since the 1960s can be seen as one reflection of this tightening. But if they have amplified the functional and symbolic importance of the 'residential unit'—a house on a lot—the disorientations of late capitalism have also yielded new forms and practices of enclosure at higher scales of the built environment. These practices express in new ways the tensions between boundaries and walls that have shaped the American landscape from the nineteenth century.

Behind the gates. If a single phenomenon symbolizes the social and physical fragmentation of the contemporary American city, it is the emergence of 'gated communities' or 'residential development[s] surrounded by walls, fences, or earth banks covered with bushes and shrubs, with a secured entrance.'[119] Though they spread throughout the United States, developments meeting this definition have grown fastest in the cities of the West and South—the regions of most extensive speculative subdivision. In Tampa, Florida, fourth-fifths of houses sold for more than $300,000 are in gated communities; by the 1990s 'almost every condominium of more than fifty units' on Long Island had some kind of guardhouse.[120] A recent census addendum states that 5.9 percent of all households in the United States—over seven million—are now located in 'communities surrounded by walls and fences.'[121] Yet 'gating' is not only an American phenomenon: it is increasingly widespread in many societies marked by large disparities of wealth and power such as Colombia, Mexico, and Russia. In post-Apartheid South Africa, according to the architect Lindsay Bremner, 'moving around the city involves constantly negotiating gates, booms, intercom identifications, and security checks, transforming life...into that of a permanent frontier zone.'[122]

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[117] See for example: Edward Soja, *Postmodern geographies* (London: Verso, 1989); David Harvey, *The condition of postmodernity* (Oxford: Blackwell, 1989); Saskia Sassen, *The Global City* (Princeton: Princeton University Press, 1991); Mike Davis, *City of Quartz* (New York: Vintage, 1992).

[118] Fishman, *Utopias,* 185.

In response to this proliferation, sociologists, anthropologists, historians, and designers have all begun to consider the diverse social and physical landscapes of gated communities. Edward Blakely, author of the first comprehensive study of American gated communities, placed them 'firmly within the tradition' of suburban utopias while at the same time contending that they are 'a totally new product, organized and marketed as a solution to contemporary problems.'[123] More recently, anthropologist Setha Low has interviewed residents of gated communities to understand how they themselves see the phenomenon and their place in it. Low confirms the role of 'fear flight' in many people's decision to move to a gated community.[124] But just as Gans refuted assumptions about suburban life in the 1960s, Low argues that fear is far too easy an explanation for a social and spatial process that is still unfolding. 'The reasons people give for their decision to move to a gated community vary widely,' Low writes,

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[119] Setha Low, *Behind the Gates: Life, Security, and the Pursuit of Happiness in Fortress America* (New York: Routledge, 2003), 12.
[120] Low, *Gates*, 15.
[121] Low, *Gates*, 15.
[122] Lindsay Bremner, 'Border/Skin.' In Michael Sorkin ed., *Against the Wall: Israel's Barrier to Peace* (New York: New Press, 2005), 132.
[123] Edward Blakely and Mary Gail Snyder, *Fortress America: Gated Communities in the United States* (Washington: Brookings Institution, 1997), 11; 15.
[124] Low, *Gates*, 8.

'and the closer you get to the person and his or her individual psychology, the more complex the answer.'[125]

The gated community in the popular imagination: walled 'survivor colony' in the 2007 apocalyptic film *I Am Legend.* (Warner Brothers)

If gated communities partake of the impulses that have lain at the heart of suburbanization from the beginning, the control they exert over the lives of residents far exceeds that of Llewellyn Park or Levittown. Most gated communities are governed by homeowner associations, and residents must sign 'covenants, conditions, and restrictions' regulating nearly all aspects of behavior within their boundaries. This includes the height of shrubs and hedges, presence or absence of fences, and use of private outdoor space; like the Levitts, most homeowner associations forbid hanging wash out of doors.[126] Homeowners associations—whose members are usually determined by the value of their property—often usurp municipal governments in providing public goods; a number of states now allow gated communities to opt out of taxes for services outside their walls. Some gated communities have gone a step further, incorporating as independent municipalities within cities.[127] The gated community has therefore widely been seen as an attempt to withdraw—*de facto* or *de jure*—from civic obligation.[128]

And yet: as urban structure the gated community is little more than a collection of lots planned and developed by a single builder. In shape as well as spirit, then, it is not new: the subdivisions of Llewellyn Haskell and the Levitts met similar criteria. Indeed many of the places cherished by urban designers, such as Clarence Stein's new town of Radburn, New Jersey, are restricted access 'communities.' The difference between these older enclaves and their counterparts today lies in adjacency: whereas Llewellyn Park and Tuxedo Park were the first developments in their vicinity, the modern gated community almost always rises within established allotment; there is always someone on the other side of its wall. Because it impinges directly on an inhabited landscape, it presents not only a social or political problem but an urbanistic one as well.

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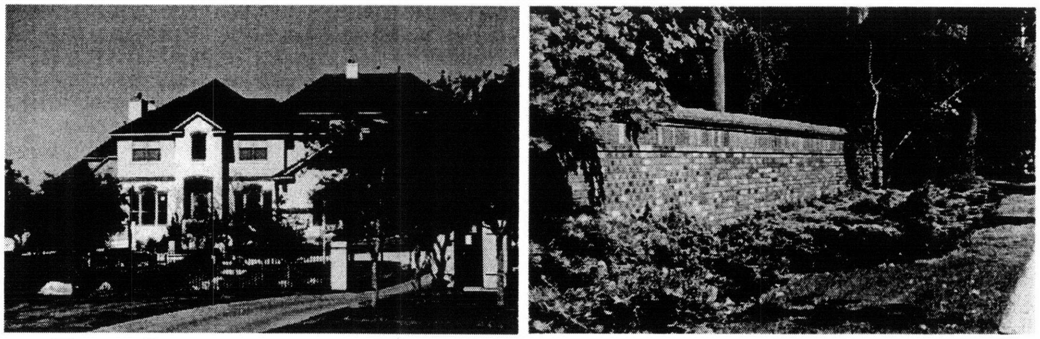
[125] Low, *Gates,* 231.
[126] Blakely, *Fortress,* 21.
[127] Blakely, *Fortress,* 26.
[128] Blakely, *Fortress,* 24.



Two gated community perimeter types: both impenetrable, both camouflaged, both outside politics. (Adapted from Low, 2003)

Sometimes the perimeter of a gated community is marked by nothing more than a change in legal status. Often the gate itself is all that marks this change. 'Faux gates are springing up all over suburbia,' the journalist Andrew Ross has recently noted, 'creating the mere appearance of security, or status, for the gateless'; photographs of gated communities are most often photographs of gates.[129] Yet in many cases this perimeter is not only a legal idea but also a wall, fence, berm, or ditch that expresses—and enforces—social and economic difference. This aspect of the gated community has the most immediate consequences for the city at large; it is therefore ironic that it is one of the least explored.[130] Questions of law and economics are distant when one is walking (or driving) past a high masonry wall. Here it is not so much the legal or social status of those inside but the characteristics of that wall—its height, its porosity, its materials—that press on the senses. These characteristics therefore demand close scrutiny.

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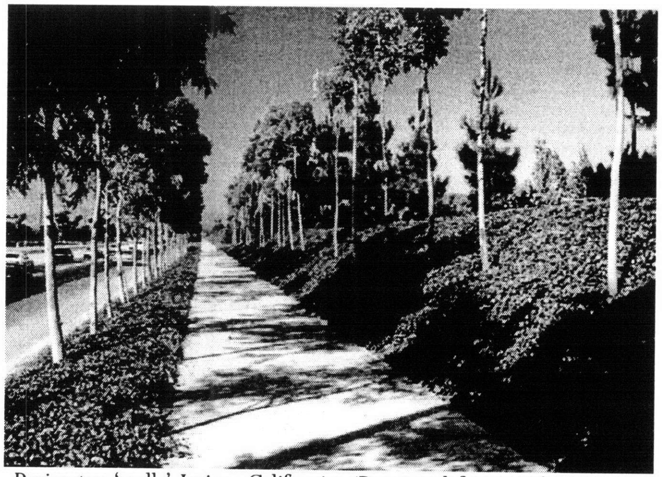
[129] Andrew Ross, 'Duct Tape Nation: Land Use, the Fear Factor, and the New Unilateralism.' In William Saunders ed., *Sprawl and Suburbia* (Minneapolis: University of Minnesota Press, 2005), 115.

[130] For example, in his article on 'The New Walled Cities,' the urban sociologist Dennis Judd rarely describes in detail actual walls. See Dennis Judd, 'The New Walled Cities.' In Helen Liggett & David C. Perry, *Spatial Practices: Critical Explorations in Social/ Spatial Theory* (Thousand Oaks: Sage Publications, 1995), 144-165.

From the standpoint of those outside, the walls of many gated communities do not perform well: the decorative iron fences of the early twentieth century have largely yielded to the board fences and masonry parapets of a later era in American suburbanization. Often these walls are hidden in a swath of territory planted with Downing's indomitable shrubbery. The vast development of Irvine, California, is ringed by a 'landscaped' earthwork that stretches for miles and screens high steel palings behind. The message these walls send is not so much 'keep out' as 'keep moving': their design and placement seems to acknowledge that the wall is a rude but—alas—necessary imposition.



Perimeter 'wall,' Irvine, California. (Reprinted from Girling, 1994)

The performance of such walls can be distilled to two functions: security and disappearance. Ever beyond the range of the eye, they are also beyond the reach of politics. Most gated community walls are phantoms, preventing movement and contact but hiding the mechanisms of that prevention; they are at once impermeable, invisible, and incontestable. But if this seems like a problem only for those who must pass through the insipid landscape of blank walls and berms outside, it is also a burden for the people within those walls. The enclosing fence buried in shrubbery is an integral part of the product, elusive safety in a dangerous world. Yet this perimeter is often the source not of assurance but of fear, as the vague promise of impermeability brings forth new anxieties. 'Honestly I don't know how useful the gate is,' one of Low's subjects responds. 'If anyone would have an interest in coming into this community and causing some kind of havoc or whatever, I think there are many ways they could get in.'[131] No less than for those outside, the perimeter wall lies beyond the realm of things residents of gated communities may affect. And while developers determine the shape and location of this outer wall, homeowner associations often dictate the marking of the individual parcel: the covenant of one southern California gated community mandates a picket fence around every lot while banning all other forms of enclosure.[132]

The gated community has not introduced new models of enclosure but rather expanded the formal vocabulary of earlier phases of suburbanization to the urban landscape; as Blakely writes, 'gates enhance and harden the suburbanness of the suburbs and...suburbanize the city.'[133] Its camouflaged yet hard walls naturalize an arbitrary legal and social arrangement while preventing exchange between inhabitants of adjacent territories. And yet, however alarming this parallel disappearance and hardening in the gated community, it is matched by a more disconcerting trend: the marriage of these functions with urban design itself.

Urban camouflage. In his 1992 'excavation' of Los Angeles, *City of Quartz,* Mike Davis gave this description of the Danziger Studio in Hollywood, an early building designed by the architect Frank Gehry:

> The street frontage...was simply a massive gray wall, treated with a rough finish to ensure that it would collect dust from passing traffic and weather into a simulacrum of nearby porn studios and garages. Gehry was explicit in his search for a design that was 'introverted and fortress-like' with the silent aura of a 'dumb box.'[134]

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[131] Low, *Gates,* 148-150.
[132] Blakely, *Fortress,* 27. The city is Hidden Hills, California.
[133] Blakely, *Fortress,* 11.
[134] Mike Davis, *City of Quartz: Excavating the Future in Los Angeles* (New York: Vintage Books, 1992), 236-238.

A subsequent project, the Goldwyn Branch of the Los Angeles Public Library, was 'undoubtedly the most menacing library ever built... With its fifteen-foot security walls of stucco-covered concrete block, its anti-graffiti barricades covered in ceramic tile, its sunken entrance protected by ten-foot steel stacks... [it] positively taunts potential trespassers to "make my day."'[135] Though Davis was writing of the unique cocktail of race, class, and real estate in Los Angeles, these descriptions captures a more general 'retreat from the street and the introversion of space' that marked American urban design in the wake of the riots of the 1960s. Davis called this elevation of defensive impermeability to urbanistic principle 'the militarization of public space.'[136]

Yet as good copy as Gehry's grim edifices make, they represent a small part of the walls in the American landscape. Far more common are territorial walls that separate lots from each other and collections of lots from their environment. These walls are not overtly hostile: they retire in shrubbery and shun the gaze, their power residing not in pugnacity but in reticence. Even as hardened perimeters of chain-link and concrete consume the attention and focus the outrage, a network of these invisible walls continues to grow in the American landscape. And, increasingly, this growth is overseen not by private developers but by municipal governments.

Miami Shores, Florida, a small community adjacent to the city of Miami, exemplifies this tendency. During the 1980s, rapid infusion of drug money into the South Florida economy provoked a drastic increase in violent crime. Though it was to prove short-lived, this violence provoked an acute response in the wealthy enclaves around the city of Miami, which hastily adopted policies designed to allay public fears. Many municipalities prescribed barricades to discourage or prevent traffic from Miami into their territory.[137]

Among these measures the plan of Miami Shores stood out for its ambition. After a 1988 mayoral election in which the winning candidate promised to solicit citizen input on questions of public safety, a task force was appointed to address what many residents saw as an encroaching threat from

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[135] Davis, *Quartz*, 239.

[136] Davis, *Quartz*, 238.

[137] Jeffrey Schmaltz, 'Fearful and Angry Floridians Erect Street Barriers to Crime.' *New York Times*, 6 December 1988.

Miami. In numerous public meetings, local residents complained of cars from Miami speeding through the 'village,' whose street grid blends seamlessly into that of its neighbor.[138] 'Old people felt terrorized by roving hoodlums who could penetrate their neighborhood from any one of several major roadways and flee before any police response was possible. The city was perceived to be too vulnerable.'[139]

The final recommendation of the citizen task force shocked the city council: enclose the entire municipality with barricades, leaving only a few gates for residents and emergency vehicles, and erect a maze of internal barriers to discourage outsiders still further.[140] The idea of using neighborhood barricades to increase public safety was not new: it was based on the notion of 'defensible space' developed by the urban planner Oscar Newman in the 1970s.[141] The innovation of Miami Shores was to propose implementing Newman's ideas on the scale of an entire municipality. Had it been approved in its original form, the scheme would have been unprecedented in American urban history. This was not lost on some residents, one of whom called it 'the new Maginot Line of our times' and 'a hysterical reaction to crime.'[142] Another noted: 'It started out as a partial solution to a problem and then it became a solution to everything. Increasing property values. Decreasing traffic. Crime. Name the problem, we will solve it with barricades.'[143] But the public mood—and the mayor's promise—had to be satisfied. Rejecting the ambitious plan as unworkable, the city council instead recommended massing barriers on the eastern municipal boundary. Though many residents continued to feel that 'any barricading was unconstitutional, antidemocratic, and racially motivated,' a version of this plan was approved in a 1989 referendum.

Construction then began to secure the perimeter of Miami Shores. The city hired Randall Atlas, a local architect specializing in the 'planning, design, and construction of criminal justice facilities, building security, anti-terrorism and infrastructure protection' to supervise the design and construction of the barricades.[144] Atlas devised a system of heavily landscaped berms that would prevent vehicular traffic and discourage pedestrians even as they disappeared in their surroundings. This camouflage had been implicit in the nomenclature on the ballot: rather than 'barricades' residents found themselves voting for or against 'environmentally designed devices.'[145] In Atlas's plan, the barricades were to be covered with masses of verdure that might have been taken straight from Scott's nineteenth-century primer on 'beautifying home grounds'; planning meetings 'sounded like a gardeners' convention.'[146] City councilors warmly endorsed the designs, expressing their 'support for small flowering trees, sabal palms and decorative wood' while rejecting 'heavy wood railing and ornamental iron fencing.'[147] As one put it: 'I think the consensus of the council is we're going to make Miami Shores more beautiful through this barricade program... The direction we set here will affect the village for years to come.'[148]

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[138] Although officially classified as a 'municipality,' the website and promotional materials of Miami Shore identify it as a 'village.'

[139] Blakely, *Fortress,* 119.

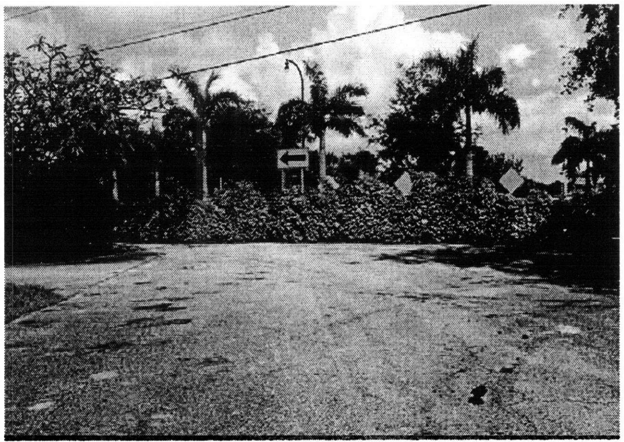
[140] Blakely, *Fortress,* 119.

[141] See Oscar Newman, *Defensible Space: Crime Prevention through Urban Design* (New York: Collier Books, 1973).

[142] Schmaltz, 'Floridians.'

[143] Catherine Wilson, 'Neighborhoods Afraid of Crime, Tired of Traffic.' *Associated Press,* 11 December 1988.

[144] Randall Atlas, 'Resumé.' Retrieved from 'cpted-security.com/atlas/index,' 10 July 2008.



Municipal boundary of Miami Shores, 2008. (Carlos Quijano)

Yet ultimately the demand for perimeter security proved too great for these principles. The barricade scheme not only heightened animosity among residents of Miami Shores, but also focused the anger of municipal neighbors. The result was immediate and ongoing vandalism of Atlas's landscaped berms, many of which were driven over in protest. What had begun as an attempt to reduce threats from outside ended by heightening social tensions. The council then called Atlas back to 'fortify' the berms with 'cement curbs, rail ties, and metal posts.'[149] Twenty years on, these devices have been obscured by shrubbery, the hard heart of the city limit.

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[145] Gina Shaffer, 'Shores Officials Want Barriers that Beautify as Well as Block.' *Miami Herald,* 1 June 1989.
[146] Shaffer, 'Officials.'
[147] Shaffer, 'Officials.'
[148] Shaffer, 'Officials.'

The case of Miami Shores suggests the degree to which 'perimeter security' has begun to fuse with urban design. But the most striking—and best documented—example of this fusion is the security plan drawn up for Washington, D.C. after the terrorist attacks of 1995 and 2001. Conceived jointly by architects, urban designers, landscape architects, and security consultants, the 'National Capital Security and Urban Design Strategy' is designed to address, in the words of Interagency Security Task Force chairman Richard L. Friedman, 'the alarming proliferation during the last decade of unsightly and makeshift security barriers that are negatively impacting the historic beauty of Washington, D.C. The Plan reflects our strong conviction that we can have both good urban design and good security; that as we invest to make our streets and public spaces safer, we can also make them more beautiful.'[150] A 2005 addendum published by the same agency stated that the plan will 'protect the design principles inherent in D.C.'s historic plan and its historic resources and minimize the physical and visual intrusion of security barriers into public space (such as the national capital's vistas, rights-of-way, parks, squares, circles and plazas). These spaces, vistas and environs embody the American ideals of a free and open society.'[151]

In 1986, the President of the Senate, Robert Dole, proposed an invisible 'electronic fence' around the Capitol building.[152] Dole could hardly have foreseen how this principle would be expanded two decades later to encompass every aspect of urban design in the capital. The National Capital Security and Urban Design Strategy treads a narrow path between 'physical perimeter security for federal buildings and the vitality of the public realm...by keeping it open, accessible and attractive.'[153] 'The nation must not guard against terror,' the preface reads, 'at the expense of a long-standing national ideal: the appreciation—indeed, aspiration—for openness, accessibility, and comfort within the public domain.'[154]

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[149] Blakely, *Fortress*, 120.

[150] National Capital Planning Commission, *The National Capital Urban Design and Security Plan* (Washington: National Capital Planning Commission, 2002), iii.

[151] National Capital Planning Commission, 'National Capital Urban Design and Security Plan Objectives and Policies' (5 May 2005), 2. Accessed at: 'www.ncpc.gov/userfiles/file/ncudspaddendum050505.pdf.'

[152] 'Capitol Security Is Reviewed.' *New York Times*, 26 April 1986.

[153] National Captial Planning Commission, 'Objectives,' 1.

Yet however noble the intentions of its authors—some of the most prominent designers in the country—the National Capital Security and Urban Design Strategy is based on an idea with portentous implications: that to the maximum degree possible the materials and practices of enforcing social and political order should be indistinguishable from the structure of the city itself. The plan is a succinct statement of theoretical and practical fusion of urban design and security consultancy. The notion of landscape is crucial to such fusion:

> When physical perimeter security is necessary, it should be located within and integrated into the design of the building yard. If there is no building yard, as typically found in urban areas, it may be necessary to place physical perimeter security measures in public space. This should be done in an unobtrusive manner that appropriately integrates the security barriers into an attractive urban landscape.'[155]

Physical walls thus yield to a growing yet impalpable discipline of surveillance and search. The commission recommends that 'pedestrian screening security operations' required to maintain public safety 'should not be conducted in public space.'[156] At the same time, 'decorative tree wells, planters, light poles, signage, benches, parking meters, trash receptacles and other elements and public amenities'—the hallmarks of what the architect Vincent Scully called 'decent urbanism'—are drafted into duty as security bollards, blast-proof barriers, and closed-circuit cameras.[157] Streets are to be designed 'in a manner that builds upon existing streetscape standards and minimizes the contrast between security and streetscape elements.'[158] In the final report distributed to politicians and the press, pastel watercolors and pencil sketches convey loose and easy urbanity, the view of a flâneur—with not a wall or barrier in sight. The architect Thom Mayne has built a career refining these principles around prominent public edifices. 'Despite the high level of security the building demands,' one critic gushed on the new Federal Building of San Francisco, 'the architect forged a rich hierarchy of public zones. The concrete cylinder bollards that surround the plaza and protect it from car bombings are scattered in an informal pattern and double as stools; a cafe anchoring the southeast corner of the site will give government workers a chance to mingle with the masses at lunch hour.'[159]

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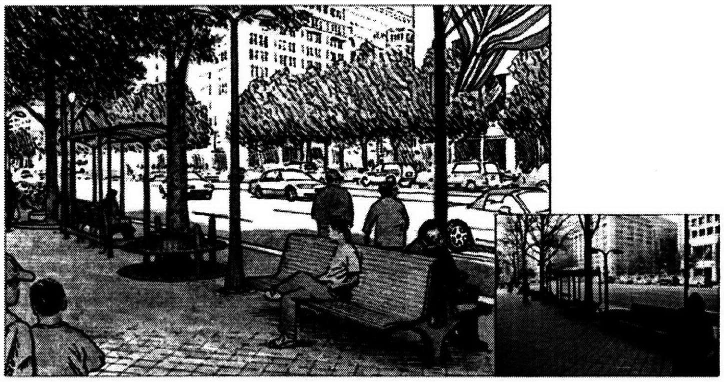
[154] National Capital Planning Commission, *Plan,* 1.
[155] National Captial Planning Commission, 'Objectives,' 4.
[156] National Captial Planning Commission, 'Objectives,' 7.
[157] National Captial Planning Commission, 'Objectives,' 6.
[158] National Captial Planning Commission, 'Objectives,' 8.



Where is the wall? Perimeter security as urban design. (Reprinted from *National Capital Security and Urban Design and Strategy*, 2002)

The wall is thus increasingly splintered into devices of surveillance and control that spread evenly and imperceptibly across the urban landscape. Michel Foucault famously called such dematerialization of power 'Panopticism':

> In order to be exercised...power had to be given the instrument of permanent, exhaustive, omnipresent surveillance, capable of making all visible, as long as it could itself remain invisible. It had to be like a faceless gaze that transformed the whole social body into a field of perception.[160]

In the world that Foucault posited, real walls are not necessary—indeed they undermine control by giving power a face and those who would contest it a target. The wall instead is everywhere and nowhere. The National Capital Security and Urban Design Strategy is but one example of the ways in which designers—and design itself—are called upon to sustain the illusion of a world without walls;

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[159] Nicolai Ouroussoff, 'More Openness in Government (Offices, That Is).' *New York Times,* 14 March 2007.
[160] Michel Foucault, *Discipline and Punish: The Birth of the Prison* (New York: Vintage Books, 1995 [1977]), 214.

there will be many others. Yet even as the wall assumes new forms that elude the gaze and evade politics in the American city, there is one place where its has continued to harden: the enclosing perimeter of the nation.

Enclosing the land. As the modern territorial state subsumed and superseded the city in the seventeenth and eighteenth centuries, the forms and practices of urban enclosure moved to the boundaries of nations. Though the distance of the national boundary from everyday life means that it is often manifested by symbols rather than real fortification (imposing gates, customs houses), there has also been a demonstrable tendency over the past century to give shape to the nation through walls, fences, earthworks, or combinations of these.

If the dream of 'total isolation' can be traced to the heavily-fortified Renaissance city, it was mass production that made this dream increasingly tempting at the scale of the national territory. The Maginot Line of the 1930s was an elaborate system of above-ground fortifications (its reinforced ramparts thicker than any in history) atop an underground network of railway tunnels, bunkers, living quarters, and storehouses.[161] But modular concrete barriers would ultimately prove a cheaper and faster means of isolating a territory: the western half of Berlin was sealed in a concrete tourniquet in a matter of weeks.[162] During the five-year occupation of Iraq, United States forces have transformed the urban landscape of Baghdad by dropping twelve-foot-high barriers between Sunni and Shia neighborhoods.[163] The Palestine Barrier Wall, part of a network of fortifications girding the West Bank, is made of similar modules. The sheer grey face of this edifice—twenty feet high in places—is a powerful emblem in an age when boundaries are taken to be breaking down all over the world. Boundaries, but not walls.

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[161] 'Maginot Line.' In *Encyclopædia Britannica*. Retrieved from 'www.search.eb.com/eb/article-9049999,' 17 July 2008.

[162] Alexandra Richie, *Faust's Metropolis: A History of Berlin* (New York: Carroll & Graf, 1998), 723. The initial enclosure of West Berlin with barbed wire took only several hours in the early morning of 13 August 1961.

[163] Mark Tran, 'US Builds Baghdad wall to keep Sunnis and Shias apart.' *The Guardian*, 20 April 2007.

The contemporary United States embodies this apparent paradox. In the wake of the 2001 attacks, the question of how—or whether—to mark the country's political boundaries has become a matter of pressing concern.[164] One of manifestations of this concern was the sudden emergence in the Southwest of the 'Minuteman Civil Defense Corps,' an affiliation of local residents committed to erecting 'a near-impenetrable fortification that is worthy of guarding you and your families, and this sovereign nation' along the entire boundary with Mexico.[165] In the face of 'a government...not interested in the creation of a solid, trustworthy defense' against 'terrorists, rapists, and drug dealers,' the group began to construct such a defense itself.[166]

The awkward spectacle of citizens bolting together scraps of deer fencing and barbed wire galvanized public consciousness and spurred Congress to approve the 'Secure Fence Act of 2006,' which mandates construction of seven hundred miles of double-layered fence along the southern boundary. Debate on the legislation went on for days and was uncommonly heated, many lawmakers bristling at both the cost and symbolism of the project. As the bill neared passage, one senator reassured his constituents: 'We are here today to take a real first step... toward demonstrating to the American public that we have heard you, that we understand we need to address border security first.' A weary colleague responded skeptically: 'You show me a 50-foot wall and I'll show you a 51-foot ladder... That's the way the border works.'[167]

Though reported only fitfully in the press, sections of this national fence have been completed in Arizona and California. A line once marked by 'just a four-strand cattle fence' has begun to take on bulk and heft. Yet despite its symbolic significance, the shape of this enceinte has been determined largely outside of public debate. 'The fence is not likely to win any architecture awards,' one journalist recently wrote:

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[164] The sociologist Richard Sennett has distinguished between 'borders' and 'boundaries.' Sennett argues that borders divide 'us and them': they are the hard edge of the world, the line between people who do not, or cannot, communicate. By contrast, boundaries subdivide 'us and us,' or people who share some identity. (Richard Sennett, personal communication, Cambridge, Massachusetts, 19 October 2005.)

[165] Minuteman Civil Defense Corps, 'Texas Mayors Betray U.S. Security? Minutemen are not Deterred!' Retrieved from 'www.minutemanhq.com/bf,' 17 July 2008.

[166] Minuteman Civil Defense Corps, 'Mayors.'

[167] *Congressional Record—Senate,* 29 September 2006, S10611-S10612.

> It's a hodgepodge of designs. The best—sections of tall, concrete-filled steel poles deeply rooted, closely spaced and solidly linked at the top—are bluntly functional. The worst—rusting, graffiti-covered, Vietnam-era surplus—are just skeevy walls of welded junk. Whether you think it's a sad necessity or a crude brutality, the fence is not a sight that stirs pride.[168]

The national enclosure thus resembles nothing so much as a linear landfill, the detritus of post-industrial America strung along the southern boundary bad side out. But despite poor design and shoddy construction, the more important weakness in this wall is flimsiness of conception. Intended to disorient and discourage those who attempt to cross the boundary illegally, it has more often disrupted the entwined local economies on either side of it. Even border agents are confused, and often 'find themselves coming upon sections they've never seen before.'[169] In Nogales, the largest town on the Arizona boundary, 'homes and businesses crowd so close' to the boundary that no fence can be constructed without demolishing existing buildings.[170] The wall also threatens to divide the campus of the University of Texas at Brownsville, and several mayors of other cities in that state have filed a lawsuit to halt construction.[171] Another lawsuit accuses the Department of Homeland Security of improperly waiving environmental review laws and neglecting to take into account animal as well as human patterns of movement.[172]

Even on the terms of the agencies responsible for it, the wall is not 'bluntly functional' but marginally effective. Certain zones have reported drops in crossings, but a recent study of immigrants from several Mexican states found that between ninety-two and ninety-eight percent of those who set out to cross the border and were caught the first time eventually succeeded—a figure no lower than in 2005.[173] 'As fast as they put it up,' one border agent noted, 'on the southern side they take plasma torches and cut holes.'[174] Passage is simply more lethal now, as migrants in search of weak spots risk death by thirst and exposure in the Sonoran desert. The border fence does not change the fundamental dynamic of the boundary zone: the gap in wealth between the United States and Mexico is among the greatest of any two neighboring states in the world, and this difference will continue to drive migration. Its builders—the elected representatives of the country—have merely sacrificed a complex social, economic, and familial landscape for the sake of saying 'we have heard you.' The national wall is a jerry-built nostrum for an uneasy populace.

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[168] David Von Drehle, 'A New Line in the Sand.' *Time,* 30 June 2008, 28.
[169] Von Drehle, 'Line.'
[170] Von Drehle, 'Line.'
[171] Randal C. Archibold and Julia Preston, 'Despite Growing Opposition, Homeland Security Stands by Its Fence.' *The New York Times,* 21 May 2008, 18.
[172] Archibold, 'Fence.'
[173] Wayne A. Cornelius et al., *Controlling Unauthorized Immigration from Mexico: The Failure of "Prevention through Deterrence" and the Need for Comprehensive Reform* (La Jolla: Center for Comprehensive Immigration Studies, 2008), 3.
[174] Archibold, 'Fence.'

Scaling the national wall in Arizona, 2008. (Reprinted from *Time,* 30 June 2008)

Trucked in under darkness, cobbled of waste and surplus, designed only to exclude an intangible 'Other,' the border fence embodies the contradictory tendencies that have long underlain the marking of territory in the United States. A fortified boundary sends an uncomfortable message—to the world but also to ourselves. As one senator put it: 'We need to stop and think about the mark a fence like this will make on our character as a nation. Once this fence is built, it will be very difficult to go back, and we will have taken a step down a road that I do not think a civilized and enlightened nation should travel.'[175] These words speak to the tensions between physical bounding and social goods that have been explored in this chapter: the wall is a barbarism of the old world, a turning away from liberal patrimony—but it is a barbarism that seduces the imagination in a time of fear. The border fence thus limns not only the territory of the nation, but the ambivalence between hope and dread, democracy and security, community and individual that has underlain American society from the beginning. In doing this, it limns a challenge to design.

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[175] *Congressional Record—Senate,* 29 September 2006, S10610.

V Lineaments of a Recovery

In an essay on 'dilemmas of group autonomy,' the legal scholar Gregory Alexander argues that

> groups must accept a civic obligation to maintain community within our society. Meeting that obligation requires a praxis of openness and dialogue... Genuine community requires dialogue, robust and continuous. Such dialogue can occur even while boundaries are maintained; indeed it may require boundaries. But it cannot occur in the presence of walls.[176]

The idea that walls violate a core principle of American society and inhibit 'genuine community' is a widespread one. Andrew Ross suggests that 'historically speaking, the United States has not been a land of fences.'[177] This is demonstrably untrue: beyond the enclaves of Downing's clients, fencing remained an emblem of progress and citizenship well into the twentieth century.[178] Dennis Judd likens the modern gated community to 'the walled cities of the medieval world, constructed to keep the hordes at bay'—a tempting but facile analogy.[179] And Edward Blakely concludes his study with a teleology of openness: 'all of the walls of prejudice, ignorance, and economic and social inequality must come down before we can rendezvous with our democratic ideals... Then the walls that separate our communities, block social contact, and weaken the social contract will also come down.'[180]

But does the first part of this proposition really lead to the second? In taking walls to be incommensurable with dialogue, democracy, and justice, these readings exemplify a serious problem:

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[176] Gregory S. Alexander, 'Dilemmas of Group Autonomy: Residential Associations and Community.' *Cornell Law Review* 75:1 (1989), 25.

[177] Ross, Nation,' 117.

[178] John Stilgoe, *Common Landscape of America* (New Haven: Yale University Press, 1982), 188-192.

[179] Judd, 'Cities,' 160.

[180] Blakely, *Fortress*, 177.

they leave little room for practical action. The notion that *good* walls might be built—that walls might take their place beside streets and buildings among the 'complex systems of functional order' that Jane Jacobs saw in all resilient cities—is scarcely to be found in contemporary accounts of the American environment.[181] Absence of walls is taken as transparent expression of 'community,' their presence *ipso facto* return to an illiberal—and even barbarous—order. This is the message of Robert Frost's widely misquoted 'Mending Wall,' whose famous refrain is spoken not by the narrator but by his benighted neighbor, bound by the practices of his forebears:

> Something there is that doesn't love a wall,
> That wants it down.' I could say 'Elves' to him,
> But it's not elves exactly, and I'd rather
> He said it for himself. I see him there
> Bringing a stone grasped firmly by the top
> In each hand, like an old-stone savage armed.
> He moves in darkness as it seems to me—
> Not of woods only and the shade of trees.
> He will not go behind his father's saying,
> And he likes having thought of it so well
> He says again, 'Good fences make good neighbors.'

In these words lies the impoverishment of walls in the American landscape. As the standards for judging physical barriers have narrowed to marking property and delivering 'security,' the scope of their performance has been reduced to these functions. Both advocates and critics of walls tacitly accept this narrowing: the prime function of walls is to 'block social contact,' and how one judges them depends on how one views this function. It is not surprising therefore that the conventions of disguise that began in the nineteenth century suburb have hardened into a general principle of marking territory: because of what they are taken to represent, walls must be concealed and forgotten—even as demands on them to be impenetrable grow more pressing.

Yet what is needed are not better methods of concealing walls but better models for revealing them. This is not to say that physical barriers should be everywhere: one must always consider whether a given wall meets standards of political, social, and ecological justifiability. But the mere fact that many—even most—walls in the American landscape do not meet such standards is not sufficient reason to reject walls as a problem of design and building. Not only does such rejection delegitimize claims by groups and individuals for physical or social refuge, it fails to point the way toward work in the realm of real things.

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[181] Jane Jacobs, *The Death and Life of Great American Cities* (New York: Vintage, 1961), 428.

Blakely distinguishes between the wall as an object and the social reality that it expresses. 'The real issue is not about the actual gates or walls,' he writes, 'but why so many feel they need them.'[182] But 'actual gates or walls' are not so easy to disentangle from people's feeling that 'they need them': the two are coupled in both directions. Even as 'groups must accept a civic obligation to maintain community within our society,' this obligation must begin in the landscape that really exists. The American landscape has become more and more walled over the last half century, and there is little to indicate that this trend is slowing. Yet the narrowness with which walls are conceived has meant that this process has been overwhelmingly deleterious to the built environment. Seeing walls only as expressions of social pathology releases from obligation the people and institutions who build them: stifling the imagination, it cedes the ground to bad walls. Blakely's argument should therefore be reversed: the wall is very much 'the real issue.' Rather than look forward to a world where the walls come down, it is necessary to expand the scope of what walls can do.

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[182] Blakely, *Fortress*, 3.

3 Recovering the Wall

The first chapter of this essay examined land division in early civilizations and considered the process by which the legal notion of the 'boundary' was sundered from its physical manifestation as wall. This change was related to the development of modern methods of surveying and mapping in the Renaissance, which resulted from and reinforced the notion of land as commodity. Thenceforth subdivision took on a quality of abstraction: dividing a territory into legally distinct parcels did not rely on the construction of walls or other physical markers on the land. The result has been a near universal condition of subdivision that is only at times reflected in physical objects. The wall was deracinated: from being embedded in particular places and social practices, gradually it became the mere physical expression of a legal idea that existed independently of and transcended it.

If the first chapter chronicled how the boundary and the wall gradually grew apart, the second related this development to the forms that the wall has taken in the American landscape. Chapter two argued that the ways boundaries receive or do not receive physical expression has always been marked by tensions and conflicts in American culture, from indiscriminate barbed wire enclosures on the Plains, to the landscape aesthetics of Alexander Jackson Downing in the nineteenth century, to the development of the split residential lot in recent times. As legal boundaries have proliferated in the American landscape, walls have grown increasingly subject to two equally pressing and often contradictory demands: impermeability and invisibility. The tension between these demands has greatly impoverished the wall as both process and material.

But pointing out a condition does not provide its antidote. A positive basis is needed for rethinking and expanding the notion of what a wall can do—indeed, what a wall is. Beginning to build that foundation is goal of this chapter. Its title is a call not to recapture a world where boundary and wall are one, but rather to see what has become a nearly universal condition—the boundary that establishes a difference between adjacent territories—as a design opportunity and ethical obligation. To accomplish this, the chapter broadens the chronological and geographical scope of inquiry; recovering the wall requires traveling to other places and times for examples and inspiration. And yet the most simple and durable models are close at hand, immediately available to the sharpened gaze: finally, an ethics of enclosure is not a return to the past but a recovery of attention.

This chapter is divided into five categories: 'habitat,' 'sustenance,' 'exchange,' 'mask,' and 'ritual.' Each of these functions refers to an aspect of walls that has weakened over recent centuries, but which still can be descried in examples drawn from both past and present. Many of these categories overlap and interpenetrate; together they begin to suggest the richness of functions that walls have served throughout history, and which they might serve widely again if carefully and conscientiously designed.

'Habitat' suggests that walls can function as places of dwelling for humans and other species, and considers three examples of such walls in very different places: the Amazon jungle, the slums of Newcastle, and rural England. 'Sustenance' widens the notion of dwelling to include the processes required to support human biological and social life. Not only have walls often provided food and fuel, but they have also frequently created ecological conditions favorable to the maintenance of human economies. The section explores this idea in two disparate environments: medieval England and the urban landscape of late twentieth-century America. 'Exchange' expands the first two categories to consider how walls can both mediate and function as stages for social, political, and economic transactions between individuals and groups. Beginning with a metaphor from biology, the notion of exchange will be explored in four different contexts: ancient Greece, medieval Europe, modern and traditional Japan, and the contemporary United States. 'Mask' broadens the notion of exchange to include performance and public presentation; cases from suburban Denmark, a nineteenth-century streetcar suburb, and contemporary Los Angeles exemplify this function of the wall. The fifth and final category, 'ritual,' follows from the notion of performance to consider the wall as a repeated event with religious or political significance. After examining two ceremonies central to Roman religious life and a medieval boundary marking ritual that has recently been rediscovered, the chapter concludes with a contemporary ritual that both embodies and defuses an ongoing political conflict between two states and two religions.

I The Wall as Habitat

It is common to think of walls as objects that divide territory. Particularly in Anglo-American culture, with its tradition of freestanding houses, setbacks, and lot fences, the wall is taken to define that space within which dwelling unfolds. Yet, throughout human history, walls have themselves provided physical shelter: whether in primitive settlements, rural agricultural fields, or modern urban civilization, the wall has long functioned as habitat for humans and other species. Understanding the breadth of this function requires seeing old forms in new ways.

Foundations. Among his many legacies, the structural anthropologist Claude Lévi-Strauss is perhaps best known among architects and planners for his accounts of the Bororo people, whom he encountered on trips through central and eastern Brazil in the 1930s and 1940s.[1] Though the Bororo had been encountered by earlier scholars, it was Lévi-Strauss who introduced their society to a wide audience.

Lévi-Strauss was interested in the Bororo for their highly complex system of kinship relations. In examining the physical organization of the Bororo village, Lévi-Strauss found that it reflected and maintained this social order. At the center of the village was the 'men's house, which serves as a home for bachelors and a meeting place for the married men, and which is strictly forbidden to women.'[2] This structure was surrounded by a 'dancing place of beaten earth.'[3] From this central place multiple paths then led away

> through the scrub-covered area to the family huts, which form a circle at the forest edge. In these huts lives the married couples and their children. Descent is matrilineal, and residence matrilocal. Thus the opposition between the center and the periphery is also an opposition between men (owners of the men's house) and women (owners of the encircling huts).[4]

This encircling 'wall' consisted of twenty-six huts; concentric rings might be added in times of population increase, but no single ring was allowed to depart from that number.[5] Lévi-Strauss described how this concentric arrangement was also overlaid with other structures: in particular, the entire village was divided into 'two moieties by an east-west axis which divides the eight clans into two groups or four ostensibly exogamous units.'[6] This division was generally drawn perpendicular to the watercourse on which the village lay, the two halves being referred to as 'upstream' and 'downstream.'[7]

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[1] See Claude Lévi-Strauss, *The Elementary Structures of Kinship* (Boston: Beacon Press, 1969 [1949]); *Tristes Tropiques* (New York: Athaneum, 1974 [1955]); *Structural Anthropology* (New York: Basic Books, 1963 [1958]).

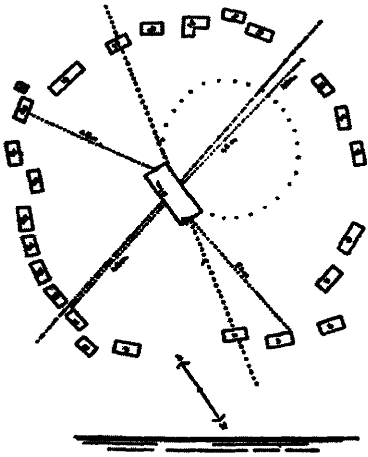
[2] Lévi-Strauss, *Anthropology*, 142.

[3] Lévi-Strauss, *Anthropology*, 142.

[4] Lévi-Strauss, *Anthropology*, 142.

[5] Lévi-Strauss, *Tristes*, 219.

[6] Lévi-Strauss, *Anthropology*, 142.



Claude Lévi-Strauss's map of a Keraja village, similar in structure to that of the Bororo. The lines at the bottom denote the River Vermelho. (Reprinted from Levi-Strauss, 1974)

Thus, at any point on its circumference, the inhabited wall of the village was identified with gender, clan, and location within the surrounding topography. Bororo society did not distinguish between bounding, dwelling, and maintaining social order; even as it served as the primarily shelter for families, the wall embodied Bororo cosmology. The importance of this circular structure, which Lévi-Strauss likened to a cart-wheel, was pointed up by its use 'not only in the permanent villages but also in encampments set up for a single night.'[8] Salesian missionaries had been quick to exploit this relationship, realizing that 'the surest way to convert the Bororo was to make them abandon their village in favor of one with the houses set in parallel rows.'[9] The inhabited wall did not defend against an external invader, but embodied relationships and beliefs that would be disrupted in its absence. The Bororo did not need the wall to know when they were in the village and when they were outside it; rather, they needed it because it encoded the relationships between genders and clans within their society, as well as the place of that society within a larger cosmos. Removing the wall was tantamount to a collapse of that cosmic order: 'It was as if their social and religious systems...were too complex to exist without the pattern which was embodied in the plan of the village and of which their awareness was constantly being refreshed by their everyday activities.'[10]

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[7] Lévi-Strauss, *Structural,* 142.
[8] Lévi-Strauss, *Structural,* 142.
[9] Lévi-Strauss, *Tristes,* 221.

Levi-Strauss's accounts exerted a profound influence on a wide range of disciplines in the 1950s and 1960s. One of these was design, where architects and city planners increasingly sought alternatives to the rationalism that had held sway for over a century. An anthropological approach to settlement form meant looking to 'primitive' architectural forms like the Bororo village for models. As one of the founders of the group of architects known as Team 10, Aldo Van Eyck, noted in 1965: 'The time has come to gather the old into the new; to rediscover the archaic qualities of human nature, I mean the timeless ones... Modern architects have been harping continually on what is different in our time to such an extent, that even they have lost touch with what is not different, with what is always essentially the same.'[11] Against what Van Eyck saw as the 'narrowing down of experience' that had led architecture to become 'sterile and academic—literally abstract,' Team 10 sought to learn from cultures like the Bororo where the boundary between building, society, and belief appeared non-existent.[12]

Desert fortress in southern Morocco, from the exhibition 'Architecture Without Architects.' (Reprinted from Rudofsky, 1964)

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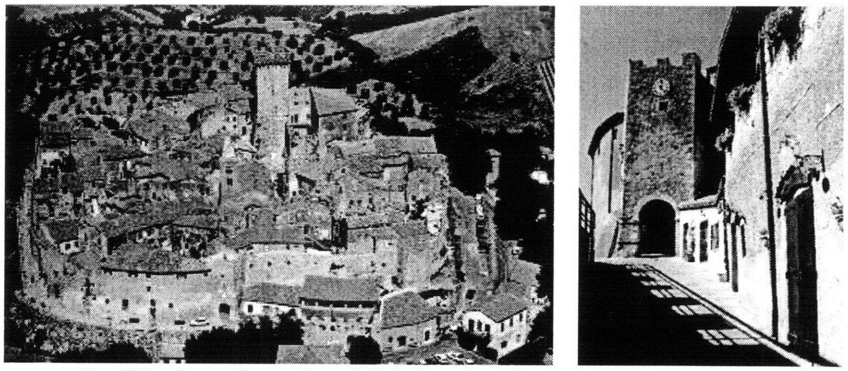
[10] Lévi-Strauss, *Tristes,* 221.
[11] Aldo Van Eyck, 'Address to Otterloo Meeting.' In Alison Smithson ed., *Team 10 Primer* (London, 1968 [1965]), 3.
[12] Van Eyck, 'Address,' 3.

The trend toward 'organicism' was captured in an exhibition of photographs at the Museum of Modern Art in 1964. Curated by the architectural historian Bernard Rudofsky, 'Architecture Without Architects' was designed to 'break down our narrow concepts of the art of building by introducing the unfamiliar world of nonpedigreed architecture.'[13] Among the most discussed exhibitions of the 1960s, it showed human constructions in a wide array of topographical and climatic environments, from the Chinese village of Ho Keou, built entirely on stilts, to the cliff dwellings of the Dogon in Sudan, to the troglodytic town of Pantalica in Sicily. But Rudofsky appeared particularly fascinated by places where walls and houses were indistinguishable—where the enclosing enceinte and the habitation were one. Often these settlements were pictured in strange and hostile landscapes where they appeared to defend against not only outside invaders but also harsh conditions of climate and topography. 'Neither house nor town but a synthesis of both,' Rudofsky wrote in the exhibition catalogue, 'this architecture was conceived by people who build according to their own inner light and untutored imagination.'[14]



Capalbio: the wall as defense and habitation. (Comune di Capalbio, 2008)

Among the settlements featured prominently in 'Architecture Without Architects' were the walled towns of the Italian peninsula, and particularly the hill towns of central Italy. Settlements such as San Giminiano and Pienza, draped over the crest of a hill with fields and orchards rolling down the gentle slopes below them, continue to be seen by many architects and planners as an ideal urban model. The fortifications that surrounded these towns protected them from both competing princes and roaming bandits, and provided prospect over the land on which survival ultimately depended. But in many cases the fortification itself provided dwelling places to the town's residents. At Capalbio, founded in 805, one-room apartments were built straight through the wall and connected to the town and each other by a narrow path along the parapet. The residents of these apartments, with their extensive view over the surrounding countryside, provided a crucial first defense for the town. In the twentieth century these apartments were largely abandoned as new suburbs grew on the hill below the medieval town; recently they have been claimed by tourists for whom their peculiar form and prospect over land and sea is a matter not of survival but of speculative profit.

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[13] Bernard Rudofsky, *Architecture Without Architects* (Garden City, New York: Doubleday, 1964), preface [np].
[14] Rudofsky, *Architecture,* 59.

If the inhabited wall of Capalbio was the product of the distinctive conditions of the Middle Ages, the wall that marked territory and provided habitat was later to appear in a novel form that emerged from the excesses of unrestrained speculation in the late nineteenth-century industrial city: the 'sanitized' perimeter block.

By 1900 the six- and seven- story tenement had become the standard type of worker housing in many of the growing industrial cities of continental Europe. Whether in Paris, Copenhagen, Berlin, or Genoa, these tenements were marked by what Lewis Mumford described as 'the same dreary streets, the same shadowed, rubbish-filled alleys, the same absence of open spaces for children's play and gardens; the same lack of coherence and individuality to the local neighborhood.'[15] Developers built these tenements on a simple principle: elegant housing for the middle and upper classes on the street frontage, 'back houses' behind them for the poor. Flats on the street frontage went through the building and were well ventilated and lighted. But the back houses, far from the bustle of the street and shorn of both ornament and amenities, were pestilential. The historian Alexandra Richie recalled her own residence in such a *Hinterhof*, or back court, in the East Berlin of the 1980s:

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[15] Mumford, *City*, 465.

> The only door from the street led to a short dark corridor which in turn opened on to the first of four dingy courtyards of 28 square meters, the space once required for horse-drawn fire engines to turn. Rubbish was piled near the entrance, the wooden windows and doors were rotting in their frames and the grey-green stucco...fell from the damp walls. Its oppressive nineteenth- century character was made all the more unpleasant by the sense of decay and fear which was omnipresent in the back streets of Honecker's Berlin, and by the occupants of the ground floor...who would peer out from behind their filthy net curtains to check on the comings and goings of all the occupants.[16]

As bleak as these conditions might sound, the situation in the late nineteenth century was far worse. A single room in a back house—often separated by three buildings from the street—might house between ten and twenty people; the intervening courts were used primarily as outhouses. With only one window, flats received no through ventilation and little if any sunlight. The result was a 'breeding ground for illness and disease' where the infant mortality rate sometimes exceeded forty percent.[17] By the early twentieth century the density of Berlin—where over 60,000 people were officially listed as inhabiting coal cellars in the *Hinterhöfe*—was the highest of any city in Europe, and its tenements earned the infamous moniker they still bear: *Mietskasernen* or 'rental barracks.'[18]

The urban block thus described a social hierarchy: along the perimeter, the well-to-do; in the building directly behind, the working poor; deeper still, the destitute and the mad. Depending on which side of their flat they looked out of, the residents of the perimeter building would see either bustling street life or appalling squalor. This lateral geography was further complicated by a reverse vertical ranking that dated to the Roman city, in which wealth and status decreased with every additional floor. The hierarchy thus descended from the *piano nobile* of the perimeter building to the seventh floor garret of the deepest back house. The Danish writer Tove Ditlevsen memorably described this hierarchy in her autobiographical novel *Childhood Street,* which depicts a girl growing up in a back house of Copenhagen:

> Ellen stands swinging the pink purse she is desperate to make Ester notice. She is

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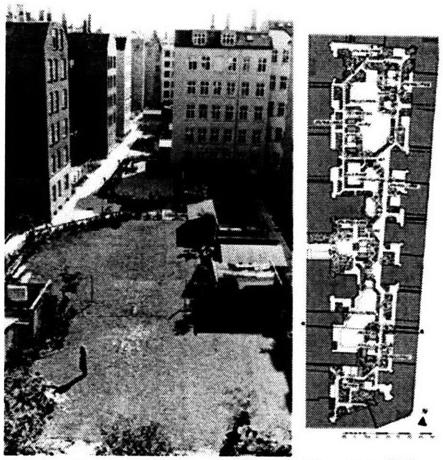
[16] Richie, *Metropolis,* 162-163.
[17] Richie, *Metropolis,* 164.
[18] Richie, *Metropolis,* 163.

> wearing a brown velvet coat, white stockings and brown rubber boots. Bursting with conceit because she lives on the second floor of the front house, where there is an extra space she calls 'my room'—even though it's really used as a coal closet.[19]



Perimeter block renovation in Copenhagen, 1980s. (Reprinted from Gaardmand, 1993)

The configuration of the tenement lot was to change radically in the decades after the second world war, as back houses were acknowledged to breed both disease and social rebellion.[20] In Berlin and Dresden, 'sanitization' of dense tenements and the clearing of block interiors was accomplished by bombs; cities like Copenhagen that had avoided destruction had to wait for the 1960s and 1970s, when sustained public agitation forced the national government to spend millions of crowns demolishing back houses and converting block interiors into gardens and playgrounds. Thus the spatial and social culture that Ditlevsen evoked was replaced by a new urban typology: the central block park. Perimeter buildings came to resemble a wall girding this inner territory against the noise and grime of the street outside. The hierarchical relationship between street frontage and house back was reversed, and, in the space of fifty years, the block interior went from locus of disease to cherished urban amenity.[21] In most cases this amenity remains closed to passersby, the domain of the inhabitants of the wall.

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[19] Tove Ditlevsen, *Barndommens Gade [Childhood Street]* (Copenhagen: Hasselbach, 1986 [c1941]), 14. Translation by the author.

[20] The Berlin district with the densest tenements, Wedding, was the center of 'Red Berlin' in the 1910s and 1920s and continues to be a stronghold of the former Communist Party. See Richie, *Metropolis*, 169-170.

[21] Arne Gaardmand, *Dansk Byplanlægning 1938-1992 [Danish City Planning 1938-1992]* (Copenhagen: Arkitektens Forlag, 1993), 245.

Erskine's wall. These were some of the models on which the English and Swedish architect Ralph Erskine (himself a founding member of Team 10) based a radical proposal for the redevelopment of a neighborhood in Newcastle, England in 1969. Hailed by many architects and social critics as a departure from the modernist paradigm that had dominated urban planning since the 1920s, the 'Byker Redevelopment' contains important lessons for the design and maintenance of inhabited walls in the modern landscape.

Home to 18,000 of Newcastle's poorest residents, the Byker neighborhood had been in decline for many years due to the disappearance of the textile industry after the second world war. Though it was 'blighted' (to use the terminology of the day) by substandard housing and sanitation, Byker nevertheless retained a high degree of what the American sociologist Robert Putnam called 'social capital': tightly-knit family and community structures built up over many years and multiple generations. In addressing the problems of the neighborhood, the city planners of Newcastle were eager to avoid the failures of modernist redevelopment schemes elsewhere in Britain and the United States. They therefore solicited a redevelopment proposal specifically from Erskine, already well known in both Sweden and England for his unconventional approach to housing form and the design process.[22]

One of Erskine's central concerns was to preserve as much of the existing social structure of Byker as possible at the same time that its physical structure was almost completely replaced. To do this Erskine adopted a number of innovative policies: from preserving important cultural and social landmarks like churches, pubs, and workmen's clubs; to soliciting ongoing resident opinions on the design; to moving his office to Byker during most of construction. Like the planners who had hired him, Erskine was eager to avoid the mistakes of the housing schemes of the 1950s and early 1960s, with their rigid orthogonal layouts and monotonous concrete architecture. His plan for the neighborhood thus proposed varied street patterns and the height, shape, and materials of the new residences. No single type of housing dominated the plan, and 'no apparent layout system [was] allowed an infinite run.'[23]

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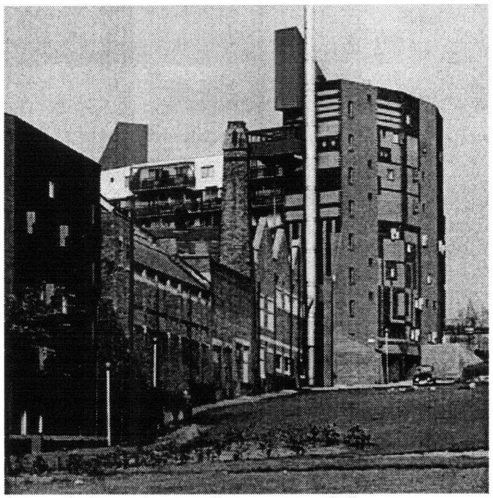
[22] Robin Abrams, 'Byker Revisited.' *Built Environment* 29:2 (2003), 117. See Robert Putnam, *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon and Schuster, 2000).



Two faces of the Byker Wall. (Reprinted from Dunster, 1979)

But the most striking feature of Erskine's plan was its northern perimeter. Here a curving edifice of apartments up to eight stories high and over one kilometer long wrapped the neighborhood in its embrace. 'The Byker Wall' blocked sound (a motorway had been proposed between Byker and the neighborhood to its north) and shielded the residences in its shadow from the incessant Northumbrian wind; the result was a microclimate favorable for the cultivation of lush gardens along south-facing land that sloped down toward the Tyne. The interior side of the wall was richly varied in architectural treatment, with valanced timber balconies, extensive irregular fenestration, and an staggered façade that broke up what might otherwise have been an oppressive edifice. It incorporated older structures of the neighborhood, and residents embellished their balconies at Erskine's urging with opulent plantings and bright paint. A later observer noted that such 'backyard bricolage... avoid[ed] the fairground by a hair's-breadth.'[24] This whimsy did not extend to the nearly windowless north side of the wall, which formed an imposing barrier despite Erskine's attempts to enliven it with decorative brick courses and colored cantilevered panels. The project quickly grew famous, and one contemporary architecture critic recently called it 'the cynosure of the world.'[25]

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[23] David Dunster, 'Walled Town: Byker redevelopment, Newcastle-upon-Tyne.' *Progressive Architecture* 60:8 (1979), 70

[24] Dunster, 'Walled,' 68.

The Byker Wall was seen by both planners and Erskine himself not as a place of interaction with the larger city but as an inhabited protective barrier. Social goods were taken to arise in the center of the neighborhood that spread below the balconies of wall residents. Motorized traffic was shunted to the less valuable perimeter while the rest of the neighborhood remained closed to automobiles. Yet subsequent events have shown that it is those edges—indeed the Byker Wall itself—that have prospered. The disinvestment of the Thatcher era devastated the new neighborhoods at the center of the development: the shops that Erskine placed there to retain and solidify community identity have nearly all been abandoned, and many of the flats have been boarded up. The lack of cars heightens the sense of abandonment. Residents have even agitated for demolishing some of Erskine's prominent structures, which architects have rushed to defend. 'Considering the extraordinary measures taken in its planning and design to enable it to succeed on both a social and environmental level,' the architect Robin Abrams writes, 'it [is] both alarming and worrisome to find that Byker has fared no better than the Brutalist schemes of the 1960s.'[26] Abrams is particularly unforgiving of the rationale behind the wall. 'Perhaps the most important lesson to be learned from Byker,' she continues, 'is that the design of a new community, if it is to be a sustainable vision, must consider its perceived edges and boundaries as least as much as its center. These areas should support transition into and out of the community, not prevent it. The goal should not be to seal the new community off from its surroundings with walls and gates, but rather to seamlessly blend it in.'[27]

Yet depicting the Byker Wall as the sole source of the neighborhood's problems is misleading. A sound barrier between motorway and neighborhood had been mandated by planners long before Erskine was enlisted to design the project, and the architect gave this barrier an unusually thoughtful and innovative treatment. The social and ecological reasons that underlay Erskine's design were sound, evidenced by the wall's having remained the most resilient part of the neighborhood and its inhabitants the most satisfied of Byker residents.[28] Its 'bends and form have produced a south-facing microclimate of dense summer vegetation and sun-trapping spaces,' and its extensive windows and balconies encourage what Jane Jacobs called 'eyes on the street' of the adjacent low-rise housing clusters, which remain far safer than their counterparts at the center of the development.[29] Erskine's decision to replace a mere sound barrier with an inhabited wall was arguably not the failure of the project but its principle success.

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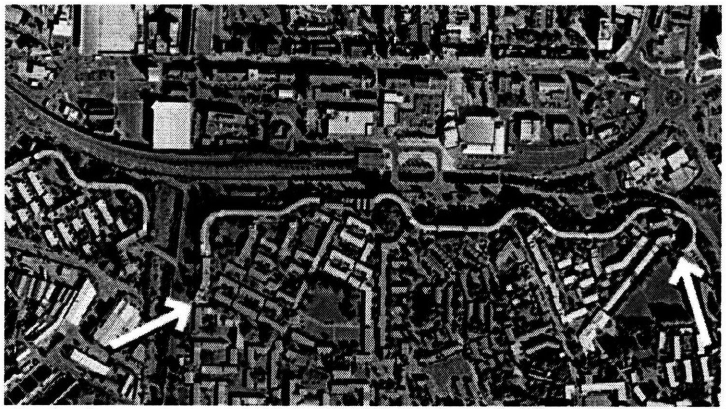
[25] Peter Davey, 'Outrage.' *The Architectural Review* 202 (1997), 1205.
[26] Abrams, 'Byker,' 127.
[27] Abrams, 'Byker,' 130.



The Byker Wall. The distance between arrows is over one kilometer; the main commercial street lies at the top of the photograph. (The Geoinformation Group, 2008)

If there can be said to be a single overarching problem with the Byker Wall, it is not that it defines a seam between Byker and its surroundings but that this seam is porous at the wrong scale and faces in one direction. Despite the fact that Byker adjoined a busy commercial district, Erskine did not use the wall to resolve the relationship between the two neighborhoods. Mere surface decoration was not sufficient: one reviewer noted that the embellishments on the north side accentuated rather than relieved the wall's length and monotony.[30] The potential of an inhabited wall where flats ran through the building—that it could have two distinct but equivalent sides—remained untapped. While grounded in sound environmental calculation, Erskine's neglect of the north side became apparent when the proposed motorway was scrapped: most Byker residents now must pass through a handful of narrow apertures to do their daily shopping, and the Byker Wall presents an unforgiving face to its urban neighbors.[31]

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[28] Abrams, 'Byker,' 128.
[29] Dunster, 'Walled,' 68; Abrams, 'Byker,' 124.
[30] Dunster, 'Walled,' 68.

Erskine's design for Byker exemplified the advantages and the drawbacks of using a medieval metaphor of enclosure in the modern city. The Byker Wall indisputably improved both ecological and social conditions in its shadow; such improvement depended substantially on its functioning not only as barrier but also as habitation. The architect's conceptual oversight lay not in the idea of enclosure but in his failure to see that in a dense subdivided landscape even the best designed wall cannot reasonably face in only one direction. The inhabited wall, at the same time it marks territory, must define a productive zone of transition—what ecologists call an 'ecotone.'[32] This brief was never fully resolved at Byker. The models for such resolution are better sought not in the city wall but in the hedges and fields below it.

Living fences. Hedging is among the most ancient forms of dividing and marking land: the modern English *hedge* derives from the Saxon *gehægen* or 'enclosure.'[33] In turn *gehægen* gave its name to the tree the Saxons used for wattle: *haga*, or hawthorn. While this suggests that early enclosures were often marked with woven hawthorn shoots, *gehægen* might equally refer to stone walls or embankments between territories. Some of these original 'hedges'—such as the earthen banks marking the Bronze Age enclosures of southwest England—are among the oldest artifacts still in use.[34]

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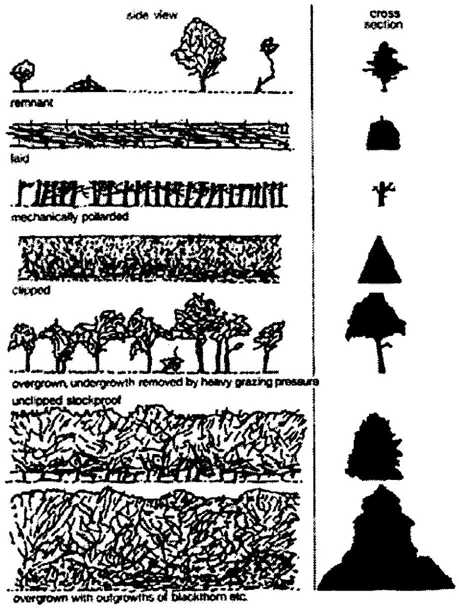
[31] Abrams, 'Byker,' 123.

[32] Abrams, 'Byker,' 129.

[33] J. Baudry, R. G. H. Bunce, F. Burel, 'Hedgerows: An international perspective on their origin, function, and management.' *Journal of Environmental Management* 60 (2000), 9.

[34] Rackham, *History,* 183.


side view
cross section
remnant
laid
mechanically pollarded
clipped
overgrown, undergrowth removed by heavy grazing pressure
unclipped stockproof
overgrown with outgrowths of blackthorn etc.

Different hedge types in elevation and section. (Reprinted from Pollard, 1975)

What a hedge is depends substantially on where and when it is. In a standard history of the hedge in Britain, the naturalist Ernest Pollard offered a working definition of the hedge as 'a line of woody plants so managed as to provide a barrier to stock.'[35] While there is nothing incorrect in this description, it hardly begins to suggest the wide variation in structure, composition, and function of hedges throughout the world—and even throughout Britain. In medieval England, the hedge was often far more massive, taking the form of an earthwork built up over many years, planted with herbaceous and woody species, and lined on either side by drainage channels. One nineteenth century observer's account of such an ancient hedge (or 'fence') adds flesh to Pollard's skeleton:

> The fences... were raised upon a base seven feet wide, with a ditch of three feet on each side, and which, including the foot for the sods or facing to rest upon, occupied about thirteen feet width of ground. The mound was raised six feet high from its base; the sides faced with turf and left nearly five feet wide on the top: these were planted with two rows, consisting of oak, ash, beech, alder, hazel and hawthorn...[36]

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[35] Ernest Pollard et al., *Hedges* (New York: Taplinger, 1975), 24-25.

[36] Charles Vancouver, *General view of the agriculture of the County of Devon: with observations on the means of its improvement* (London: R. Phillips, 1808), 46.

If the earliest function of the hedge was to control livestock, hedges today are far more valued—and far more valuable—for their ecology. Recent studies in both England and France have confirmed the central role of the hedge in providing 'habitats, refuges, corridors or barriers [that] are critical for many plants and animals that otherwise could not exist in agricultural landscapes.'[37] Some vertebrate species are so widespread in hedges that they take their common English names from them, and hedges 'provide a wide range of food for birds of widely differing feeding habits—grass seed for linnets, caterpillars for cuckoos, hawthorn berries for fieldfares, thistles for goldfinches, ash keys for bullfinches, snails for thrushes, earthworms for blackbirds, mice for owls and small birds for sparrow-hawks.'[38] Because they are exposed to the sun on both sides, hedges are 'probably richer in woodland edge insects than are woods.'[39] Many of the vertebrate species that live in hedges are predators of agricultural pests.[40]

The 1997 United Kingdom Hedgerow Regulations—the most comprehensive such legislation to date—lists well over one hundred plants found in English hedges, some of which rarely grow elsewhere.[41] While studies suggest that almost any hedge offers some benefit as habitat, the extent of this benefit correlates directly with age and structural diversity.[42] Newer hedges tend to be less diverse than their ancient counterparts. As the first chapter documented, this decline in structural diversity was particularly stark in late eighteenth-century England. The naturalist M. D. Hooper used this historical trend to generate a method for dating hedges in the field. Hooper asserted a direct correspondence between the age of any given hedge and the number of plant species it contained.[43] Though 'Hooper's Hypothesis' has since been criticized for its coarseness (even its author acknowledged that it was 'only very approximate and...could easily be at least 200 years out on either side'), the principle that the number of species increases with hedge age 'continue[s] to find strong support.'[44] This is not because hedges acquire new species at an even rate: there is no evidence to suggest that they do.[45] Rather, species number correlates with age for the simple reason that 'in earlier times it was the custom to plant hedges with more species than later.'[46] It is 'because many hedges were originally planted with a range of plants suitable for... a variety of uses' that multiple species can now be found in them.[47] This species diversity has direct implications for the range of animal life that a hedge can support.

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[37] Baudry, 'Hedgerows,' 13.

[38] Pollard, *Hedges,* 119.

[39] Pollard, *Hedges,* 119.

[40] P. Delattre et al., 'Vole outbreaks in a landscape context: evidence from a 6-year study of *Microtus arvalis.*' *Landscape Ecology* 14 (1999), 201.

[41] HM Government, 'Statutory Instrument 1997 No. 1160, The Hedgerow Regulations.' Retrieved from 'www.opsi.gov.uk/si/si1997/19971160.htm,' 22 May 2008.

[42] Baudry, 'Hedgerows,' 16.

[43] Hooper's Hypothesis: the age of a given hedge = (110 × number of species) + 30 years. See Pollard, *Hedges,* 79-85. For a combined overview and critique, see Gerry Barnes et al., *Hedgerow History: Ecology, History & Landscape Character* (Macclesfield, Cheshire, UK: Windgather Press, 2006), 24-41.

Naturalists emphasize that rural hedges are generally not objects, but networks extending far beyond the boundaries of any one enclosure. 'No single hedgerow can harbor all the local species pool of a given group [of] plants, birds, or insects'; interconnection is particularly important in areas of sparse cover, where hedges provide corridors for the movement of larger vertebrates.[48] When aggregated a hedge network can be very large: even in the 1970s, after three decades of systematic eradication, the area covered by hedges in Britain amounted to 400,000 acres, or twice the national nature reserves.[49] Alternately, hedges accounted for roughly one quarter of all deciduous woodland in Britain in 1974.[50] Though it does not tell much about the quality of habitat provided by any given length of hedge, these numbers suggest the importance of hedges as a repository for plants and animals on the landscape scale. Yet although 'landscape-scale studies are now frequent, the single hedgerow approach is still common' among many naturalists and ecologists.[51] This approach also reigns in the realm of aesthetic convention: one recent investigation of a neighborhood outside Sheffield, England demonstrated that—despite vastly increased public awareness of the cultural and ecological value of rural hedges—eighty-two percent of hedges around suburban parcels consisted of a single plant species, and few were interconnected. The authors concluded that the suburban hedge continues to be 'planted principally to demarcate boundaries, rather than as specific wildlife habitats where plant diversity is encouraged.'[52]

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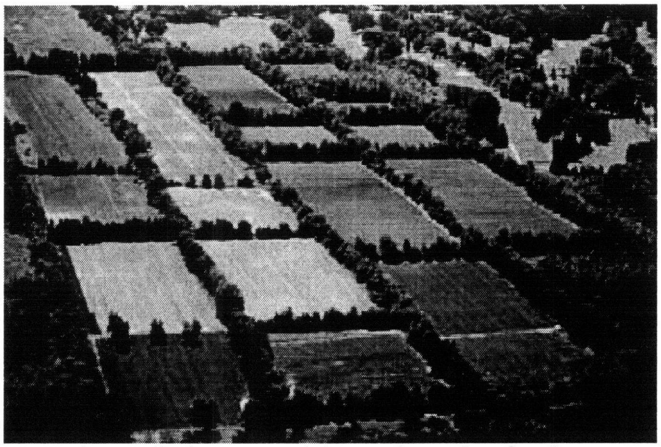
[44] Pollard, *Hedges*, 79; Barnes, *Hedgerow*, 39.
[45] Barnes, *Hedgerow*, 39.
[46] Rackham, *History*, 197.
[47] Barnes, *Hedgerow*, 5.
[48] Baudry, 'Hedgerows,' 16.
[49] Pollard, *Hedges*, 214.
[50] Pollard, *Hedges*, 118.
[51] Baudry, 'Hedgerows,' 16.



Bocage landscape in Quebec: walls that serve as habitat and corridors for plants, animals, and people. (Reprinted from Baudry, 2000)

Hedges are thus not only an ancient means of enclosure but arguably the original 'inhabited walls' of the human landscape, their form an ongoing interaction between biotic processes—the birth, growth, and death of plants and animals—and human management.[53] Once a hedge becomes established it tends to endure longer than almost any other wall, whether wood, stone, or wire.[54] Such durability is a function of structural diversity and species richness. But habitat in this narrow sense is only one of functions that hedges have fulfilled in the landscape: the wall can sustain not only animal and plant life, but human life as well.

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[52] Richard M. Smith et al., 'Urban domestic gardens: relationships between land cover composition, housing and landscape.' *Landscape Ecology* 20 (2005), 248.

[53] Katsue Fukamachi et al., 'A Comparative Study on Trees in Hedgerows in Japan and England.' In H. Palang and G. Fry eds., *Landscape Interfaces: Cultural Heritage in Changing Landscapes* (Dordrecht: Kluwer Academic Publishers, 2003), 53.

[54] Pollard, *Hedges,* 211.

II The Wall as Sustenance

The English word 'sustenance' is a thirteenth-century borrowing from the French, where *soutenir* and its attributive *soustenance* designated the nourishment and maintenance of life and livelihood. In its original meaning the word denoted both a 'trade or métier' and 'food or victuals.' By the fifteenth century it had taken on narrower and wider meanings: both particular foods and any act of 'sustaining, supporting, or upholding' or the person or thing that performed it.[55] At its broadest, 'sustenance' refers to those practices, people, and things that support the continuance of biological, social, and spiritual life. The wall can be and has been all of these.

Hedge and coppice. In his book *Landscape and Memory* the historian Simon Schama describes the woodland economy and laws of Saxon England. 'There were people in the woods:' he writes,

> settled, active, making a livelihood out of its resources, a robust society with its own seasonal rhythms of movement, communication, religion, work, and pleasure. Even the broadest forests were laced with cart tracks, footpaths, and trails which to its adepts were as familiar as Roman roads. The network of tracks ran through a landscape in which town dwellers might become quickly disoriented, but to those who lived there it was mapped by distinctive landmarks.[56]

The people who made up this society drew sustenance from fruits and berries, honey from wild hives, chestnuts mashed into porridge or ground into meal for bread, and most of all the wild pigs that 'gorged themselves on acorns and beech mast...from Michaelmas to Martinmas.'[57] But the 'distinctive mark' of the woodland economy was the coppice or underwood: hardwoods such as oak and beech cut every twelve years six feet off the ground to yield a renewable supply of timber that 'could be used to meet all manner of needs: fencing, wattling, tools and implements,' as well as fuel for warming houses and firing the primitive ironworks that dotted the woodland landscape.[58]

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[55] *Oxford English Dictionary*, second edition. (London: Oxford University Press, 1989).
[56] Simon Schama, *Landscape and Memory* (New York: Random House, 1995), 143.
[57] Schama, *Landscape*, 143-144.

This distinctive human and natural ecology was not to last: the Norman invaders brought new methods of administering woodland that supplanted Saxon practice. These methods were designated by a new legal term: *forest*, or 'areas of special jurisdiction, policed at the king's pleasure and by his direct appointment, for the preservation of game.'[59] The Norman imposition of 'forest law' began the process by which large parts of the woodland were gradually alienated into a crazy quilt of private parcels in later centuries, particularly under the Tudors and Stuarts. 'In exchange for a substantial fee that dropped straight into the royal treasury,' Schama writes, 'the holders of these "assarts" could do anything they wanted within its bounds. In practice this invariably meant exploitation: clearing the land for farming, establishing tenants in hamlets and villages and taking the usual feudal rents.'[60] Yet in describing the slow disappearance of woodland and coppice, Schama neglects to mention a resource that partly replaced them: the hedge. Hedges spread over large parts of the 'forest,' which included not only woodland but 'tracts of pasture, meadow, cultivated farmland, and even towns.'[61] Indeed, many ancient hedges are likely the residue of woodland around old assarts.[62] Hedges were thus relics of a vanishing economy, providing many of the materials that the woodland once had done.

It is doubtful that the hedge ever served as more than a supplementary source of food, but in times of need such supplement was essential. Blackberries, elderberries, sloes, rose-hips, and beechnuts were widely harvested from hedgerows.[63] 'Leafy hay' from the hedge was used as fodder for livestock, and the common hedge plant *Urtica dioica*—the stinging nettle—was used for centuries as a vegetable, medicine, and fiber.[64] Hedges were not only a source of food, but also an renewable source of fuel and building materials. Many hedges were coppiced in much the same way as the woodland in order to yield a steady crop of shoots for use as fuel, wattle, and fodder. 'Standards'—oaks, ashes, and elms left to grow to maturity in the hedgerow—were periodically felled and used for timber.[65]

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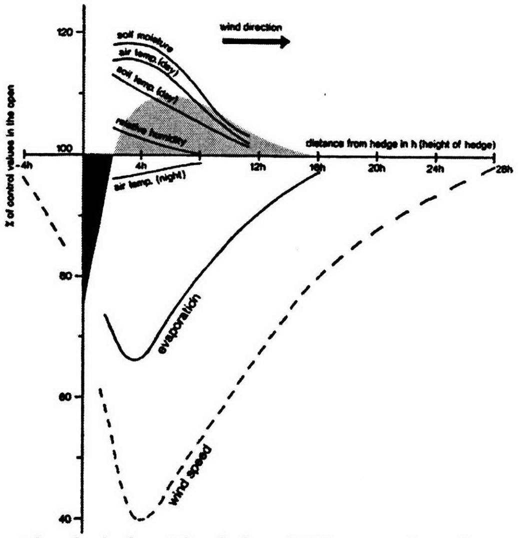
[58] Schama, *Landscape*, 143-144.
[59] Schama, *Landscape*, 144.
[60] Schama, *Landscape*, 147.
[61] Schama, *Landscape*, 144.
[62] Pollard, *Hedges*, 87-88.
[63] Barnes, *Hedgerow*, 5.
[64] Barnes, *Hedgerow*, 5; Pollard, *Hedges*, 109.



Microclimate on the lee side of a hedge. The dark and light areas show decreased and increased crop yields, respectively. (Adapted from Pollard, 1974)

If these uses of the hedge have largely vanished, its benefits for agriculture have only grown more apparent with quantitative research. Increased production is now one of the main reasons why hedgerows (or 'shelter belts') continue to be planted in places with strong prevailing winds. By creating a warmer, wetter, and calmer microclimate on its lee side, a properly managed hedge can increase crop yields substantially over a large area. The extent of the benefit depends on a careful balance between density, on one hand, and porosity on the other. Strong winds that hit a solid vertical surface create a low pressure area on the lee side that is subject to violent gusts, and the wind quickly returns to its original speed at ground level.[66] For this reason, solid fences do little to improve productivity either in their immediate shadow or further out in the field. By contrast, a dense but porous hedge (such as the one described by Vancouver) slows wind speed over a far greater distance—up to twenty-eight hedge heights. This decrease in wind speed translates into narrower temperature fluctuations, higher humidity, and lower erosion, all of which enhance soil productivity.[67] But hedges can also decrease wind speed over a larger aggregated area: research in western Denmark has shown that even at substantial remove from any given hedge, prevailing winds blow on average six kilometers per hour slower in areas planted with hedge networks than in areas that lack them.[68]

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[65] Barnes, *Hedgerow,* 5.
[66] Pollard, *Hedges,* 164.

Yet the quantifiable benefits of the hedge in providing physical sustenance should not obscure its capacity to yield other forms of nourishment. Researchers in Europe and England have begun also to consider the role that hedges play in sustaining the human spirit and a larger human social ecology. 'Current research, financial incentives and legislation relating to hedgerows and their management,' the geographer Sue Oreszczyn writes in a recent article, 'have all emphasized the conservation of natural heritage...rather than cultural heritage. The focus has been on that which can be measured more objectively, including the direct consequences of people's actions, but not on what hedgerows actually mean to people.'[69] Though the accounts of Oreszczyn's subjects are more elusive than measurable benefits like lower wind speeds or higher crop yields ('I could spend an hour walking around this field very slowly just sitting in one spot by the hedge and appreciating the wildlife'; 'I like the blossom of May and Dogrose, thick healthy hedges and ditches. I don't like thin straggly unhealthy looking hedgerows'), in the long run such impressions are likely to prove decisive in preserving hedges as a cultural and ecological resource.[70]

Giving fences. As rich as its cultural legacy is, the traditional practice of hedging in England is perhaps too remote to serve as a model for a wall that sustains life and spirit in the modern American landscape. The landscape architect Anne Whiston Spirn has described such a wall much closer to home.

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[67] Pollard, *Hedges,* 171.

[68] M. Jensen, *Shelter effect: investigations into the aerodynamics of shelter and its effect on climate and crops* (Copenhagen: Danish Technical Press, 1954), 14.

[69] S. Oreszczyn et al., 'The meaning of hedgerows in the English landscape: Different stakeholder perspectives and the implications for future hedge management.' *Journal of Environmental Management* 60 (2000), 102.

[70] Oreszczyn, 'Meaning,' 111; Baudry, 'Hedgerows,' 18.

In 1988 Spirn and her students at the University of Pennsylvania were asked by residents of a low-income neighborhood of West Philadelphia to design a meeting place in a local community garden. 'Aspen Farms' had existed since the mid-1970s, when local people cleared away trash and began planting vegetables in a large vacant lot at the center of the neighborhood. One of the first acts of these early gardeners was to enclose their plots with a flimsy wire mesh and locked gate: the realities of the neighborhood were such that an unsecured garden soon enough would be the target of vandalism, theft, and illegal dumping by contractors from other neighborhoods.

The occupants of Aspen Farms had been practicing a form of intensive urban agriculture for over ten years, and, by the time Spirn was enlisted, their yields were bountiful. Though gardeners donated substantial parts of the harvest to local nursing homes and homeless shelters, there were few formal mechanisms for distributing excess produce to the most obvious recipients: residents of the adjacent neighborhood.[71] The solution to this problem was so simple as to nearly escape notice: the device for distribution was a new chain-link fence with sturdy posts. Gardeners filled supermarket plastic bags with produce and hung them from these posts into the sidewalk outside. One gardener placed a wooden sign reading 'Deut. 24:19,' an allusion to the Old Testament injunction: 'When you reap your harvest in the field, and have forgotten a sheaf in the field, you shall not go back to get it; it shall be for the stranger, the fatherless, and the widow.'[72] Thus a fence hardened in its negative symbolism became, through fleeting appropriation over time, a source of physical and social sustenance to its surroundings. The philosopher Michel de Certeau famously called such practices 'tactics':

> Many everyday practices are tactical in character. And so are, more generally, many 'ways of operating': victories of the 'weak' over the strong, clever tricks, knowing how to get away with things, 'hunter's cunning,' maneuvers, polymorphic simulations, joyful discoveries, poetic as well as warlike. The Greeks called these 'ways of operating' *metis*... From the depths of the ocean to the streets of modern megalopolises, there is a continuity and permanence in these tactics.[73]

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[71] Anne Whiston Spirn, *The Language of Landscape* (New Haven: Yale University Press, 1998), 72.
[72] Spirn, *Language*, 80.
[73] Michel de Certeau, *The Practice of Everyday Life* (Berkeley: University of California Press, 1984), xix-xx.

Hanging bags full of vegetables from chain-link fence-posts differed little from the tendency of gardeners whose plots lay near the boundary to 'lure the pink hollyhocks growing along the interior of the fence to creep through and embellish the sidewalk.'[74] These small gestures along the seam of the garden defined a zone of care outside it that appeared to extend to surrounding properties: 'The houses in blocks around Aspen Farms are well maintained with small front gardens;' Spirn noted, 'none is vacant.'[75] These houses and garden fell within the ecotone of Aspen Farms and its giving fence.

Aspen Farms with new chain-link fence in background, Philadelphia. (Anne Whiston Spirn, 1989)

The gap between medieval England and post-industrial Philadelphia may appear so wide as to make useful comparison between them impossible. In the first, the hedge was at the center of an established (though secondary) productive economy; in the second, provision of food along the fence-line was an informal response to a specific condition. Yet as different as they seem, together these cases illustrate the strength of the bond between enclosure and sustenance, between marking territory and nourishing human ecology. And yet no wall is ever conceived solely in terms of sustaining others: whatever else they do, walls always control—or attempt to control—people with differential claims to territory. They are therefore not only sites of generosity but also stages for confrontation and sometimes conflict.

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[74] Spirn, *Language*, 72.

[75] Spirn, *Language*, 72.

And this opens the way to reconceiving the munificence of the Aspen Farms gardeners in terms of a larger dynamic of social, economic, and political transaction.

III The Wall as Exchange

Though drawn from vastly different historical, social, and geographical contexts, the examples discussed to this point suggest a crucial point: that no wall is solid. Rather permeability is a function of aperture size. The medieval hedge is stock-proof by design, but recesses in its woven layers make rich habitat for birds and mammals, which have no difficulty passing through it; its gaps are managed so as to limit the movement of specific organisms. The stiles and gates of these hedges are jealously defended by 'ramblers' who pass through them once a year in order to maintain Common Law rights of access.[76] In many places hedges have ceded to barbed wire, good at stopping cows but ineffective against the winds that tear away soil and damage crops. In modern Philadelphia, the chain-link fence blocks physical access but does not inhibit linguistic or visual congress. Chain-link is easier to talk through than a concrete wall; it is also, one Israeli peace activist noted ruefully, easier to shoot through.[77] Whether of animals or people or bullets, walls are always places of passage, truck, exchange.

Even more than habitat or sustenance, the word 'exchange' invites multiple interpretations. A physicist or chemist will likely conceive it in terms of molecules; an ecologist as nutrients or organisms; an economist as money or commodities. In the thirteenth century, 'exchange' denoted simply the 'substitution of one person or thing for another.' The eighteenth century saw the notion of equal value added to this older definition: 'a mutual grant of equal interests, the one in consideration of the other' or 'a mercantile transaction.' In the twentieth century the word was broadened to include any

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[76] Spirn, *Language*, 120.

[77] Ruchama Marton and Dalit Baum, 'Transparent Wall, Opaque Gates.' In Michael Sorkin ed., *Against the Wall: Israel's Barrier to Peace* (New York: New Press, 2005), 216.

'reciprocal arrangement whereby two people trade roles.' And already in the sixteenth century an 'exchange' referred not only to social or economic transactions but also to the places where such transactions occurred, whether the *stoa* of Athens, the London bourse, or the city sidewalk.[78]

At the heart of these ideas are reciprocity and communication. Exchange denotes the movement of messages, things, or people in two directions; it suggests giving within the realm of strategy and politics. Unlike the vague 'generosity,' it implies calculations made by people and groups. Such calculations can result in social harmony or in its opposite—the things given or received might be greetings or blows—but they are always communicative, always dependent on language and rules that are shared, however imperfectly. A wall can help or hinder such communication, but it can never stop it entirely.

Postern and portus. In ancient Greece, defensive walls were designed to be porous. City fortifications built after the late seventh century are often marked by apertures called *posterns,* points of structural breakage spaced at intervals from thirty to one hundred meters. Unlike loop-holes (narrow perforations for firing missiles from above) posterns were points of egress where troops could 'sally out and take an attacking force on the flank.'[79] In the late fifth century, fearful of Athenian expansion, the residents of Oiniadai and Samiko enclosed their entire islands with walls perforated by at least fourteen posterns.[80] During the Hellenistic period, as offensive sallies grew more common, posterns became increasingly elaborate, their structures often integrated into towers from which archers covered infantry below.[81] At the same time, posterns were also used in peace: since the apertures gave direct access to open countryside, both residents and visitors commonly used them in lieu of city gates for everyday transactions.[82]

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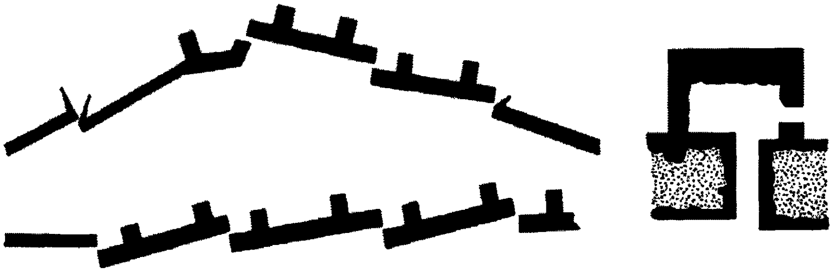
[78] *Oxford English Dictionrary,* second edition (Oxford: Oxford University Press, 1989).
[79] F. E. Winter, *Greek Fortifications* (Toronto: University of Toronto Press, 1971), 235.
[80] Winter, *Fortifications,* 235.
[81] Winter, *Fortifications,* 239.
[82] Winter, *Fortifications,* 234.



Two types of *postern* in plan. Left: Parnes-Aigaleos wall in Attica. Right: Mantineia, plan of tower and postern built into the wall. (Reprinted from Winter, 1971)

But if the postern let defending troops out, it also threatened to allow attacking troops in. In sallies, too, the enemy had a fleeting but crucial advantage: since the narrow openings forced the defender to exit single-file, he could be cut down one by one from just outside the gate. In modern terms this vulnerability seems a key strategic oversight. Yet as the geographer Dean MacCannell has noted, Greek walls were built not to isolate the city but rather to regulate the terms of its exchange with the outside. 'Porous as a principle of security, [walls] were constructed not to keep the enemy out, but to invite him in on the defenders' terms.'[83] What appears a weakness was a therefore strategy. After the fourth century posterns opened into enclosed hardened courts inside the wall; any enemy 'brave or stupid enough' to enter was trapped by a gate and attacked from the tower or parapet above.[84] 'What we have here is definitely not a failure to communicate,' MacCannell writes. 'It is bloody and violent, but it is also an exquisite dance based on very high levels of mutual understanding... The wall and especially its gaps provided crucial support for ongoing strategic interaction.'[85]

The postern exemplifies a general characteristic of defensive walls prior to the Renaissance: they did not hermetically enclose settlements but rather staged interactions between city and world.[86] The above begins to suggest how sanguinary such interaction often was. But as Georg Simmel noted in the shadow cast by trench warfare, direct conflict is an indispensable mode of social contact.[87] When seen from this vantage the importance of porosity in any wall—even the most ponderous—becomes apparent. The Greeks understood that no barrier was completely impregnable, and that enemies would always search for its weakness; they therefore designed weakness into it. Points of vulnerability became sites of exchange: enemies knew the risk of penetrating the wall, and its builders knew the risk they took in giving him the chance. As MacCannell writes: 'Controlled passage through the wall in both directions was, from the beginning, its most important strategic feature.'[88]

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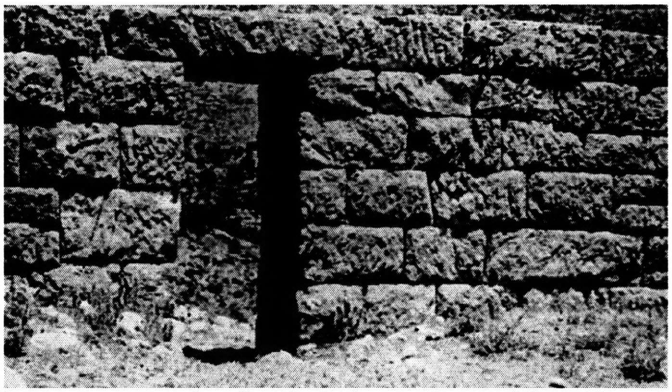
[83] Dean MacCannell, 'Primitive Separations.' In Sorkin, *Wall,* 40.
[84] MacCannell, 'Separations,' 40-41.
[85] MacCannell, 'Separations,' 41.
[86] Lewis Mumford, *The City in History* (New York: Harcourt, Brace & World, 1961), 357-358.



Lintel type *postern* in north wall at Gyphtokastro. (Reprinted from Winter, 1971)

The civic equivalent of the conflict around the postern is the economic activity that has unfolded at city gates for millennia. The roots of this activity lie in the taxes and tolls levied on goods passing over the city boundary either inward or outward. 'A mint was in operation within the walls,' the historian Henri Pirenne wrote in reference to this constant stream of revenue in the medieval city.[89] Even after defensive fortifications became superfluous, elaborate gates continued to be constructed for the collection of duty. LeDoux's gates for the city of Paris, designed in the 1780s, were 'massive, fortress-like pavilions' for paying tolls; the architect proposed inns and taverns where travelers stranded outside might spend the night.[90] Similarly, the primary function of the Brandenburg Gate, constructed in 1736 to mark the entrance to the enlarged district of Friedrichstadt, was as a customs barrier.[91]

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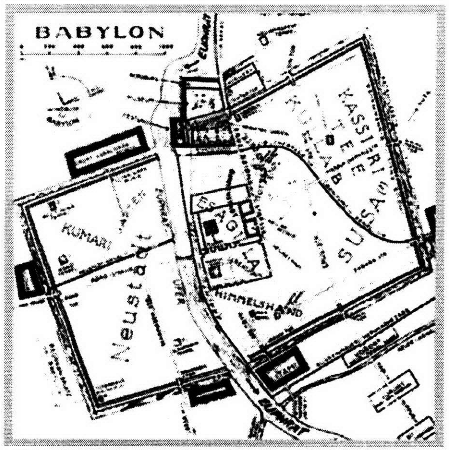
[87] Georg Simmel, *The Conflict in Modern Culture* (New York: Teachers College Press, 1968), 11-26.
[88] MacCannell, 'Separations,' 41.
[89] Henri Pirenne, *Medieval Cities: Their Origins and the Revival of Trade* (Princeton: Princeton University Press, 1925), 66.



Robert Koldewey's map of ancient Babylon, with suburbs in bold. (Adapted from Morris, 1974)

Exchange in the shadow of the wall gave birth to settlements with their own distinct patterns of life. The archeologist Robert Koldewey's maps of Bablyon show a number of such settlements huddled about the main gates and points where the Euphrates entered and exited the city; each of these *Vororte* was enclosed by its own subsidiary wall and contained marketplaces and secondary temples.[92] Assyrian merchants often settled outside the towns of neighboring states, where they established a *karum,* or a parasitic colony of merchants that 'entrap[ped] the town in a network of long-distance trade.'[93] In Augustan Rome the *suburbium* contained 'large magazines and depots for wine, and perhaps also animal pens... built intentionally just outside [the] boundary.'[94]

In Rome noxious but essential urban functions such as tanning and cattle markets took place just outside the wall; the association of the extramural zone with activities and people deemed unworthy of accommodation within the city walls would continue on the continent until the twentieth century.

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[90] Spiro Kostof, *The City Assembled: The Elements of Urban Form Through History* (Boston: Little, Brown and Company, 1992), 14.
[91] Kostof, *Assembled,* 14.
[92] Kostof, *Assembled,* 47.
[93] Kostof, *Assembled,* 47.
[94] Kostof, *Assembled,* 13.

Among the most notorious of these activities was the housing of lepers and plague victims; in the early nineteenth century the Italian writer Alessandro Manzoni described the Milan Lazar house as 'a rectangular enclosure, almost square in fact, outside the city proper, to the left of the East Gate, and separated from the city wall only by the width of the moat.'[95] But it was not patients locked safely away in hospitals visitors had to fear outside the wall, but those lurking in the shadows:

> Where dwell ye? If it to telle be.
> In the suburbes of a town, quod he,
> Lurkynge in hernes and in lanes blynde,
> Where-as thise robbours and thise theves, by
> kynde,
> Holden hir pryvee, fereful residence...[96]

And yet Chaucer's 'blynde lanes' were to sire the modern commercial city. In the lawless atmosphere of the ninth century, as the *suburbium*—a crucial locus in the Roman urban economy—all but disappeared, competing local princes walled themselves and their retinues in the fortresses denoted by the Low German term *burgus*. The *burgus* was a kind of permanent garrison, a 'walled enclosure[] of somewhat restricted perimeter, customarily circular in form and surrounded by a moat. In the center was...a strong-tower and a keep, the last redoubt of defence in case of attack.'[97] As Europe slowly repopulated in the late Middle Ages, traders began to gather around the gates of the *burgus*. Pirenne described how this yielded a new type of settlement:

> The peopling of the burgs was due to the same causes as that of the towns, but it worked out under quite different conditions. Here, in fact, available space was not to be had by the new arrivals. The burgs were merely fortresses whose walls enclosed a strictly limited area. The result was that, at the start, the merchants were driven to settle outside this area because there was no other place for them. They built beside the burgs an 'outside burg'—that is to say, a 'faubourg' (*forisburgus, suburbium*). This suburb was called, by contemporary texts, the 'new burg' (*novus burgus*), in contrast to the feudal burg or 'old burg' (*vetus burgus*) to which it was joined. In the Netherlands and in England there was a word used to designate it which corresponded admirably to its nature—*portus*.[98]

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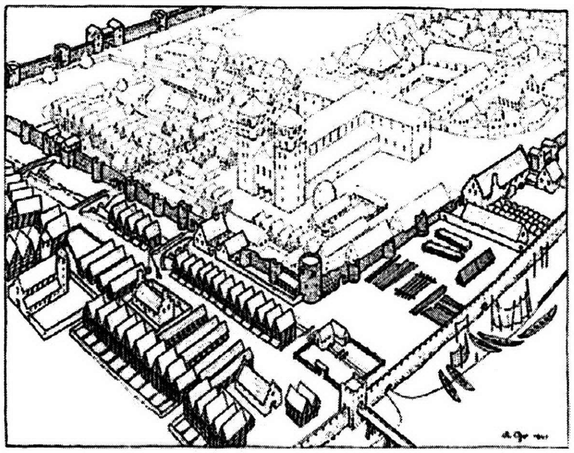
[95] Alessandro Manzoni, *The Betrothed* (London: Penguin Books, 1972 [1827]), 522.
[96] Geoffrey Chaucer, *The Canterbury Tales* (London: Penguin Books, 2005), 48:103-107
[97] Pirenne, *Cities*, 73-74.
[98] Pirenne, *Cities*, 148.

Pirenne distinguished the exchange of goods outside the *portus* from markets or fairs in the towns: 'While the latter were periodic meeting places of buyers and sellers, the former was a permanent place of trade, a center of uninterrupted traffic.'[99]



The faubourg (in bold) of Strasbourg, ca. 1100. (Adapted from Kostof, 1992)

The inhabitants of this permanent place—people whose livelihood depended on exchanges brokered between residents of the fortress and the surrounding lands—were called *burgi* to distinguish them their immured neighbors, *castellani*. Huddled outside the gates, exposed to constant banditry, these merchants were increasingly the center of the economic life of the fortress. 'When it became counterproductive for the city to continue to exclude this suburb administratively, it [was] embraced and incorporated' with a masonry wall or wooden stockade.[100] Though such subsidiary fortification 'a new class got protection against theft and arbitrary tribute, and began to settle down permanently, just outside the walls.'[101]

The wall of the *burgus* was a place of exchange in early modern Europe because it provided tenuous security when trade elsewhere was impossible. But the conditions of the late Middle Ages are remote from the conditions of the modern city, where walls divide not fortress from world but parcel from parcel. Models are therefore needed of walls that facilitate and stage exchange in a condition of subdivision. Fortunately such models are widely evident in the American vernacular landscape. But to understand them it is helpful first to consider exchange in a very different social and spatial context.

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[99] Pirenne, *Cities,* 149.
[100] Kostof, *Assembled,* 48.
[101] Mumford, *City,* 251.

Community wall. The Japanese architect Fumihiko Maki is perhaps best known for his written and built explorations of 'megastructures' and 'collective forms.' 'A striking fact,' Maki wrote in his 1964 *Investigations in Collective Form,* 'is that there is a complete absence of any coherent theory [of architecture] beyond the one of single buildings. We have so long accustomed ourselves to conceiving of buildings as separate entities that, today, we suffer from an inadequacy of spatial languages to make meaningful environment.'[102] Concern with questions of what today is called 'landscape urbanism' made Maki's theories prescient. The architect was (and is) particularly attentive to questions of the relationship between different scales of urban organization: the city as both macroscopic structure and array of tactile, material, and social details. 'At certain moments in our urban lives,' he wrote, 'we relish all the diversity and disjointedness of cities, and bask in the variety of them... But when a plethora of stimuli begins to divert us from receptive consciousness, the city renders us insensible... If urban design is to fulfill its role, it must do more that simply organize mechanical forces, and make physical unity from diversity. It must recognize the meaning of the order it seeks to manufacture, a humanly significant, spatial order.'[103]

At the center of this order was the wall, which Maki placed first in list of 'components of collective form':

> Wall: Any element which separates and modulates space horizontally. Walls are places where forces outward and inward inter-act, and the manner of the inter-actions define the form and functions of the wall.[104]

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[102] Fumihiko Maki, *Investigations in Collective Form* (St Louis: School of Architecture, Washington University, 1964), 5.
[103] Maki, *Investigations,* 29.
[104] Maki, *Investigations,* 27.

This conception of the wall as more than mere vertical curtain, a structure with depth and complexity that stages 'inter-actions' between territories, can be seen in many of Maki's buildings. In the City of Osaka Aquarium, a project from the mid-1970s, the external wall is a glazed double portico supported by slender tapering columns that seem almost to float away from the ground. Yet the larger urbanistic effect of this diaphane is not to obliterate the boundary between the building and its surroundings: rather the structural and material complexity of the 'wall' distinguish it from both street outside and building within. The wall was clearly at the center of Maki's design intent and stands on its own as urbanistic 'element.' Maki's interest in porous walls that interweave 'inside' and 'outside' is also palpable in his urban design projects, where that which is enclosed is not a building but a territory. In the most famous of these projects, the Hillside Terrace housing complex in central Tokyo, Maki used raised platforms extending into the space of the street, overhanging stairwells, and storefronts that penetrated into the block to blur the physical and programmatic boundary between the surrounding commercial neighborhood and the cloistered interior.

But it is in the realm of theory that Maki has offered some of his most suggestive ideas. In the final pages of the *Investigations*, almost as an afterthought, the architect described 'a device to provide a transitional space between busy streets and quiet residential sections. This community wall, which is a continuous mound, is made up by a series of garages, small community stores, gates, children's play area, etc. This is an environmental wall which begins to be molded by activities outside and inside the community.'[105] The accompanying diagram shows a block whose edge is partly lined by small permeable structures whose varying forms imply different functions and users; the center is left blank. Maki's interest thus clearly lies in the block perimeter as a site of social and commercial activity. At the same time, the diagram's indeterminacy suggests not a specific design proposal or site but rather an conceptual approach to marking boundaries in any dense urban landscape.

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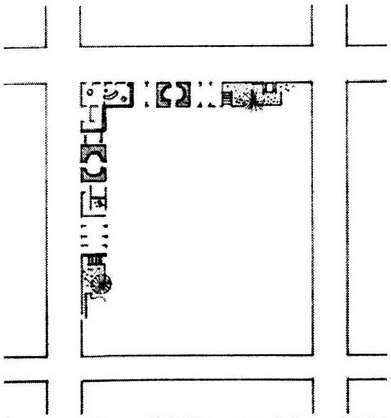
[105] Maki, *Investigations*, 67.



Maki's 'community wall.' (Reprinted from Maki, 1964)

Maki developed and refined the theory of collective form while on the faculty of Washington University in St Louis; the *Investigations* can therefore be read not only as expressing the architect's own aesthetics but also as acquainting American students and colleagues with the patterns of Japanese urbanism. Many of Maki's ideas were rooted in these patterns. In particular, the 'environmental wall' he described bore more than passing resemblance to the *machiya,* the storefronts that ringed residential blocks in Japanese cities before the nineteenth century and persist in a handful of Japanese cities today, notably Kyoto.

The *machiya* is a low, deep, and narrow structure 'where "selling" and "living" activities go on under the same roof.'[106] From the street it appears little more than a booth with a storage area above, but behind the shop private quarters are threaded along an open breezeway that runs through the entire structure and connects the street with the block interior. Though their form varies with climate (deep eaves are common in snowy regions), *machiya* are distinguished primarily by their open facades, which allow unmediated access from the street into the shop; during hot months lattice is often hung to shade the interior. Shopkeepers push their wares into the street outside; the absence of a counter or other physical barrier between buyer and seller heightens the mingling of civic, commercial, and private life. As the architect William Tingey describes it: 'The rooms which face onto the street are just one step removed from that shared area but at the same time they seen part of it. On occasions such as festivals or a funeral which would concern the community, these front rooms are brought into use and it is just as though they are partially screened off street niches. In other words the street is not completely cut off but allowed to filter through the building.'[107] The *machiya* is thus at once street, shop, house—and wall.

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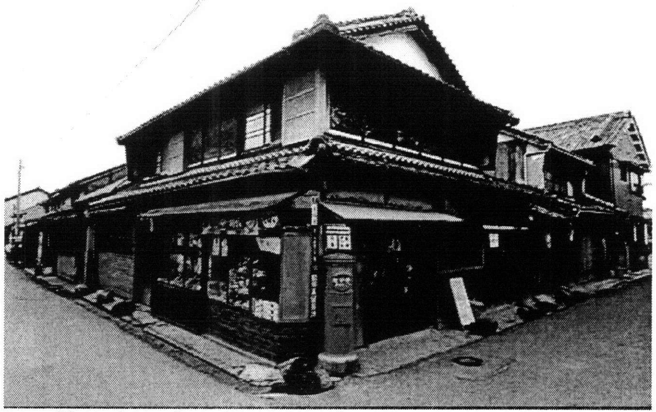
[106] William R. Tingey, 'The Principal Elements of Machiya Design,' *Process: Architecture* 25 (1981), 83.



Maki's 'community wall': traditional *machiya* at Imaicho, Nara province. (Reprinted from Tingey, 1981)

The social life and structural properties of the *machiya* must be understood in light of a broader spatial principle. Japan inherited from China the enclosed block or 'ward' as its basic unit of urban organization; the Japanese city therefore has 'an interior orientation, nested enclosures recurring in both everyday and sacred precincts, marking the progression from the public to the private, from the profane to the sacred.'[108] Addresses are given by block rather than street number—a convention that leads to bewilderment among Western visitors.[109] Yet both the *machiya* and Maki's modern rendition of it illustrate just how dynamic the walls between these precincts were and are. In the Japanese city there is no contradiction between enclosure of the block and socially active walls—indeed the two are interdependent. By contrast, the combination of these two functions remains, in the words of architectural historian Jennifer Taylor, largely 'incompatible with Western notions of "planning" and "design."'[110]

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[107] Tingey, 'Elements,' 88.
[108] Spirn, *Language*, 77.
[109] Spirn, *Language*, 76.

The 'community wall' exposed an important aspect of Japanese urbanism to a wider audience of architects and urban designers. And yet Maki's idea was not discernibly of one place or time: its diagram was vague enough to evoke both a Japanese ward and a Anglo-American lot. The strength of the proposal lay not in suggesting particular forms, but in inviting readers to reconceive the wall as a site of social and economic exchange: ultimately Maki was arguing not for a wall but for a different vision of territorial enclosure. Thus, while rooted in a specific design tradition, the 'community wall' suggested a model of bounding for other places and at other scales—even that of the nation.

National walls. In the summer of 2006, on the backdrop of the debate over the United States 'border fence' discussed in the previous chapter, the editors of *The New York Times* solicited proposals for a national wall from a number of prominent designers; their intention was to assemble 'solutions that defy ugly problems [and] create appeal where there might be none.'[111] The responses they received partook of the same tension between fortification and camouflage that underlay the wider controversy—and indeed the marking of boundaries in American culture at large.

Some designers contacted by the *Times* declined to participate altogether, one noting pertly that walls were better left to 'security and engineers.' Enrique Norten, an urban designer and architect from Mexico City who attested to his 'ambivalence' about the project, proposed instead a system of 'infrastructure and connectivity that would allow our two countries to get closer'; his rendering showed multiple (and probably superfluous) elevated freeways straddling the national boundary while leaving its form on the land undefined. The Los Angeles architect Eric Owen Moss suggested a massive linear earthwork that would 'give [the boundary] a prominence over a distance'; a forest of glass tubes would illuminate a tunnel and cultural center buried in the earth. And local architect Antoine Predock proposed a rampart of 'tilted dirt [that] would be pushed into place by Mexican day laborers' and vanish like a mirage in the desert heat.[112]

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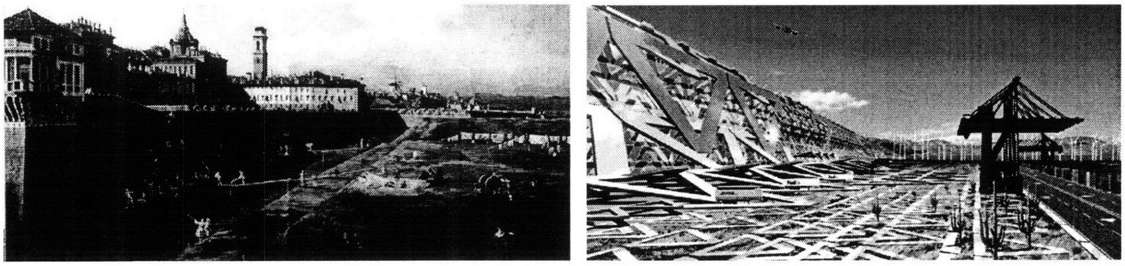
[110] Jennifer Taylor, *The Architecture of Fumihiko Maki: Space, City, Order, and Making* (Boston: Birkhauser, 2003), 44.

[111] William L. Hamilton, 'A Fence with More Beauty, Fewer Barbs.' *New York Times*, 18 June 2006. Retrieved from 'www.nytimes.com/2006/06/18/weekinreview/18hamilton.html,' 12 June 2008.



Fortification as exchange: Bellotto's 1750 depiction of the ramparts of Turin and landscape architect James Corner's 2006 proposal for a national wall. (Reprinted from Kostof, 1992 and Hamilton, 2006)

But the most provocative submission was that of landscape architect James Corner. Rather than try to disguise the 'fortified condition' of the boundary, Corner proposed that the wall take on 'all the accoutrements of power and fortification and surveillance' that its brief implied; his use of one-point perspective in the drawing recalled the battlements of Turin more than the wastes of the southwest. Yet at the same time Corner suggested 'turn[ing] the whole thing around to see if this new structure could have a benevolent and positive aspect.' The national wall would therefore become a 'solar power energy production line' and vast entrepôt; the rendering showed long-haul trucks with their tails toward the wall collecting goods (assembled in *maquiladoras*?) for distribution to American consumers. Despite its similarity to a Renaissance bulwark, Corner's proposal drew on a medieval idea: the base of the wall as a site of bustling commercial exchange. Updated for the modern global economy, it slyly challenged the relevance of the very idea of the nation in an age of international flows of people, goods, and capital. As Corner noted: 'There is something a little bit placeless or a little bit nationless about the types of activity that would accrue along this energy line.'[113]

All the submissions attempted to reconceive the boundary between Mexico and the United States in terms of contact rather than separation—whether with freeways, a cultural center, or Mexican labor. Yet none embraced the underlying tensions in the brief with quite the same relish as Corner;

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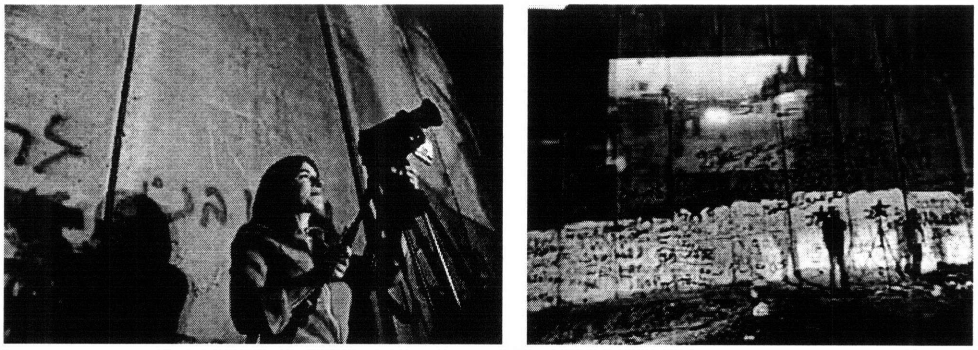
[112] All citations in Hamilton, 'Beauty.'
[113] All citations in Hamilton, 'Beauty.'

only his proposal fully took on the challenge of designing a real fortification that also stages exchange. His use of freighted imagery merely underscored the difficulty of resolving these two principles along a modern territorial boundary. By contrast, the other submissions all toyed with various forms of transparency or even disappearance; here Predock's proposal—an invisible wall built by invisible people for their own exclusion—was especially perverse.

Whereas Corner's drawing of the Mexican border was a calculated visual provocation, several recent protests against the barrier that separates parts of Israel and the West Bank give a better idea of how even the hardest enceinte can appropriated as a stage for exchange in practice.



'Virtual hole,' Abu-Dis, Jerusalem, 2004. (Open Society Institute, 2005)

The Israeli photographer Miki Kratsman has been documenting conditions along what opponents call the 'Separation Wall' during the entire period of its construction. Kratsman has been particularly interested in small gestures—graffiti messages, a giant reproduction of Michelangelo's *Creation of Adam*—that contest both the form of the wall and the political and social assumptions lie beneath it. Early in these investigations, Kratsman noticed that the smooth blank surface of the wall functioned 'incredibly well as an outdoor cinema screen.'[114] This presented an opportunity. Thus on a warm evening in April 2004, two small groups of protestors and reporters assembled on either side of the barrier in the Abu Dis neighborhood of Jerusalem. Video cameras were set up on either side and wired through weep holes to projectors on the opposite sides. When the video cameras and projectors were switched on, they produced a trompe l'œil that one participant described as 'a very large virtual hole in the wall. We were able to protest together, singing, dancing, and cheering as though the wall was not there.'[115] Reporters from both sides were on hand to capture the scene.[116]

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[114] MacCannell, 'Separations,' 44.

The event was organized by Artists without Walls, a group of Israeli and Palestinian artists co-founded by Kratsman that 'seek[s] to eradicate the lines of separation and the rhetoric of alienation and racism...through nonviolent and creative actions.'[117] Members meet weekly in East Jerusalem to plan joint projects, and since the Abu Dis event they have organized yearly protests, including a tennis game over the barrier and a collective drum-beating exercise. The artist Adi Alouria-Hayon described the latter event, which also used video projection: 'At sunset the drumming began—Darbukas, Jericans, pots, and lids all worked together, to combine sound in a noble effort to dismantle visual and auditory barriers. The cameras, no more than a meter apart, turned surveillance technology and control systems on their heads, creating a spectacle meant to train the media's eyes on the battering of human lives.'[118] These protests make use of simple tactical devices—video cameras, tennis rackets, pot lids—to challenge the assumptions of separation and isolation on which the wall is built. If only for a brief moment, these tactics transform a sheer barrier of reinforced concrete into a theatre of social exchange and political agitation. As the participant in the 2004 protest wrote: 'With a prodigious act of the imagination, even this most forbidding wall can be used as a device to bring people together.'[119]

As great as the distance between a Mexican battlement and 'happenings' with cameras and video projectors in Jerusalem, the recoveries of Corner and Kratsman are based on a similar proposition: that walls designed to prevent congress can be harnessed to do the opposite. They are reminders that social, economic, or political transaction does not issue in any direct or linear fashion from physical transparency. Most of all, both suggest how walls can function as public stages where social, economic, or political roles are taken on and performed. Yet if they are stages, walls are often far more than scenes or backdrops: often they are the masks worn by the performers themselves.

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[115] MacCannell, 'Separations,' 44.
[116] Dean MacCannell, personal communication, Cambridge, Massachusetts, 2 June 2008.
[117] Open Society Archives, 'The Divide: Chapter XIX: Artists without Walls' (Budapest: Central European University, 2008). Retrieved from 'www.osa.ceu.hu/beta/galeria/the_divide/chapter19.html,' 15 June 2008.
[118] Adi Louria-Hayon, 'Existence and the Other: Borders of Identity in Light of the Israeli/Palestinian Conflict.' *Afterimage* 34:1/2 (2006), 22.
[119] MacCannell, 'Separations,' 44.

IV The Wall as Mask

The word 'person' is rooted in the Greek *prosopon*, meaning 'face,' 'countenance,' or 'mask.'[120] This root has divided into two terms in modern English: where 'person' refers to the self as ontologically distinct from the world, 'persona' denotes any 'mask' a given 'person' dons in social life. As the sociologist Robert Ezra Park noted, this etymological identity is 'no mere historical accident... It is rather a recognition of the fact that everyone is always and everywhere, more or less consciously, playing a role.'[121] There are, in short, as many different masks as there are social situations. If people are always everywhere playing a role, then the social world can be conceived as a theater where they are both actors and audience. While often identified with Jacques's soliloquy in *As You Like It,* this dramaturgical metaphor has ancient provenance: in the *Laws* Plato described human society as a giant puppet show choreographed by the gods, and the *theatrum mundi* was the central trope of Petronius's *Satyricon.*[122]

In the mid-twentieth century the sociologist Erving Goffman developed this metaphor into a comprehensive theory of human relations. In *The Presentation of Self in Everyday Life*, Goffman expanded Park's premise to argue that most social behavior could be conceived in terms of theatrical performance and 'scenes': 'When an individual appears in the presence of others,' Goffman wrote, 'there will usually be some reason for him to mobilize his activity so that it will convey an impression to others which it is in his interest to convey.'[123] The playing of roles is essential to getting what one wants in social life. Masks are tools of social and political strategy, and different masks are required depending on what one wishes to accomplish. Goffman rejected the Platonic idea that an 'authentic' self lay behind all a person's masks, a self hidden or distorted by layer upon layer of social convention: the mask and the self were inseparable.[124]

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[120] *Oxford English Dictionary,* second edition (Oxford: Oxford University Press, 1989).
[121] Robert Ezra Park, *Race and Culture: Essays in the Sociology of Contemporary Man* (New York: Free Press, 1950), 249.
[122] Richard Sennett, *The Fall of Public Man* (New York: Alfred A. Knopf, 1977), 34-35.

The sociologist Richard Sennett has related these ideas to the built environment. In *The Fall of Public Man,* Sennett acknowledged Goffman's acute observations of social behavior but rejected his indifference to 'how the scene came into being, how those who play roles in it change the scene by their acts, or...how each scene may appear or disappear because of larger historical forces.'[125] By contrast, Sennett was concerned with changes in ideas of public performance over the centuries, and particularly in the space of the modern western city. He argued that the modern era has seen a colossal, even catastrophic shift away from the playing of roles and the donning of masks. Whereas public life was once defined by elaborate 'conventions, artifices, and rules,' today it is marked by the reverse: the tendency to devalue performance as 'inauthentic.' 'As the imbalance between public and intimate life has grown greater,' Sennett wrote, 'people have become less expressive. With an emphasis on psychological authenticity, people become inartistic in daily life because they are unable to tap the fundamental creative strength of the actor, the ability to play with and invest feeling in external images of self. Thus we arrive at the hypothesis that theatricality has a special, hostile relation to intimacy; theatricality has an equally special, friendly relation to a strong public life.[126]

Sennett perceived the decline of theatricality in the ways that cities are built today. He was particularly attentive to the tensions between opacity and transparency that were embodied in and exacerbated by modern building technologies. Describing Gordon Bunshaft's Lever House and similar International Style skyscrapers, he wrote that their walls

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[123] Erving Goffman, *The Presentation of Self in Everyday Life* (New York: Doubleday Anchor, 1959), 4.
[124] See also Lionel Trilling, *Sincerity and Authenticity* (Cambridge: Harvard University Press, 1972), passim.
[125] Sennett, *Fall,* 36.
[126] Sennett, *Fall,* 37.

> almost entirely of glass, framed with thin steel supports, allow the inside and the outside of a building to be dissolved to the least point of differentiation; this technology permits the achievement of what S. Giedion calls the ideal of the permeable wall, the ultimate in visibility. But these walls are also hermetic barriers. Lever House was the forerunner of a design concept in which the wall, though permeable, also isolates the activities within the building from the life of the street. In this design concept,' Sennett concluded, 'the aesthetics of visibility and social isolation merge.[127]

The transparent facade is a mystification: rather than establish connection between those inside and passersby, it seals them off from each other. This 'paradox of visibility and isolation' now marks wide swaths of the built environment.[128] Walls in the modern city can simultaneously reveal everything and conceal that which goes on within from public life. This section takes its starting point in this paradox, and argues that its resolution depends on recovering the notions of theatricality and performance that Goffman and Sennett described. Reconceiving the wall as a form of public expression that is both intentional and conventional, that both conceals and fuses with the self, is essential to this recovery. Walls need not retreat from either private or public life; rather they can more fully engage both. And, as Lever House demonstrates, the most engaged wall is not always the most transparent one.

Sørensen's cells. In 1948 the Danish landscape architect Carl Theodor Sørensen was hired to design a small allotment garden on a rolling site in the Copenhagen suburb of Nærum. Though he had not designed one before, Sørensen had long acknowledged the important role allotment gardens played in Danish society. 'It is completely natural,' he wrote in 1939, 'that the residents of city apartments without gardens attempt to secure unused land for cultivation as close to home as possible, and there is plenty of uncultivated land near our city centers. It is equally to be expected that city administrations or governments will meet this need.'[129] Sørensen devoted a large part of his 1931 book *Park Politics in Town and Parish* to allotment gardens.[130] At that time a large segment of the Danish population still lived in urban tenements like the one described by Ditlevsen, and had little access to private green space. Allotment gardens were useful in supplementing a household's food supply, but they were even more important as signs of status and places of relaxation in a society where great value was attached to freehold on a plot of land.

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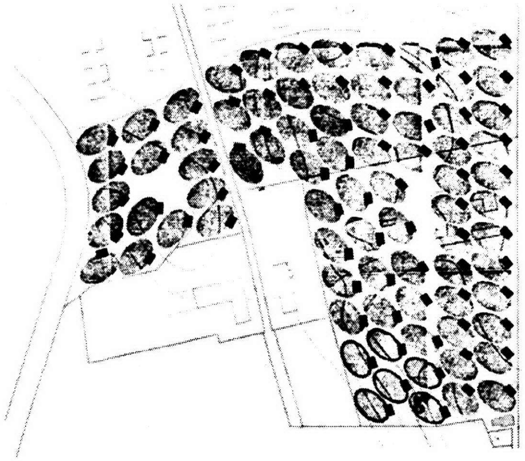
[127] Sennett, *Fall*, 13.

[128] Sennett, *Fall*, 27.

[129] Carl Theodor Sørensen, *Om haver [On gardens]* (Copenhagen: Emil Wienes Bogforlag, 1939), 169. All translations by the author.

[130] Sven-Ingvar Andersson and Steen Høyer, *C. Th. Sørensen—en havekunstner* (Copenhagen: Arkitektens Forlag, 1993), 138. All translations by the author. See also: Sven-Ingvar Andersson, Steen Høyer, and Anne Whiston Sprin, *C. Th. Sørensen: Landscape Modernist* (Copenhagen: The Danish Architectural Press, 2001).



C. Th. Sørensen, Schematic plan of gardens, Nærum, 1948. (Reprinted from Andersson, 1993)

An inveterate modernist, Sørensen had spent decades exploring the potential of the forms and materials of the Danish agricultural landscape, and he brought the fruits of these explorations to bear on the schematic plan for Nærum. The result was possibly the most famous design ever produced for such an environment. When it was awarded protected status under the Danish preservation law, the jury lauded it as 'a significant work of garden art with great aesthetic and social value...known far outside the country's boundaries.'[131] The landscape architect Sven-Ingvar Andersson called the Nærum allotments 'a monument of post-war garden art.'[132]

Prior to Sørensen's proposal, allotment gardens had been laid out using the conventions of housing subdivisions; they were in effect miniature suburbs.[133] Sørensen did not reject these conventions altogether but rather transformed them into a model of subdivision quite unlike anything seen before. The schematic plan showed identical ellipses, made with a rubber stamp, repeated over the entire topography in a more or less random pattern (one viewer noted its similarity to a Japanese kimono).[134] Each of these ellipses represented a single hedge-bound garden allotment within a larger common space that would function both as a play area for children and the only means of access to the gardens. But the plan was not merely an experiment in abstract form. Rather it emerged from what Sørensen knew was the greatest point of contention in standard subdivisions: the necessity that each lot share a boundary with three others. Noting that fence or hedge conflicts were almost always the result of such adjacency, Sørensen proposed a system of allotment in which the material shape of the wall would be determined by a single owner. In other words: no two people would share a hedge.[135]

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[131] Andersson, *Sørensen,* 136.
[132] Andersson, *Sørensen,* 136.
[133] Sørensen, *Haver,* 169.

Sørensen authored a guide on laying out and maintaining these unusual parcels. He included several configurations of the lot interiors; one interesting plan showed the outer ellipse framing smaller ovals of flower beds and current bushes. But Sørensen devoted most attention to the installation, composition, and maintenance of the enclosing hedges, for it was on these hedges that the success of the design would depend. Sørensen imagined the 'walls' of hawthorn, hazel, crabapple, and lilac as very high indeed—up to four meters. Hedges pruned any lower would not allow the occupant to 'gain the full benefit of this particular form of allotment.'[136] In another part of the guide Sørensen suggested that residents consider new and distinctive maintenance regimes to distinguish their hedges from suburban counterparts. 'Unpruned hedges,' he wrote, 'can often be particularly beautiful, not least in this garden.'[137] Sørensen's original plan showed tool sheds straddling the hedges and protruding into the common area, but he left decisions on the details of interior configuration to occupants. The essential aspect of the design, he reminded his readers, was the repeated elliptical shape, 'the simplest form as a frame for the greatest possible variation in practice.'[138] Most of this advice has not been heeded: today the hedges are pruned lower than Sørensen foresaw (though their heights still vary from below the knees to above the eyes), and few of the garden interiors follow his plans.

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[134] Andersson, *Sørensen,* 136.
[135] Andersson, *Sørensen,* 141.
[136] Andersson, *Sørensen,* 138.
[137] Andersson, *Sørensen,* 138.
[138] Andersson, *Sørensen,* 142.

Looking downslope at Nærum. (Reprinted from Andersson, 1993)

And yet Nærum remains a cohesive environment where the straits between private refuge and public engagement are negotiated with unusual grace. The form of the garden has proven resilient even as occupants determine all details of construction, old hedges are removed and new ones planted, and ellipses shift to follow changing topography and new patterns of movement. Sørensen's use of a simple recurring form whose composition could be varied almost infinitely assured this durability; today the strength of the garden remains the dynamic common spaces formed by the sweeping green walls. But as Andersson wrote, Nærum is not merely a successful design but a vision for 'a relationship between the individual and the community. Giving up a little bit of one's personal freedom can create something that yields an experience greater than what the individual could achieve alone.'[139] For Sørensen this did not mean giving up protected private life: he imagined the gardens as even more 'intimate and closed' than they are today.[140] Rather it meant achieving a balance between interior withdrawal and exterior performance. Because the common area depended the form of the private wall, an obligation was placed on each occupant to think about the outside perimeter of his or her allotment; the wall both expressed and transcended the cell it defined. Nærum was thus more than an innovative garden design: it was a striking and still largely unexplored vision of how the wall could function in a condition of allotment.

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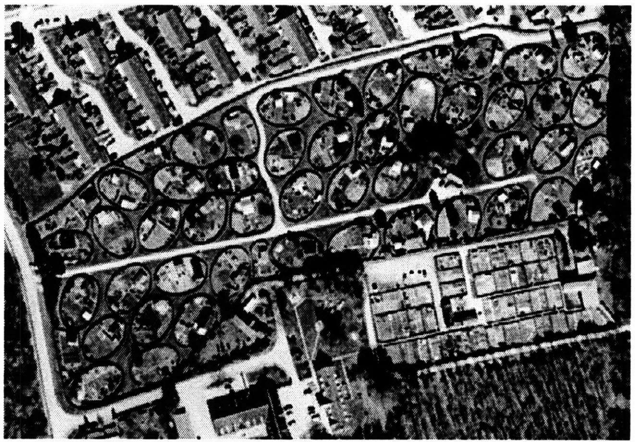
[139] Andersson, *Sørensen,* 143.

[140] Carl Theodor Sørensen, *Parkpolitik i sogn og købstad [Park politics in town and parish]* (København: Gyldendal, 1931). Cited in Andersson, *Sørensen,* 138.



Nærum gardens in their suburban context today. (Cowi A/S, 2008)

A milestone in garden history and a novel approach to allotment, Nærum is also the fruit of a particular culture. Sørensen's design both emerged from and depended for its success on the Danish tradition of social solidarity, which places equal value on fellowship and privacy. Nærum is a culturally homogeneous environment, and this cannot be neglected when when gauging its success as both a design and a social arrangement. If the spaces between gardens are magical, they are also panoptic—an effect heightened by the bowl-shaped topography and low hedges. Visitors are welcome but watched. Whatever its strengths Nærum is not, to paraphrase Richard Sennett's definition of a city, a place where strangers are likely to meet.[141] Public performance among people who share a language is not the same as role playing among strangers. The question is: can walls acts as masks in these places too?

Old lots, new fences. The urban planner Margaret Crawford has offered an answer to this question through investigation into the domestic enclosures of East Los Angeles. Predominantly Mexican since the 1930s, when waves of immigrants provided low-wage labor in the heavy industries of southern California, today East Los Angeles is the largest community of Mexicans and Mexican-Americans in the United States, 'a Mexican city in the heart of Los Angeles.'[142] In bungalows and gardens marketed to an earlier generation of American migrants, its residents 'have created a new hybrid form of dwelling...unnoticed by the city and hidden from professional architectural culture.'[143] At the center of this hybrid is not the house but rather the front of the lot: the *yarda*. Here the social life of family and friends unfolds in public view, giving the lie to the neighborhood's 'mean streets' reputation.[144] The *yarda* 'encapsulates the functions of the plaza, courtyard, front yard, and street. It is simultaneously an area of sociability, a site of control, an outdoor work area, and a stage for symbolic elaboration.'[145] Unlike the unchanging, preternaturally green lawns of 'Anglo' Los Angeles, the *yarda* is 'infinitely flexible and always in flux... It can become a lush jungle of plants or, paved over, a playground or car-repair shop. A driveway can serve as a dance floor, an outdoor hallway, or a space to display goods for sale.'[146]

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[141] Sennett, *Fall,* 39.

Yet despite its public orientation the *yarda* is nearly always an enclosed space, its street frontage defined by affordable and easily obtainable materials—chain-link, concrete manufactured units, wrought iron—used in unique ways. Attention to the lot boundary brings the social life of the *yarda* out to the street; like the territory they mark, these fences are at once 'protective and inviting,' enforcers of private space and performances staged for passersby, whether friends or strangers. Taking 'pleasure in transformation and self-expression,' residents bring vast creativity to bear on this public face, mixing pride in Mexican traditions with aspirations for social, economic, and linguistic integration.[147] 'In East L.A.,' Crawford writes, 'every street presents a characteristic topography of fences; some are patrolled by dogs, others are hung with homemade signs advertising nopales or discount diapers, others support brightly colored brooms for sale. As innovation has encouraged imitation, fence styles have become increasingly complex, spurring the rapidly evolving craft of wrought iron, one of East L.A.'s largest homegrown industries.'[148] The interior of the lot and its edge are inseparable forms of both personal and cultural expression.

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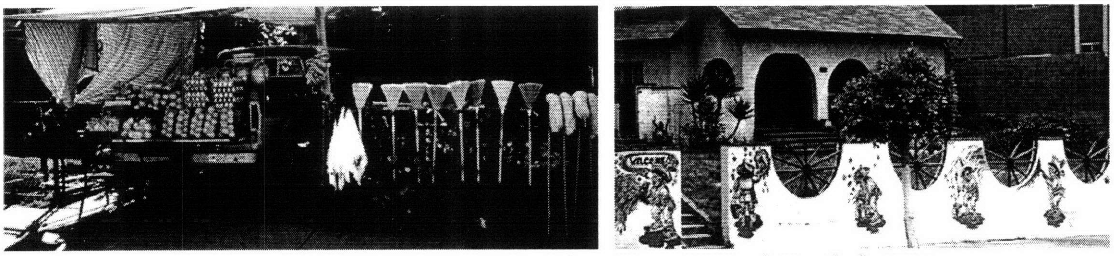
[142] Margaret Crawford, 'Mi casa es su casa: Adobe LA.' *Assemblage* 24 (1994), 13.
[143] Crawford, 'Mi Casa,' 14.
[144] Crawford, 'Mi Casa,' 14.
[145] Crawford, 'Mi Casa,' 15.
[146] Crawford, 'Mi Casa,' 15.
[147] Crawford, 'Mi Casa,' 12.



Lot fences, East Los Angeles. (Reprinted from Chase, 1999 and Crawford, 1994)

The *yarda* demonstrates that there is no unavoidable conflict between walls and public life. The residents of East Los Angeles use simple materials and techniques to bring an economy of care and attentiveness to the legal boundary; they do not purchase refuge at the price of disengagement. Rather by 'extending their presence beyond their property lines to the sidewalk and street, they construct community solidarity from the inside out, house by house, street by street.'[149] As mask and as performance, walls do not hinder this construction but form one of its building blocks.

It is a long way from the dry washes of East Los Angeles to the leafy city of Cambridge, Massachusetts. An example from this very different environment suggests that the link between walls and performance is not limited to any one culture.

The nineteenth-century neighborhood of Cambridgeport is a motley array of Greek Revival cottages, greying three-deckers, and brick apartment buildings. Walking its streets I have often passed an intriguing wall that stands out from block upon block of identical chain link fences: a high multi-gabled construction of silvery board and batten partly concealed by strands of English ivy growing from the other side. The largest gable, perpendicular to the lot boundary, shelters a wrought-iron gate forged into an elaborate pattern of leaves and branches. A birdhouse on a pole sticks up from the summit of a smaller gable. Here and there, loop-holes of all sizes and shapes offer glimpses into a lush garden inside. One aperture amid the ivy reveals not the interior of the lot but the viewer's own face trapped behind wrought-iron bars. I have often stood back and watched passersby laugh at this *trompe l'œil,* a folly in miniature.

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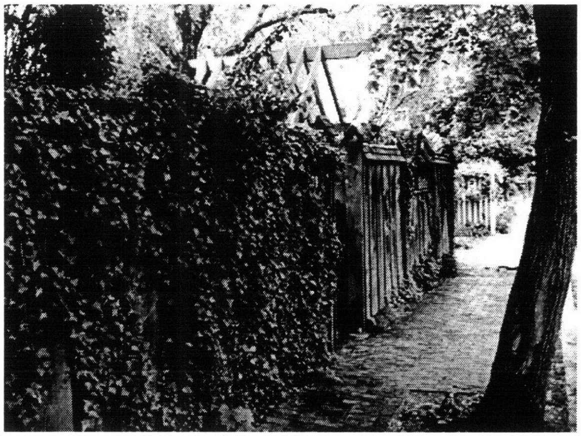
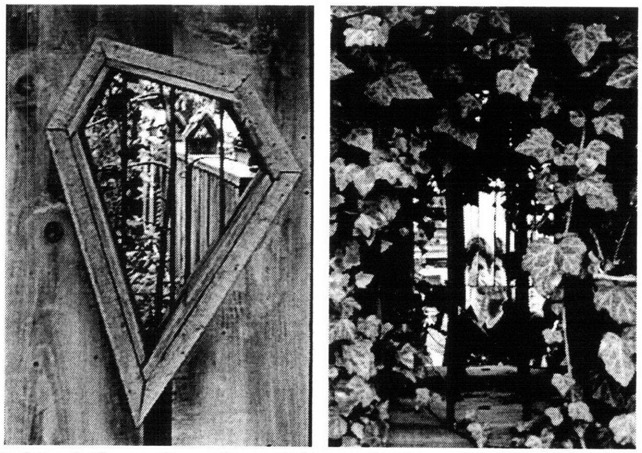
[148] Crawford, 'Mi Casa,' 14.
[149] Crawford, 'Mi Casa,' 12.


John Harbison's fence. (Author photograph, 2008)

I learn that the fence belongs to the composer John Harbison, and arrange to speak to him about it. On a wet afternoon in late May I pass under the gable, through a thicket of bamboo, and into the garden I have seen through the loop-holes. Everywhere lilacs, foxgloves, tulips, hellebores are coming up in neatly edged beds; patches of new grass phosphoresce in the fading light. I wait several minutes at a sliding glass door before a bespectacled man with wispy grey hair and the remnants of freckles emerges from a dark hallway. He extends his hand in greeting and leads me into a large study and kitchen whose pine floorboards creak under my shoes. In the far corner stands an old Bösendorfer; a massive double-faced fireplace occupies the center of the room. Harbison hands me a mug of tea and seats me at a heavy oak table by the window; it is strange to see the fence and garden from the vantage of an insider.

Taking a seat across the table, the composer tells me the story of the fence. In the late 1970s the previous owner of the property asked friends and acquaintances (Harbison among them) to help her fuse the two structures that had shared the lot since the late nineteenth century. In exchange she invited these assistants to live on the property for as long as they liked. The fence was designed and built by one of these friends, a Vermont carpenter whose name Harbison has forgotten but who, he recalls with a laugh, 'was pretty stoned the whole time.' (I agree that the circumstances of the fence's construction are closer to northern California than to Cambridge.) The owner's only request of the builder was bring all his artistry and skill to the task, and indeed the most notable feature of the fence is its careful detailing. When he bought the property in the early 1980s Harbison promised to maintain the fence and has done so at considerable expense: the elaborate gate housing has been vandalized and reconstructed several times. But the structure and details are largely unchanged: this wall has been ripening along the lot line for close to four decades, and looks good for another four or eight. I turn the conversation to the response that the fence provokes among passersby. 'People stop all the time,' Harbison says, noting it is the mirror that provokes most delight. 'I often see faces in the holes, people ask about the garden, and that starts other discussions,' he continues. As if to make his point, a man and a woman have paused under the central gable and are peering inside—just as I have done on many occasions. Harbison is demure: 'That happens a lot,' he chuckles. We watch the pair in silence as the garden descends into darkness.[150]



John Harbison's fence: the wall as window and mirror. (Author photograph, 2008)

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[150] John Harbison, personal communication, Cambridge, Massachusetts, 16 May 2008.

The geographer Clive Barnett has recently written about 'acknowledgement of otherness' in the modern city. Drawing on the philosophy of Emmanuel Lévinas, Barnett suggests that urban boundaries are 'scenes for the drama of responsiveness' between passersby.[151] Yet to understand Harbison's fence, the wrought-iron of the *yarda*, or the hedges of Nærum solely in terms of 'obligation' among strangers is to misconstrue their real function. For the crucial term above is not 'responsiveness' but rather 'scene.'

Why did inhabitants of Nærum prune their hedges lower than Sørensen advised, affording views outward and inward? Why did one resident of a Spanish-speaking neighborhood paint 'Welcome' on the front wall of the *yarda?* Why does Harbison continue to repair his gate despite repeated vandalism? The answers have to do less with generosity than with presentation. Each of these walls embodies, in however small fashion, the relationship between role-playing and public life. The hedges of Nærum vary but slightly within a larger structure of conformity—a metaphor for Danish society. By contrast, residents of East Los Angeles use walls to proclaim an identity marked by 'tensions between culture and personality, memory and innovation, Chicano and Mexican, Mexico and America.[152] And Harbison maintains his distinctive fence not to be generous but because by doing so he honors remembered friendship and attracts curiosity and admiration. Each of these walls is part of its owner's expressive equipment, what George Santayana called 'admirable echoes of feeling, at once faithful, discreet, and superlative.'[153] They are masks donned in the space of the city that suggest not withdrawal from public life but engagement with its first sense: 'that which is manifest and open to general observation.'[154]

To conceive the wall as mask is to invoke time: all performances have beginnings, middles, and ends. The mask will differ with time of year, time of day, and duration of the encounter. Some performances of the wall, like Kratsman's protest, are captured and transmitted through stories and images. But far more common are the encounters that evaporate almost as they happen: a person glimpsing her reflection in Harbison's mirror and moving on; a student of garden history peering into a

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[151] Clive Barnett, 'Hospitality and the acknowledgement of otherness.' *Progress in Human Geography* 29:5 (2005), 16. See also Emmanuel Lévinas, *Totality and Infinity: An Essay on Exteriority* (Pittsburgh: Duquesne University Press, 1969).

[152] Crawford, 'Mi Casa,' 12.

[153] George Santayana, *Soliloquies in England and Later Soliloquies* (New York: C. Scribner's Sons, 1922), 132.

[154] Sennett, *Fall*, 16.

Nærum hedge; a passerby reaching into a plastic bag on a chain-link fence. These 'trajectories' are the warp and woof of urban life.[155] Yet there is another kind of performance where the wall is not a fleeting event but an orchestrated public drama, a collective staging of a community or polity to itself day after day, year after year. Such performances are called ritual.

V The Wall as Ritual

Boundaries have long been the subject of elaborate ceremony: as noted in the first chapter, in ancient civilizations such as Rome and Babylon the division of land was overseen by gods whose benediction required propitiation. In addition to demanding proper rites of foundation, boundaries were also the site of ongoing rituals that enacted and enforced political and religious order. Yet such tendencies are not limited to ancient civilizations: the wall continues to focus rituals today. This final section examines such persistence through three examples. The first is drawn from the public celebration calendar of first-century Rome. The second is a medieval practice that has been re-embraced by communities throughout England and the United States. And the third, a wall ceremony barely half a century old, illustrates the potential of modern boundaries to yield new and powerful rites—even in a subdivided world.

Boundary and sacrament. At the height of the Empire more than half the Roman year consisted of public festivals. Roman religion was marked by continuous incorporation of new deities that 'reflected changing social, political, and military circumstances [and] responded to new manifestations and new interpretations of divine power.'[156] Each of these deities demanded a holiday; games and commemorations of military triumph swelled the number of festivals still further.[157] Given this variety it is difficult to assign preeminent status to any one ritual. But however they are ranked, two of the oldest festivals in Rome—the *Terminalia* and the *Lupercalia*—had boundaries at their center.[158]

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[155] Certeau, *Practice*, xviii.

[156] Mary Beard, John North, and Simon Price, *Religions of Rome. Volume 2: A Sourcebook* (Cambridge: Cambridge University Press, 1998), 116.

The *Terminalia,* celebrated on the morning of the twenty-third of February, was a day of offering to Terminus, the god overseeing all boundaries and limits. Terminus was one of the original Roman pantheon who did not assume human form but rather inhabited the boundary stone, a mystical inherence called *numina*—hence the English 'numinous.'[159] The most complete description of the rituals associated with the *Terminalia* is in the *Fasti,* Ovid's account of the Roman festival calendar. 'When the night has passed,' Ovid instructed his readers,

> see to it that the god who marks the boundaries of the tilled land received his wonted honor. O Terminus, whether thou are a stone or a stump buried in the field, thou too hast been deified from days of yore. Thou art crowned by two owners on opposite sides; they bring thee two garlands and two cakes. An altar is built. Hither the husbandman's rustic wife brings with her own hands on a potsherd the fire which she has taken from the warm hearth... Terminus himself, at the meeting of the bounds, is sprinkled with the blood of a slaughtered lamb, and grumbles not when a sucking pig is given him. The simple neighbors hold a feast, and sing thy praises, holy Terminus: thou dost set bounds to peoples and cities and vast kingdoms; without thee every field would be a root of wrangling.[160]

The *Terminalia* was a propitiation of a deity, a ritual meeting between two adjacent holders, and—in its association with imminent spring plowing—a reenactment of the land's original division. The boundary stone was both the deity itself and the altar at which that deity was worshipped. The central place of this ritual in Roman culture is suggested by the extent to which its celebration may have determined the planning of cities: one archeologist has recently suggested that the colony of Bononia (Bologna) was laid out so that the sun would rise in alignment with the *Decumanus Maximus* on the morning of the festival.[161]

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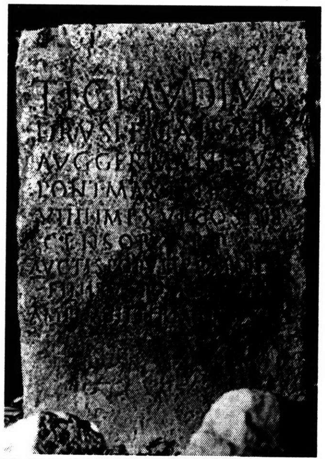
[157] Beard, *Religions,* 116.
[158] Rykwert, *Idea,* 126.
[159] Beard, *Religions,* 3.
[160] Ovid, *Fasti* II. 639-664 (London: Heinemann, 1959), 105.
[161] M. Incerti, 'The Urban Fabric of Bologna: Orientation Problems.' In *Atti del Convegno Internazionale sulla Città* (Florence, 1999). Cited in Giulio Magli, 'On the Orientation of Roman Towns in Italy.' *Oxford Journal of Archeology* 27:1 (2008), 68.

Whereas the *Terminalia* was primarily a festival of rural places, the *Lupercalia* was an elaborate ceremony in Rome. Ancient historians offer 'different, sometimes contradictory, accounts' of its practices and meanings; however most agree that it was a ritual purification of the residents of Rome that invoked the myth of city's founding.[162] Celebrated on the fifteenth of February, the festival took its name from the place where its opening rites were performed: the Lupercal, or the site on the Palatine where the she-wolf was believed to have found Romulus and Remus.[163] These rites saw the initiation of two noble youths into the ranks of the *Luperci,* a corporation of priests associated with goats, dogs, and (eponymously) wolves whose shrine was 'particularly connected to the foundation of the city.'[164] The youths were daubed with the blood of sacrificed goats and required to laugh. The *Luperci* then ran a race along the base of the Palatine, striking anyone who got in their way.[165] As described by Plutarch in the *Life of Romulus,* young women in particular tried to place themselves in the path of the *Luperci*, suggesting the ritual's connection not only to purification but also to fertility. On returning to the Lupercal the winner was awarded the half-cooked entrails of the sacrificed goats on a willow spit, and a 'jolly and ribald' feast ensued.[166]



Granite *cippus* set by Claudius in 49 CE. The stone is 1.9 meters high. (Reprinted from Beard, 1998)

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[162] Beard, *Religions,* 119-120.

[163] Rykwert, *Idea,* 91.

[164] Agnes Kirsopp Michels, 'The Topography and Interpretation of the Lupercalia.' *Transactions and Proceedings of the American Philological Association* 84 (1953), 57-58; Rykwert, *Idea,* 93.

[165] Plutarch, *Romulus* 21.3-8, 39.

[166] Rykwert, *Idea,* 94.

Ancient historians differ on the exact course of the race, but several recount that the *Luperci* followed the *pomoerium*, the line of sacred boundary stones that marked Romulus's furrow around the Palatine.[167] Though the official *pomoerium* was expanded multiple times, these original stones—*cippi*—remained altars and symbols of potency, and the priests appear to have beaten them with switches as they ran past them.[168] Thus the *Lupercalia* was a purification of Rome through ritual reenactment its sacred enclosure.[169] Yet finally it was not the territory of city the *Luperci* purified, but rather people—hence Plutarch's account of spectators' eagerness to be 'lustrated' like the *cippi*.[170] This interpretation is supported by the physical disposition of onlookers who, rather than keeping to the inside of the *pomoerium,* 'may have stood on either side of the boundary, or even outside it altogether.'[171] Despite ongoing condemnation from Christian emperors, the *Lupercalia* continued to be celebrated well until the fifth century.[172]

Boundary rituals were not unique to Rome but common all along the fringes of the Empire. In Celtic Britain villagers struck 'besoms,' or bundles of birch twigs, against boundary markers during the festival of Beltane in early May; the seventeenth-century church historian Henry Spelman suggested that Roman invaders had incorporated the Celtic rite into celebration of the *Terminalia* in Britain.[173] Beginning in the fifth century these practices were gradually appropriated by the Anglo-Saxon Church, which folded them into ecclesiastical 'processioning.'

Processioning was a day-long event held yearly during Holy Week or just before Ascension, when the residents of a parish fully circumambulated its boundaries. The event was marked by great fanfare, with 'huge crosses and banners...borne at the front of the procession, and streamers, bells, staves, torches and candles...carried by the followers.'[174] Over the course of the day the column of processioners made its way between landmarks along hedges, ditches, walls, and roads, pausing in the shade of the 'Gospel Trees' (often hedge standards) where the parson read the day's verse.[175] George Herbert wrote that the parson 'particularly...loves processions, and maintains [them] because there are contained therein four advantages. 1. A blessing of God for the fruits of the field. 2. Justice in the preservation of bounds. 3. Charity in loving, walking, and neighbourly accompanying one another, with reconciling of differences at that time, if there be any, and mercie in relieving the poor, which at that time ought to be done.'[176] Processioning was thus a means of blessing both land and people while defining 'the extent of the parson's spiritual control.'[177]

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[167] Rykwert, *Idea,* 91.
[168] Rykwert, *Idea,* 106; 132.
[169] Beard, *Religions,* 123.
[170] Plutarch, *Romulus* 21.8, 39.
[171] Rykert, *Idea,* 126.
[172] Beard, *Religions,* 123.
[173] Henry Spelman, *Councils, Decrees, Laws, and Constitutions of the English Church* (London: Richard Badger, 1639). Cited in Cholesbury-cum-St. Leonard's Local History Group, 'Beating the Cholesbury Bounds' (Cholesbury-cum-St. Leonard's, UK: The Local History Group, 2006). Retrieved from 'cholesbury.com/beatbounds.htm,' 13 June 2008.

Despite its ecclesiastical importance, processioning was increasingly marked by 'drunkenness and other excesses' by the sixteenth century.[178] The Church attempted to recover some of the ritual's lost gravity by imposing restrictions on pageantry and carousal: 'Give notice and commandment within your archdeaconry,' the Bishop of London instructed a local deacon in 1560, 'that the ministers make it not a procession but a perambulation; and also that they suffer no banners, nor other like monuments of superstition...neither to have multitude of young light folks with them...and to use no drinkings, except the distance of the place do require some necessary relief.'[179] Yet the Saturnalian aspect of processioning seems to have been well entrenched by the seventeenth century, when the Puritan poet George Withers recalled fondly the solemnity of another age:

> That every man might keep his own possessions,
> Our fathers us'd, in reverent Processions,
> (With zealous prayers and with praiseful cheere)
> To walk their parish limits once a year,
> And well known marks (which sacrilegious hands
> Now cut or breake) so bordered out their lands,
> That everyone distinctly knew his owne,

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[174] William H. Seiler, 'Land Processioning in Colonial Virginia.' *The William and Mary Quarterly* 6:3 (1949), 418.

[175] W. S. Tratman, 'Beating the Bounds.' *Folklore* 42:3 (1931), 319.

[176] George Herbert, *A priest to the temple, or, The Country Parson, and rule of holy life* (London: T. Maxley for T. Garthwait, 1652), 157.

[177] Tratman, 'Bounds,' 317.

[178] Tratman, 'Bounds,' 318.

[179] Edmund Grindal, *The Remains of Edmund Grindal, Successively Bishop of London and Archbishop of York and Canterbury* (Cambridge: Printed at the University Press, 1843), 240-241. Cited in Seiler, 'Processioning,' 418.

And many brawls, now rife, were then unknowne.[180]

The Poor Law Acts at the turn of the seventeenth century completed the transformation of processioning from ecclesiastical to secular ritual. In the high Middle Ages the boundaries of a parish were not a matter of great practical concern: people 'attended the nearest church, and regarded themselves as units of the parson's flock' without regard to ecclesiastical subdivisions.[181] Likewise no parson in the early Church would have blessed a non-Christian's land, even if it lay in his own jurisdiction.[182] By dictating that 'the churchwardens of every parish and four, three, or two substantial householders therein, should be nominated as Overseers of the poor,' the Acts required the boundaries of the parish to be set with precision; it was at this stage that 'the work of definitely marking on the ground the boundaries of the parishes and the keeping of records actually began.'[183]

Though still led by the parson, the annual perambulation—increasingly called 'beating the bounds'—ceased to be a blessing of crops, land, and people, and became instead a ritual of collective memory for legal and administrative purposes. Ironically this meant renewed embrace of customs once frowned on by the Church. The folklorist William Tratman described a typical procession: 'In goodly numbers the parishioners walked round the boundaries...pausing with some impressiveness at the old 'Gospel trees,' stones, and other objects on the line of the boundary. At points where the boundary took a sharp turn or was vaguely marked, youths were bumped against trees and ducked in streams, or flogged at particularly undefined places, as an aid to memory. The youths also carried willow wands with which they thrashed the various objects as they went along. The tiring day was amply repaid by the evening's amusements on the village greens that followed.'[184]

'Beating' thus referred not only to striking landmarks but also to the playful violence that seared the boundary's course into the minds of the young. At important points boys were 'switched' with willow wands, thrown over hedges and into ponds, or even 'held upside down and their heads bumped on a marker stone.'[185] There were rewards as well as punishments: throughout the county of Dorset, cakes were scattered at landmarks 'for the Boys to run after and Scramble for.'[186] Or the entire procession might perform a collective action: during an early nineteenth-century perambulation the parson of one Devon parish declared, 'Now we must make a shout here that we may recollect the bounds,' at which the group 'huzzaed and took off their Hats.'[187] The revelry lamented by Withers is also attested in local records: a parishioner of the village of New Buckenham in Norfolk insisted in 1595 that he 'better remembreth' the location of a boundary near St. Andrews Church 'for that he had druncke Beare out of an hande Bell' there.[188]

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[180] George Withers, 'Emblems' (1635). Cited in Tratman, 'Bounds,' 318.
[181] Tratman, 'Bounds,' 319.
[182] Tratman, 'Bounds,' 318.
[183] Poor Law Act (43 c.2); Tratman, 'Bounds,' 319.
[184] Tratman, 'Bounds,' 320-321.

Writing in 1931, Tratman noted that completion of the Ordnance Survey had obviated these rituals: there was no more 'occasion to walk the bounds for the purpose of refreshing the memory.'[189] And yet recent decades have seen a resurgence of boundary beating in communities all over England and even the United States, some of which have taken up the practice after more than two centuries.[190] Though primarily associated with rural parishes, the collective marking of boundaries has also been revived in urban places whose landscape has been transformed beyond all recognition. Here lineaments must be retraced from old maps and records. In 1967 the Borough of Richmond in London beat its bounds for the first time since 1922. During this time it had been absorbed into greater London and the parish boundary turned into a brick wall in Bushy Park; members of the procession painted boundary markings on the wall.[191] 'Through the experience of walking,' the landscape architect Matthew Potteiger has recently written, 'communities talk about the specifics of the fences, walls, streams, topography, and buildings, and share stories about their common landscape.'[192] Stumbling over fences or stiles, stepping in cow pies, putting a foot into a ditch, painting a marker on a wall—all these forge connections both to recent stories and the distant past. The result is heightened awareness of both social and natural history; as the historian William Hoskins wrote: 'What had previously been an ordinary ditch...will be seen to be a boundary ditch...and so will acquire a greater depth of meaning.'[193] Beating the bounds is a way of feeling the boundary in the bones.

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[185] Cholesbury-cum-St Leonard's Local History Group, 'Bounds.'
[186] Dorset Records Office, (nd). Cited in Tom Greeves, *The Parish Boundary* (London: Common Ground, 1987), 9.
[187] Devon Records Office, 924M-B1-8. Cited in Greeves, *Boundary*, 10.
[188] Norfolk Records Office, PD254-71. Cited in Greeves, *Boundary*, 9.
[189] Tratman, 'Bounds,' 321.
[190] Greeves, *Boundary*, 12.
[191] London Borough of Richmond Upon Thames, 'Community Archive: 1960s.' Retrieved from 'www2.richmond.gov.uk/communityarchive,' 19 June 2008.
[192] Matthew Potteiger and Jamie Purinton, *Landscape Narratives: Design Practices for Telling Stories* (New York: John Wiley & Sons, 1998), 190.

Beating the parish bounds, Bushy Park, Richmond, London. (London Borough of Richmond Upon Thames, 1967)

These practices suggest the degree to which walls and ritual have been entwined throughout history. In doing so they call into question, to paraphrase Jane Jacobs, 'the kind of problem a boundary is.'[194] Whether in ancient Rome or medieval England, the boundary was neither solely object nor solely legal idea but a chain of relationships between humans and their physical and social environment that required collective acts in order to be remembered and upheld. The *pomoerium* was not only a line of granite markers—it was also the race that followed their course century after century. The parish boundary was at once a Beech in a hedge—and the memory of the old man turned upside down there as a boy. Like the city the boundary was a 'problem in organized complexity.'[195] Physical markers were only one aspect of the problem of the boundary; the wall required rituals. The fostering of collective social practice must therefore be part of any recovery of the wall in the modern landscape. Yet one need not turn to ancient Rome or medieval England for models of such practice: new rituals are emerging along walls all over the world even today. And one of the most striking of these can be seen each morning and evening on the boundary between India and Pakistan.

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[193] William George Hoskins, *Fieldwork in Local History* (London: Faber & Faber, 1982), 40.

[194] Jacobs's formulation is 'The kind of problem a city is.' See Jane Jacobs, *The Death and Life of Great American Cities* (New York: Vintage, 1961), 428.

[195] Jacobs, *Cities,* 430.

The Wagah dance. In July 1947 the English civil servant Cyril Radcliffe was appointed by the last viceroy of British India, Lord Mountbatten, to solve the most intractable problem of country's approaching independence: the partition between its Muslim and Hindu populations. A career bureaucrat who had never been to India and would never return, Radcliffe had exactly one month to make a determination that would alter forever the lives of tens of millions of people.[196]

The boundary between India and the new country of Pakistan was to run nearly two thousand miles from the Indian Ocean to the Himalayas.[197] Its most contentious stretch lay in the densely-settled Plain of Punjab between Delhi and Lahore, whose population was evenly split between Hindus and Muslims and which also contained significant populations of Sikhs and other minorities. Strewn across its alluvial soil were thousands of villages dominated by one group; many more settlements were mixed street by street and house by house. Radcliffe was given authority to decide singlehandedly and in secret which of these settlements would remain in India and which would fall in Pakistan.

When the course of the boundary was made public on 17 August 1947—two days *after* independence—it provoked the largest and bloodiest mass migration in history.[198] In the six months following partition, over ten million people fled their homes, often with less than a day's preparation, as the Punjab Plain was riven by inter-community conflict.[199] 'While some people were forced to move because of fear and death,' the historian Ravinder Kaur writes, 'others sought to escape shame and humiliation brought about by the abduction of women, rapes, and forcible conversions.'[200] The tension was heightened by the fugitive quality of the line that had taken effect: 'Radcliffe's judgement—which was meant to be fixed and incontestable—instead appeared soft and malleable and had little real or imagined authority behind it. People could not see the line, nor did it seem that there were enough troops available to demarcate it even if it did exist.'[201]

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[196] Ravinder Kaur, *Since 1947: Partition Narratives among Punjabi Migrants of Delhi* (New Delhi: Oxford University Press, 2007), 70.
[197] Pakistan itself was divided into two separate halves, West and East (now Bangladesh).
[198] D. R. SarDesai, *India: the definitive history* (Boulder, CO: Westview Press, 2008), 311.
[199] Kaur, *1947*, 74.

It is difficult to exaggerate the social disruption and violence that the 'Radcliffe Line' unleashed: in East Punjab alone, fully one third of the population—4.5 million people—fled toward West Pakistan. The Hindus, Sikhs, and other non-Muslims streaming in the opposite direction numbered over five million. The journey itself was almost as dangerous as remaining in place: while wealthy travelers could fly over the carnage, most people had to make the journey over land. Millions were evacuated by 'Refugee Special' trains, but countless others simply gathered their few possessions and set out on foot. 'The bulk of this group was made up of rural inhabitants who would travel in village contingents led by the village headman. The columns were sometimes miles long, with thousands of migrants hurrying across the border for weeks on end. The safety of the foot columns was under threat most of the time from organized communal bands, highway robbers, petty thieves, and mischief-makers. They were subject to sudden and brutal attacks at all hours along the entire route.'[202] One relief pilot remembered seeing 'exhausted refugees... sprawled everywhere, in makeshift camps, in school buildings, in private houses and on the streets.'[203]

Foot columns kept to trunk roads for the sake of safety and speed, crossing the new boundary—exhausted and often bloodied—at a few points. The most important of these crossings was the village of Wagah east of Lahore. Like hundreds of other settlements Wagah was split down the middle by Radcliffe's boundary, which 'zigzagged precariously across agricultural land, cut of communities from their sacred pilgrimage sites, paid no heed to railway lines or the integrity of forests, [and] divorced industrial plants from the agricultural hinterland.'[204] In the fall of 1947 the boundary at Wagah was marked by no gate, wall, or fence: like the new nations it divided, it was a political abstraction. One eastward-fleeing refugee remembered nothing more than a lone Indian flag flying in the middle of the Plain. 'I just crossed,' he recalled. 'Nobody checked to see if I had any documents, nothing.'[205]

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[200] Kaur, *1947*, 70.
[201] Yasmin Khan, *The Great Partition: The Making of India and Pakistan* (New Haven: Yale University Press, 2007), 127.
[202] Kaur, *1947*, 81.
[203] M. S. Chopra, *1947: A Solidier's Story. From the Records of Major General Mohindar Singh Chopra* (New Delhi: The Military Studies Convention, 1997), 11.

The 'Radcliffe Line' is among the most hostile frontiers in the world today. Over one thousand miles of its course through Kashmir have never been settled, and the military outpost at Wagah remains the only place where it can be crossed legally.[206] A sleepy farming village is now the sole gate between two states and peoples frozen until recently in silent hatred, united only by memories of mutual atrocity—memories that still erupt as political and religious violence.[207]

But Wagah is no backwater lost in time: the single flag that flew there in 1947 has been replaced by an extraordinary ritual of international geopolitics. Officially titled 'Raising and Lowering the Flags' and popularly known as 'Beating the Retreat,' the ceremony is performed twice daily: each morning when the boundary is officially opened and each evening when it is closed.[208] An elaborate display of mock violence performed by elite soldiers chosen by the opposing armies for their 'Apollonian male beauty,' it draws thousands of spectators daily from across India, Pakistan, and the world.[209] One recent observer, the reporter Claudia Kolker, provided this account of the proceedings:

> The hazy afternoon turns saffron, and patriotic songs sweep from the checkpoint's speakers over nearby wheat fields... Waved in by turbaned soldiers, young women clutching their husband's arms and men clasping bemused toddlers dash toward their seats. By 4:45 p.m., 3000 Indians have massed atop the whitewashed stands. Across the gate...perhaps 300 Pakistani settle into their own stands... A hush spills over the spectators. Then inside Pakistan, a guard emits a yell. He looks in many ways identical to his rivals. Pakistani guards wear black uniforms; Indians, olive... [All] stride about in sashes, cravats, and cockades like rooster combs. The yell from Pakistan electrifies both sides. Spectators let out joyous cheers... In India, five guards march toward the gate. Long legs fold like pocketknives until their knees touch noses... On each side of the national gates, one soldier lunges forward, asking his commandant's leave to approach

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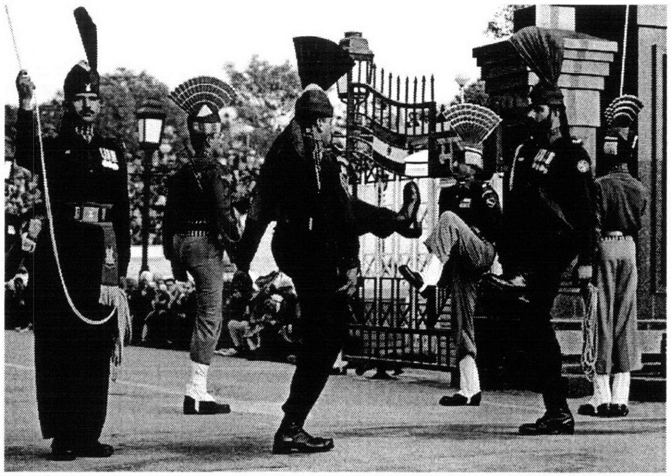
[204] Khan, *Partition,* 126.
[205] Khan, *Partition,* 161.
[206] Syed Sikander Mehdi, 'A Peace Museum on the Wagah Border.' *South Asian Journal* 10 (2005), 121.
[207] Kaur, *1947,* 208.
[208] Mehdi, 'Museum,' 121.
[209] Mehdi, 'Museum,' 122.

> to flag. By now both crowds are on their feet... In front, a sweating youth in an Oxford-cloth shirt shakes as he leads the cheers. 'Victory for India!' he barks. The smaller Pakistani crowd pound a dent into the noise. 'Pakistan! Allah Akbar!' One by one, the soldiers swagger toward their flags... They snap into two facing lines. In each, three Indians brush shoulders with three Pakistanis. Iron-faced, a soldier from each army grasps the rope of his own flag. Crossed, the cords become a mighty X. In silent unison, the flags fall into waiting hands... The guards abruptly wheel, split off, and file back to their territories. The last ones slam the gates behind them.[210]

Kolker reported that the 'few foreign tourists' in attendance sat 'stunned' though this garish display of struts, stares, and slamming. Though this performance happened when tensions between were running unusually high, 'even during peaceful times the ritual is repeated every day with the same zeal, spirit and jingoism.'[211]



Wagah flag ceremony as seen from the Indian side. (Gul Chotrani, 2007)

Though it occurs at a gate, to call the ceremony at Wagah a gate ritual is to understate its political and social resonance. Almost none of the visitors who flock to the permanent arenas on either side will ever set foot across the Radcliffe Line.[212] For those who do, the passport office is set back from and dwarfed by the performance spaces. The gates are flimsy wrought iron hung between overbuilt columns; engulfed by the drama around them, they resemble props rather than security installations. 'Beating the Retreat' is thus not a rite of passage but a staged confrontation, 'a symbolic battlefield where the ritual...communicates each army's power to its rival.'[213] When I show a recording of the event to a Punjabi friend whose parents fled to India in 1947, her reaction is resigned: 'Another residue of colonialism,' she sighs.[214] And indeed, the training, rituals, and uniforms of the two opposing armies are scarcely changed from the military pomp of the British Raj.[215]

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[210] Claudia Kolker, 'Power through Pageantry: India-Pakistan ritual puzzling to outsiders.' *Houston Chronicle,* 26 January 2002.
[211] Mehdi, 'Museum,' 122.
[212] Kaur, *1947,* 208.

Yet finally the Wagah dance provides grounds for more hope than despair. 'Raising and Lowering the Flags' is a dramatic example of a modern territorial boundary whose substance lies not in its form but rather in collective practices repeated day after day, year after year. Kolker's description suggests the financial burden of maintaining such practices; that this burden is borne by two poor societies with other urgent needs suggests the vital social role that the ceremony plays in both. Wagah is the closest most spectators will ever come to interacting with citizens of the other country. For this reason the political scientist Sikander Mehdi has recently suggested the village as the site of a museum devoted to achieving peace between India and Pakistan. Small changes are already afoot: regular bus service across the boundary began in 2005, and for the past several years 'peace activists, anti-nuclear groups, pro-democracy groups, human rights activists and women's groups' from both sides have been converging at the gate on the anniversary of partition to 'greet each other and recite poems.'[216] 'Although a military outpost today,' Mehdi writes, 'Wagah is evolving into a peace signpost, a junction where all the peace trains coming from different directions may converge one day.'[217] It is questionable whether this evolution would have occurred in the same way without the stage that Wagah offered. However belligerent it may appear to outsiders today, the flag ceremony kept open tenuous lines of communication through the dark decades after 1947. It embodies Simmel's simple axiom that ritual conflict is better than no contact. When a subsequent chapter is written in the history of India and Pakistan, the Wagah dance may be seen as having defused nationalism even as it appeared to foment it.

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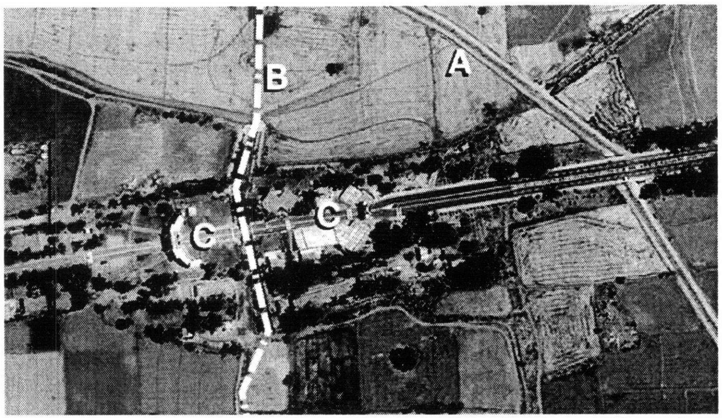
[213] Mehdi, 'Museum,' 122.
[214] Permi K. Gill, personal communication, New York, New York, 12 March 2008.
[215] Kolker, 'Power.'
[216] Kaur, *1947*, 208; Mehdi, 'Museum,' 124.
[217] Mehdi, 'Museum,' 124.



Wagah: the national boundary as (A) physical object, (B) political idea, and (C) performance space. Which is the 'real' wall? (DigitalGlobe, 2008)

I have never been to Wagah, Pakistan, or India. I know the 'Raising and Lowering of the Flags' only from the accounts of strangers. But what I know haunts me, for it speaks to both the promise and the danger of recovering the wall. Wagah is at once a site where political and religious tensions are blunted and a stage for appalling belligerence where the tensions between practice, form, and legal idea that this essay has posited are at best imperfectly resolved. Yet whatever ambivalence it provokes in the spectator, the Wagah dance is a reminder that walls and rituals are still compatible in the modern world, and that new rituals are even now being created. The challenge is to forge these rituals not only at sites of international territorial contest but also along the boundaries closer to home, and not in conflict but in cooperation. To stand in awe on the boundary of India and Pakistan is not to endorse Radcliffe's line but to believe in a world where such lines—at any scale—can be recovered to perform not only as ritual but as habitat, sustenance, mask, and exchange. The Wagah dance shows that such recovery is possible; it challenges the mute walls of the world to do more.

Epilogue Toward an Ethics

Legal boundaries are the background of modern life, the unseen structure of rights and protections that people in liberal democracies take for granted. They are among the most immediate legacies of the Enlightenment, overruling the individual, the particular, the contingent in favor of broad standards of equity. To say this is not to claim that Michael Walzer's 'art of separation' between individuals and institutions is the only way to insure justice, but rather to acknowledge it as the frame within which the physical landscape is designed and built.[1] Yet the relationship between these legal separations and built things is far from simple or transparent: in the United States, particularly, it is marked by ongoing tension.

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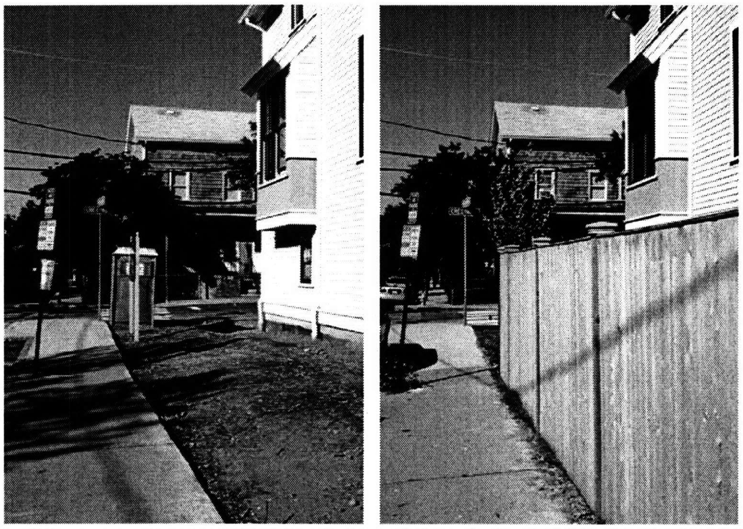
[1] Walzer, 'Liberalism,' 315.

This essay has tried to defamiliarize this tense relationship—to make it strange—in order to rethink the way the landscape is designed and built. It is all too easy to forget that boundaries are not merely disembodied ideas but objects, that lines on maps and computer screens are, sooner or later, relationships in the world. The implications of such forgetfulness are plain to see in the ways boundaries are marked in the American landscape. Where walls and fences and hedges and ditches once were inextricable from law, they are now its servants. Where the wall is ephemeral, the law endures. Accordingly, the standard for judging walls has narrowed to the forensic question of where they sit with respect to an abstract and arbitrary division. A 'good wall' first and foremost accurately and unambiguously reflects legal and political difference; walls that fail to meet this brief do not stand long.



A site of forgetfulness: new house and lot line before (left) and after (right), Cambridge, Massachusetts. (Author photographs, 2008)

But legality does not exempt walls from other standards of performance; indeed it is on these other standards that the richness or poverty of the built environment rises or falls. In a landscape where nearly every parcel affects others, walls must do more than merely mark difference and hold territory. Far from sites of forgetfulness, legal boundaries must be recovered as places of reflection. This is a matter not of imposing rules, but of asking questions:

Should there be a wall? Since the closure of the range, the United States has been scored by walls and fences where land should be left open. But in the modern landscape there are at least as many legal divisions where interaction might be enhanced by a wall—as the East Los Angeles *yarda* demonstrates. Small effort of the imagination suggests that many everyday environments could be enriched by more creative use of walls. The final answer to this question must always weigh potential disruption to existing social and ecological relationships against the interactions a wall might foster.

Is the wall in the right place? As frequent as unnecessary walls are walls positioned badly. This is in no small measure a function of mass-produced materials: barbed wire was rapid to install and therefore easy to misplace. Yet this very example contains an ironic lesson: that the legal boundary is not the only possible location for a wall. Split lots notwithstanding, parcels can be divided in *any* direction—not only side to side. In the example described in the prologue, rethinking the placement of the wall would have done much to address the tensions of the project.

Is the wall contestable? Transparency presents a contradiction. Despite the negative symbolism of hard or opaque walls, palpable barriers are often better targets of resistance—as both nineteenth-century England and modern Palestine demonstrate. By contrast, whether in the Romantic suburb or modern Washington, invisibility often masks power. Walls must therefore be judged on the degree to which they make explicit the social and political control they enforce. Such clarity is essential to keeping the wall in the realm of politics.

Is the wall sufficiently porous? No wall is solid, and the illusion of impermeability is a serious miscalculation when building one. Walls must be designed such that their apertures are appropriate for the context. This is a question of size, shape, and placement, as the *posterns* of Greek walls demonstrate. Porosity should not be confused with transparency: chain-link fences, which allow conversation but too often prevent movement, are porous at the wrong scale. By contrast, John Harbison's fence shows how a wall can be minimally yet strategically permeable in the everyday landscape.

Is the wall a site of performance? Performance ranges from the presentation of the self at the lot boundary to rituals at the meeting of nations. It depends not on particular forms or materials but on linking these forms and materials to distinct places and people. The hedges of Nærum are a performance of conformity; the *yarda* fence one of assimilation; the Wagah ritual one of conflict. Each of these cases reveals the wall as not merely object but social and political practices that are explicitly *public*—open to general scrutiny.

Is the wall generous? Walls of mass-produced material have a front and a back; decisions must therefore be made about the direction in which they turn. Even today, residents of streetcar suburbs orient fence fronts toward the street—attesting to the continued association of enclosure and citizenship. Yet some walls—hedges, for example—clarify inside and outside while turning equally toward both. More models are needed of such generous walls. As Harbison's fence demonstrates, 'generous' need not mean 'garrulous' but rather that the public side of any wall is subjected to the same degree intent as the territory it defines.

Does the wall offer sustenance? While almost never conceived in this way in the modern landscape, walls have often supported the processes necessary to maintain life. As medieval England demonstrates, hedges often contained species bearing edible fruits, from sloes to rose-hips to apples. The gardeners of Aspen Farms showed how the simplest of components can be turned toward such sustenance. Yet vegetables were never more than an accessory benefit in West Philadelphia: the real good was political and social. Likewise, watching a hedge bloom in spring or turn in fall can never be measured in calories.

Does the wall enhance ecological process? Sustenance depends on ecological health. From the barbed wire of the western range to the fences of the modern suburb, walls have often undermined such health. Yet the case of hedges shows that walls can support a rich array of animal and plant life. Habitat often arises when walls are permitted to grow and change; I have often wondered at residents cutting down the plants that spread naturally from the base of a chain-link fence. Allowing walls to be ecologically productive is therefore first a challenge to aesthetics.

Does the wall support the zone of emanation? The ecotone, or transition between distinct ecological communities, is among the most productive natural environments. But ecotones exist also in social ecology: from the faubourg to Byker, walls always define a zone of emanation distinct from the territories they divide. The Roman *limes* had width that allowed for everyday passage and yearly celebration—and this width was built into law. Removal of a rural hedge literally lays bare the extent of this emanation. These ideas should be incorporated into the notion of what a wall is; in the terms of American jurisprudence, productive walls demand easements.

Does the wall facilitate exchange? The foregoing questions come down to how walls enhance or frustrate social, economic, political, and ecological exchange. The brooms of East Los Angeles and the bags of Aspen Farms show that transaction need not rely on elaborate materials. But exchange can also be part of the wall's structure: the *machiya* is a house, a shop—and a wall. And the faubourg teaches that the fastest way to activate a given wall is to begin trading in its shadow. Exchange can often emerge from strategic subtraction: piercing a hole through which something can be sold is a small recovery of the wall.

Is the wall the product of craft and care? The premise of this essay has been that walls are too rarely designed, too often standardized products placed without reflection at points of territorial division. Yet if Harbison's whimsical fence, the distinct wrought iron of East Los Angeles, and the redolent hedges of Nærum demonstrate one thing, it is that walls can still be constructions in their own right. Designed walls are *thick* not so much literally as metaphorically: they are neither scene nor backdrop but actor and mask. By announcing itself as the product of intent—the root of design—the wall as craft proclaims the boundary a site of care.

These questions and reflections begin to delineate an ethics of enclosure. They are neither fixed nor exhaustive, and no wall can satisfy all of them. Yet it may be considered a general rule that wherever a wall is built, the more of the above functions it performs, the more justifiable it will be. A hedge of diverse species is better than a chain-link fence because its level of performance is higher. Yet if a hedge is designed to obstruct contact while a neighboring chain-link fence provides sustenance or supports exchange—then the balance of justifiability shifts. An ethics thus does not prescribe or proscribe form, but rather focuses attention on processes, relationships, and messages.

To advocate reflection along the legal boundary is not to assert that it is the only division with social or practical validity. As Kevin Lynch showed half a century ago in *The Image of the City,* the divisions of the mind coincide imperfectly with those of the law and are often more potent in daily practice.[2] At the opposite end of abstraction, natural topography limits human life and law to a degree often forgotten; speaking of the Hindu Kush, the viceroy of India Lord Curzon once noted that the only true frontier in history is a range of mountains.[3]

Nor is the above a call to harden or legitimize faulty division. There are instances—Radcliffe's zigzag is arguably one—where legal or political boundaries are manifestly in the wrong place. But a moment's reflection suggests that these boundaries are rare when set against the lot and parcel lines of everyday life, the vast majority of which are uncontested. An ethics of enclosure does not dismantle this structure: rather it sees in it a particular kind of problem and potential. By viewing boundaries in terms of not only law and right but also design and building, such an ethics does not obviate speculation on justifiability but adds flesh to it.

Most important, this is not a proposal to reconstruct a vanished social order. It is an argument for using the long and rich history of human territorial division as a point of departure for rethinking how walls perform in modern conditions. An ethics of enclosure views the impoverishment of the wall as reversible; it does not accept that the inevitable price for banishing Church from bedroom is removing rituals from walls. But walls will only be recovered through sustained attention and intent—through *design*. At its root design is hopeful: it begins with the assumption that things can change the contours of human relationships. That hope is at the root of this essay.

Walls exclude and include; it was ever thus. But there is no reason to think that this need exhaust their performance in the modern landscape. It is not good enough to say that we must build a world where the walls come down—for walls will be built anyway. We must move beyond the other refrain of Robert Frost's poem: we must learn to 'love a wall.' In a world where territory is conceived as private right, the shapes and functions of walls will continue to be governed by individual practical reason—ethics. But walls also impinge upon the public realm—and that is the realm of politics. The challenge is to reconcile these two ineluctable realities through deliberation and creativity. Such deliberation where people and territories meet is surely one basis for a richer, more durable, and more just urbanism.

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[2] See Kevin Lynch, *The Image of the City* (Cambridge: The Technology Press and Harvard University Press, 1960).

[3] See George Nathaniel Curzon, *Frontiers* (Oxford: Clarendon Press, 1907).

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