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POSTWAR CORPORATIONS, CITIES, AND THE PASTORAL LANDSCAPE

When I was a twenty-something landscape architect, I interviewed at the offices of Peter Walker, a landscape architecture firm of national standing and well known for what the stalwart legatees of Frederick Law Olmsted's public-minded profession referred to, and not always approvingly, as "corporate projects." One of the firm's principals conducted the interview and at a certain point showed me around the office to look at models and drawings of current projects. Displayed on the surface of several tables pushed together was a huge model of a suburban office project in Texas. When I expressed astonishment at the sweep of oak-studded meadows, juxtaposed bosques of trees, long allées traversing topography, and snaking willow-lined canals extending over a property larger than Central Park, the principal turned to me and said, "Well, you know, *this* is the American Versailles."

The comment was professional puffery, to be sure, but this not-quite-offhand remark stuck with me. It raised a number of questions that I could later attend to as I became an academic in landscape architecture. Who would attempt a "Versailles" of offices on the Texas prairie, and, more

important, why did they want to go to the trouble and expense to do so? The Texas project turned out to be by no means unique. I found corporate headquarters on hundreds of sylvan acres in the Midwest, "research parks" in the suburbs of Boston, and "campuses" of technology corporations outside Seattle. All supposedly ventures of capitalists in the thick of thinking about profit margins and returns on investment, their buildings do have an obvious bottom-line logic—they can be occupied and rented—but the landscape expanses can only be looked at. They seemingly do not square, at least not in a straightforward financial sort of way.

The existing scholarship on the suburbs, while substantial, is not very illuminating about these places; suburban corporate workplaces have been passed over for robust consideration.[1] Yet developments like these exist in the suburbs of every American metropolitan area, large and small, and, increasingly, at the edges of cities across the globe. Their ubiquity and extent in the urban periphery merit focused investigation.[2] Beyond that, they warrant attention because of the institutions they house. For the past half-century, the corporations that inhabited these suburban places have controlled large sectors of the national and international economy. How these dominant entities configure their workplaces matters: commanding considerable power from a particular kind of place inevitably links the characteristics of that place to the expression and exercise of power. Manuel Castells and Peter Hall, in *Technopoles of the World: The Making of Twenty-First Century Industrial Complexes*, note in their opening paragraphs that the "image of a new economy . . . consists of the series of low, discrete buildings, usually displaying a certain air of quiet good taste, and set amidst impeccable landscaping in that standard real-estate cliché, a campus-like atmosphere. Scenes like these are now legion on the periphery of virtually every dynamic urban area of the world."[3] Castells and Hall go on to discuss in illuminating detail the role of capital, governments, education, corporations, developers, infrastructure, technology, and social structures in the thriving economy of "technopoles" around the world. They do not ask, much less answer, why the "impeccable landscaping" of the "campus-like atmosphere" is a given.

The new landscape of corporate work—what I call *pastoral capitalism*—is an American invention of the post–World War II period. Business management workplaces were the last of the center city land uses to emerge in the suburbs after housing, manufacturing, and retail commerce. They did so during a particular moment in postwar America when corporations reconceived their management structures, the private and public governance of cities acceded to the forces of accelerated decentralization, and pastoral landscape

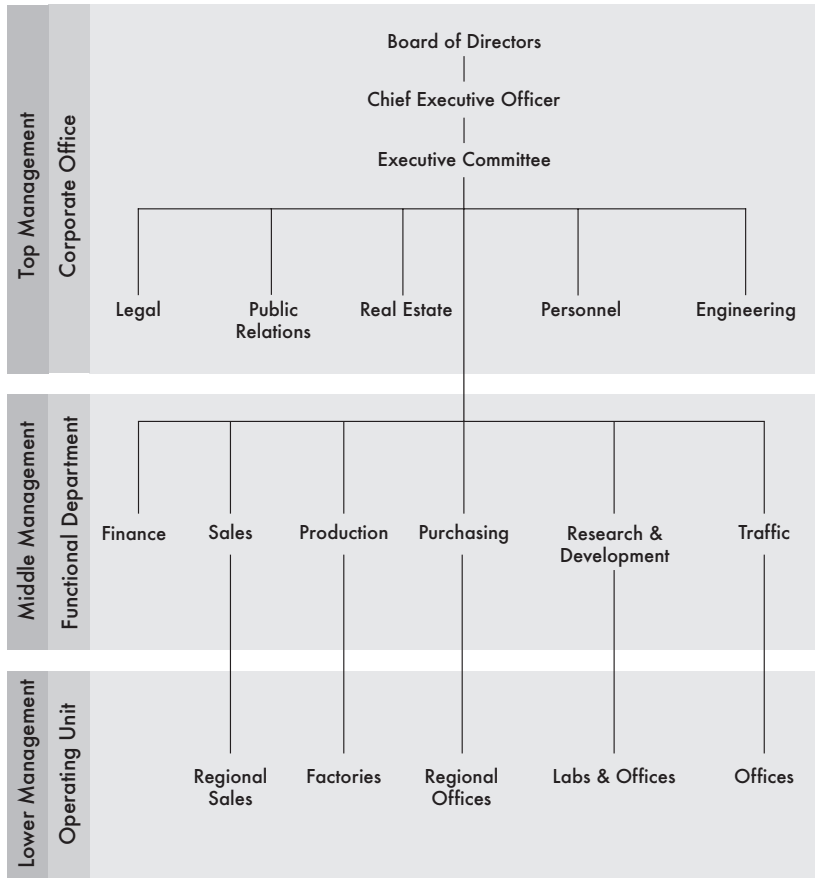
taste triumphed as an American ideal. Each of these circumstances had to come together to create pastoral capitalism as a new component—and new force—in American urbanism.

The Apex of the American Corporation

By the late 1940s, the management of American corporations looked forward to an era of remarkable growth. The United States was the only intact advanced industrial economy in the world, and after almost two decades of economic depression and war, an expansive, even heady economic optimism buoyed the leaders of American business—an expectancy that would prove to be entirely justified. The confident economic scenario matched an absolute political surety engendered by the recent military victory and the hegemonic struggle of the Cold War.

Inside corporations, *managerial capitalism*, a new form of organization, had institutionalized a transparent, rationalized administrative hierarchy. Leading corporations had been carrying out this corporate restructuring since the 1920s, and it became generalized by the 1940s. Rather than conferring positions based on ownership or nepotism, corporations awarded management authority to a meritocracy of salaried, professional managers. This professionalization of corporate managers became necessary as the scope of corporations expanded nationally and then internationally establishing or acquiring geographically distant branches and diversified ventures. Corporations organized the many divisions, locations, and functions of their enterprises through an executive system that relied on and rewarded expertise and initiative. Under the auspices of this management system, American corporations came to dominate global capitalism.

The new managerial hierarchy consisted of three tiers of managers: lower management, which was immediately responsible for production, sales, and purchasing; middle management, which coordinated the activities of lower management and provided operational resources through finance, sales, production, purchasing, traffic, and research departments; and top management, which coordinated the activities of middle managers, allocated overall corporate resources, and initiated competitive strategies (figure 1.1) Each level of management carried on its activities in different facilities: lower management in factories, sales, and purchasing offices; middle management in departmental and divisional offices; and top management in corporate headquarters. The hierarchy enabled corporations to direct dispersed and diverse enterprises by distributing management across the corporate landscape while establishing a clear chain of command and accountability.[4]



1.1
The hierarchy of managerial capitalism. The distributed management structure created a coherent system to organize specialized management functions, diverse corporate enterprises, and geographically distant corporate elements. (Based on Alfred Chandler, *Scale and Scope: The Dynamics of Industrial Capitalism* [Cambridge, MA: Belknap Press of Harvard University Press, 1990]. p. 16)

Leading American corporations that perfected managerial capitalism had also reshaped industrial production and distribution. New suburban factory complexes of unprecedented scale contained mass manufacturing systems using advanced machinery, electric power, new materials, and highly orchestrated industrial processes with carefully engineered divisions of labor. Railroads and trucks fed the factories with huge quantities of raw materials and distributed millions of finished goods.[5] Corporate management coordinated these massive and complex activities and dramatically increased the cost-effectiveness and scale of production. By the late 1940s, American firms controlled 60 percent of the world's industrial production and dominated global markets.[6]

Thus, by the 1940s, American corporations appeared to have reached an apotheosis of the modern capitalist enterprise. They were peerlessly poised for postwar expansion: masters of the means of production, bearers of the best

systems of business management, and flush with war profits.[7] The leaders of American corporations had access to heads of state, commanded the resources of financial markets, and helped mold national and international policy. American managerial capitalism became the model for aspiring industrial capitalists throughout the world.

To make the most of the growth opportunities of the postwar years required adoption and extension of the management hierarchy. In a highly competitive labor market, corporations needed to attract qualified personnel and keep them working efficiently as management expanded in scale. As corporations had reinvented production facilities in the suburbs in the first half of the twentieth century to accommodate a new scale of manufacturing, so too would they reinvent management facilities in the suburbs in the second half to accommodate the new "scale and scope" of management. Notably, the men who made the pioneering decisions to move the professionalized and specialized management hierarchy to the suburbs instituted managerial capitalism in their corporations and were themselves exemplary of it: they were expert, strategic, and noted for their initiative. Frank Baldwin Jewett of AT&T Bell Laboratories was one of the first scientists with a doctoral degree to work for a corporation. Alfred Sloan of General Motors is widely recognized as one of the executives who invented managerial capitalism. Charles Mortimer of General Foods and Frazer B. Wilde of Connecticut General Life Insurance Company had risen through the ranks from sales offices (figure 1.2).

1.2
Connecticut General Life Insurance Chief Executive Officer Frazar B. Wilde and Connecticut Governor Abraham Ribicoff at the corporation's new suburban headquarters in Bloomfield, Connecticut, outside Hartford . Wilde is showing a model of the building; the large landscape expanse of the actual site is visible in the window beyond (see also figure 1.6). The occasion was a conference on the future of city planning that Wilde convened as part of the inauguration of the corporation's new offices. The photo was part of a five-page 1957 article in *Life* magazine about the conference and the new headquarters. (Nina Leen/ Time & Life Pictures/Getty Images)

William Hewitt of Deere & Company was a graduate of the University of California business school and studied for a Master of Business Administration, a new academic credential developed in the wake of the managerial revolution. As highly successful chieftains in key economic sectors—electronics, processed foods, defense technology, automobile production, insurance, and agricultural machinery—these men considered management as essential to corporate success as rationalized production systems. Moreover, their influence extended beyond their own companies and other big businesses followed suit.

Adoption of the new managerial system was a necessary precursor to the physical redistribution of the labor force of corporate management to the suburbs. Indeed, a big advantage of this rationalized hierarchy was the concentration of business decisions over geographically and technologically vast enterprises in large headquarters, while at the same time separating and decentralizing regional and divisional offices, most notably research. Corporate offices located in the expanding suburban zones of postwar American cities were a parallel manifestation, in geographic form, of decentralization, specialization, and concentration.

The American City at Midcentury

As the corporation was growing ever more powerful at midcentury, the American city was also undergoing a period of fundamental change. While urban decentralization in the form of middle- and upper-middle-class residential suburbs, suburban industries, and working-class suburbs had been extending metropolitan zones since the nineteenth century, the dense and diverse city center remained the energetic and magnetic hub of American cultural and economic life before the 1950s.[8] The postwar milieu tipped the balance toward the rapid decentralization of urban cores and their concentrations of commerce, industry, and residential neighborhoods. It precipitously accelerated the restructuring of the American city into the lower-density, dispersed, multifocal, auto-dependent metropolitan pattern that characterizes it early in the twenty-first century. The accelerated restructuring encompassed both a new scale, as vast city additions dwarfed the old centers, and a new scope, as enterprises previously resistant to edgeward movement joined the energetic rush to the urban periphery.[9]

At midcentury the land uses of the American city were spilling out over an enormous geographic territory, sorted by defined activity, and merged into building types of two to three stories (figure 1.3). As a number of scholars have

1.3
The Southern State Parkway, Long Island, New York, 1951. Postwar highway development spurred rapid decentralization of center cities and opened large tracts of agricultural land for development. Although residential suburbanization is the best understood part of this decentralization, highways enabled corporate offices to move to the periphery as well. (UCLA Department of Geography, Benjamin and Gladys Thomas Air Photo Archives, The Spence and Fairchild Collections)

recently emphasized, the iconic suburbs of white, middle-class, nuclear families were a well-known part of this story but by no means all of it.[10] Added to pre-war suburban expansion, the rapid restructuring of postwar metropolitan areas formed a complexity of patches, spokes, and swaths of separated, specialized, and low-density land uses in the peripheral zones around older city centers, including industry, retail centers, ethnic enclaves, and working-class neighborhoods.[11]

This rapid decentralization created the conditions that were conducive to the invention of specialized suburban management facilities by large corporations. To many privileged Americans of the 1950s and 1960s, the center city appeared to be in a state of inexorable decline. The proliferating automobile inundated the center city's gridded nineteenth-century street pattern, and "congestion" seemed intractable and highly detrimental to economic activity. Increasing numbers of people of color walked the streets. [12] Vacancies and abandoned properties were on the rise as tenants relocated to the suburbs and owners could find no replacements. New construction in the city center required homage to an ensconced and

layered system of political patronage. Even then, wedging in new skyscrapers that could accommodate large corporate staffs in a single building proved difficult in blocks divided into multiple parcels of land and built out with varied buildings, including many used for industry.[13] To redress these perceived shortcomings, the urban renewal process acquired property, removed tenants, destroyed buildings, and reparceled land in order to insert freeways, offer large lots for corporate offices, supply parking, and confine the poor to mass public housing. In the process, it took apart what remained of the vitality of the old urban core and added to the inventory of open urban lots and dysfunctional neighborhoods.[14] The center city was noisy, diverse, crowded, unpredictable, inflexible, expensive, old, and messy—a dubious state of affairs for postwar capitalists bent on expansion.

In contrast, the suburbs seemed to warrant a sense of forward-looking optimism. At the city's edge, an effective alliance of well-financed real estate investors, large property owners, local governments, federal loan guarantors, and utopian planners opened property for speedy development. Building along federal- and state-funded road systems that brought these large tracts of land into the economy of metropolitan regions, this alliance conceived of low-density, auto-accessed landscapes of highly specified uses with plenty of parking, and wrote these forms into stringent zoning and building regulations. Once built, these suburban expansion zones were deliberately resistant to change, with the end of producing both social stasis and secure real estate values.[15] The suburbs as a whole may have been diverse, but the process of building their component parts created insidious racial and class divisions.[16] While the separation of different classes and races of home dwellers is the best understood part of this spatial process, all kinds of workers were categorically set apart in discrete landscapes as well—corporate executives from factory labor, retail clerks from typists, electronics researchers from accountants. Hence the suburbs were predictable, spacious, segregated, specialized, quiet, new, and easily traversed—a much more promising state of affairs to corporations bent on expansion.

In the suburbs, people and functions that were once stacked, mixed together, and in proximity to each other in the center city resided in separate buildings in separate suburban zones. The process was not complete in the 1950s, but it was continuing and predominant.[17] Between the detached suburban buildings lay parking lots, ever wider roadways, and, in good measure, green space—vaguely "natural" in appearance and trimming even the most utilitarian of land uses. And while the restructuring of activities and transport made sense in the efficiency calculus of capitalism, the inclusion of green space reflected a more ineffable yet deeply ingrained value—the ideal of the pastoral in the American landscape.

The American Pastoral Ideal

The pastoral landscape ideal has broad Western origins, but its immediate antecedents in American culture lay in the aesthetic theories of eighteenth-century Britain. During this period, landowners executed estate designs not of the obvious contrivance of geometry and axes, as had prevailed among elites since the Roman era, but rather as a reproduction of a various, sinuous, and undulating nature—what Raymond Williams calls "pleasing prospects." To this idealization of nature, the philosophical and political discussion of the period attached notions of morality, goodness, and social order.[18]

Versions of nature became the subject of aesthetic debate that by the end of the eighteenth century had resolved into a three-part landscape classification. The "beautiful" displayed gently rolling expanses of grass interspersed with copses of trees, inducing a soothing tranquility. The "picturesque" presented the juxtaposition of rock outcrops, pitched slopes, shrub masses, and contrasts of light and shadow from dense tree groves, creating a sense of curiosity and stimulation. The "sublime" could not be made, only found in the awesome, even terrifying, drama of mountains, waterfalls, cliff faces, river gorges, and roiling ocean.

By the mid-nineteenth century the popular literature of the American landscape gardener Andrew Jackson Downing introduced these versions of ideal nature and their implications to American audiences. His widely read books and journals promoted the picturesque as a landscape ideal and, in particular, as an ideal landscape for Americans to live in. Downing was America's early and influential advocate of the suburbs. While he accepted the growth of cities and their commerce, he also understood them as demoralizing and requiring the antidote of retreat, preferably in a residence outside the city. Picturesque nature bolstered the spirit and restored moral order. For those constrained to remain in the city itself, Downing proposed large-scale public parks.[19]

Downing did not stand alone in his views; they resonated with the recurrent skepticism about the enterprising exertions of urban life that harkened back to Thomas Jefferson and found new force in the mid-nineteenth century with Ralph Waldo Emerson and Henry David Thoreau. [20] As elites began their withdrawal into picturesque suburbs like Llewellyn Park, New Jersey, a coalition of urban reformers, self-styled philanthropists, real estate interests, and political bosses determinedly brought a version of Downing's landscape and the American pastoral ideal to the masses in the form of the urban park. Due to his untimely death, Downing never saw the advent of Central Park in New York City. Instead, Frederick Law Olmsted took over Downing's cause and became

the first superintendent of Central Park and, later, its codesigner with Calvert Vaux, Downing's former partner.

Olmsted explicitly described the park's design intent as "pastoral" on the whole, limiting "picturesque" zones to areas where the existing terrain was so craggy with granitic outcrops that smoothing out was impossible. Olmsted eschewed the heightened contrasts of the picturesque as agitating to the already stressed urban dweller.[21] Versed in Downing, an admirer of Emerson, and nostalgic for the Connecticut countryside of his childhood, Olmsted employed the term *pastoral* instead of the beautiful or picturesque to evoke a familiar, tranquil, and cultivated nature as a counterpoint to the city. Olmsted's pastoral wove together the precepts of eighteenth-century landscape theory and Jeffersonian agrarianism.[22]

Even more than Downing, Olmsted regarded the landscape as an instrument of social order. Gently undulating grass, serpentine lakes, sinuous pathways, and leafy woodland groves provided urban dwellers a much-sought-after alternative to the dense industrial city, presumably with salutary moral as well as physical effects. Not intended as a zone of active use, the pastoral public park presented composed scenery for passive viewing. The purpose of this engagement Olmsted described with typical zeal: "No one who has closely observed the conduct of people who visit Central Park can doubt it exercises a distinctly harmonizing and refining influence upon the most unfortunate and lawless of the city—an influence favorable to courtesy, self-control, and temperance."[23] Urban dwellers proved much more resistant to "harmonizing" than Olmsted expected, and in the face of American pluralism, public parks became more diverse in their activities and accommodations.[24] Nevertheless, as reiterations of Central Park appeared in cities large and small across the United States by the beginning of the twentieth century, the enveloping pastoral aesthetic of the public park prevailed and carried with it the equation of pastoral scenery and ameliorative social influence.

Public parks reinforced the pastoral as an ideal aesthetic to the striving classes of industrializing cities. Like Riverside outside Chicago, the application of this ideal to residential districts on the city periphery by Olmsted and his followers created polite pastoral suburbs typified by open-lot houses, coordinated infrastructure, limited building heights, and expansive, fenceless front yards presenting a continuous streetside landscape (figure 1.4). These pastoral suburbs proved immensely appealing to upwardly mobile Americans and lucrative to investors. The ongoing advocacy of zealous housing reformers and marketing efforts of speculative real estate developers enthroned leafy residential suburbs as

1.4
Riverside, Illinois, a typical nineteenth-century pastoral suburb outside Chicago. Designed by Olmsted and Vaux, it is a quintessential example of a suburban ideal that was widely promoted in the late nineteenth and twentieth centuries. (Landscape Architecture Collection, Environmental Design Visual Resources Center, University of California, Berkeley)

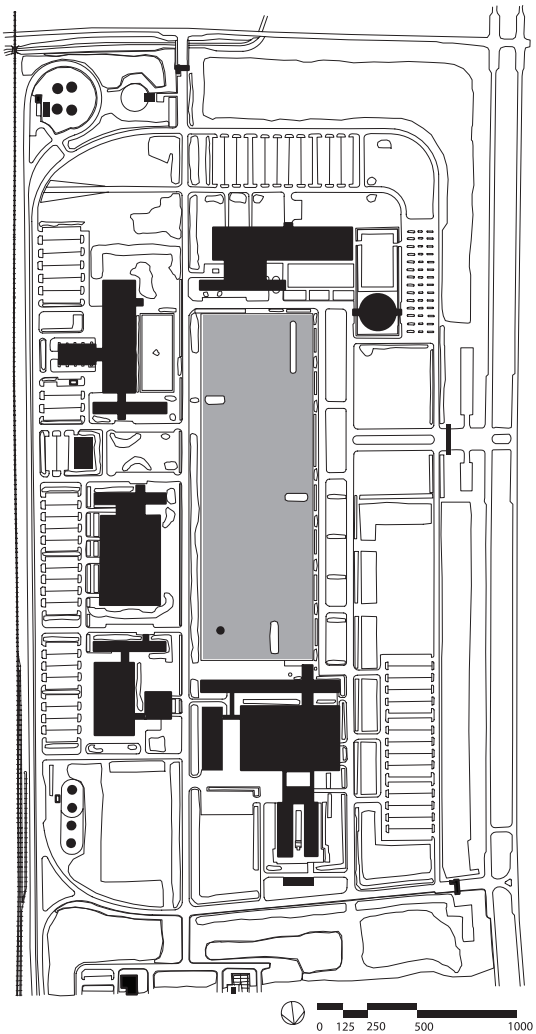
the right and proper environment for a family. Government policy, tax subventions, zoning, and mortgage regulations subsidized and sustained the proliferation of pastoral suburbs.[25]

By the mid-twentieth century the trenchant correlation of greenness with goodness held sway in American culture.[26] The introduction of corporate landscapes into the pastoral suburbs usefully subsumed the capitalist enterprise into the pastoral suburb's implied moral order. After all, the broad public viewed the new phalanx of giant corporations as suspect, even threatening. As the business historian Alfred Chandler put it, the majority of Americans found the "concentrated economic power such enterprises wielded violated basic democratic values."[27] Their acceptance as part of the pastoral landscape embodied Leo Marx's assertion that the American pastoral ideal mediated "the moral ambiguity, the intertwining of constructive and destructive consequences, which are generated by technological progress" and thus quelled skepticism in the moment, if not beyond.[28] In this sense, the appropriation of the pastoral landscape by American business became a useful trope for corporate capitalism.

The Pastoral Corporation

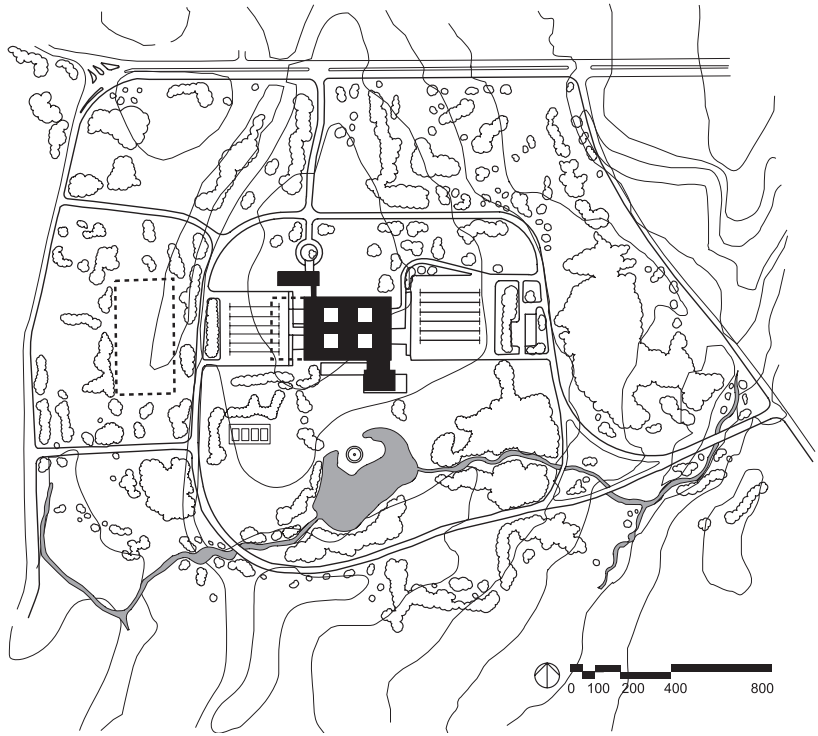
The postwar structure of corporations, the decentralization of American cities, and the dominance of pastoral taste convened to mold a discrete set of three suburban forms comprising pastoral capitalism: the corporate campus, the corporate estate, and the office park.[29] For both functional and emblematic reasons, these three interrelated landscape types materialized in the suburbs to serve a particular stratum of the corporate hierarchy. Each has a distinct layout of buildings, parking, driveways, and pastoral surround. Therefore, this book's landscape history of pastoral capitalism is situated at the site plan scale, between the fine scale of gardens and architecture and the large scale of planning and suburbs. Site plans—that is, the arrangement of buildings, parking lots, driveways, roads, infrastructure, and green spaces of a particular property and its location within the larger suburban fabric—are key to understanding how pastoral capitalism served big business and affected metropolitan form. Because of the way site plans configure a development's density, expected use, means and extent of access, and relation to the public realm, they have a profound effect on the environmental costs, long-term adaptability, and social milieu of built environments. The detail designs of both the green spaces and buildings of suburban corporate workplaces do matter, but they cannot be seen without the frame of their consequential site plans.

The *corporate campus* first appeared in the 1940s and contained office and laboratory facilities focused around a central green quadrangle, surrounded by parking and an enclosing driveway (figure 1.5). Modeled on the American university campus, it provided facilities for a singular division of middle management: corporate research. The corporate campus initiated the shift of white-collar work into pastoral suburban settings. Corporations such as Bell Labs, General Electric, and General Motors built corporate campuses to move their research divisions out of baldly industrial surroundings, valorize the industrial scientist, and validate the use of science for profit.The corporate campus gave rise to the *corporate estate* of the early 1950s, which consisted of an imposing building complex arrived at by a coursing entry drive through a scenically designed landscape of 200 acres or more (figure 1.6). Built for top executives and their staffs, corporate estates provided companies such as General Foods, Connecticut General Life Insurance Company, and Deere & Company a prestigious suburban alternative to the urban skyscraper. Corporations used the corporate estates' image as a public relations tool in communicating with employees, local residents, stockholders, competitors, and bankers.



1.5
Site plan of the 1956 General Motors Technical Center in Warren, Michigan, an early and influential corporate campus. The essential site plan components of the corporate campus are the central open space surrounded by laboratory buildings circumscribed by peripheral parking and driveways. Corporations built corporate campuses to house middle management research and development divisions made up of prized corporate scientists and engineers.

Speculative developers devised the *office park* by the late 1950s to provide a lower-cost, flexible alternative to the corporate campus and estate. The office park scheme provided lots for office buildings, each encircled by a pool of parking within a matrix of landscape edges, medians, and verges that provided suburban consistency (figure 1.7). Occupied by multiple businesses, office parks housed lower-level regional corporate management, corporate back office functions, start-up companies, and corporate service providers. By the later twentieth century, the flexibility of the office park proved particularly useful to restructured corporations, which could easily expand and contract personnel and offices. By the 1980s, office parks emerged as the landscape of international



1.6
Site plan of the Connecticut General Life Insurance Company headquarters that opened in 1956 (see figure 1.2). A suburban office for top executives, it typifies the corporate estate. An approach drive culminates at the central building complex, and two blocks of parking flank the building, providing parking for hundreds of employees. Two hundred and eighty acres of carefully composed pastoral scenery envelop both the structure and parking, to be viewed from both the interior of the office structure and the outside, as a bucolic frame for the corporate facility. By the 1960s the corporation had expanded the buildings (the dashed line to the left of the building) and added a parking garage (rectangle also to the left).

managerial capitalism and became integral parts of peripheral development around the globe.

Corporations adopted corporate campuses, corporate estates, and office parks through a recognizable process of innovation and diffusion. A handful of companies devised the basic form, function, and image of each type of suburban corporate landscape. The circumstances of these original projects reflected both generalized trends and motivations particular to the individual corporate entity. The function and philosophy of these companies and, notably, the dispositions and preferences of their risk-taking leaders came together to create the new landscape forms. These corporate leaders had histories of successful innovation and credibility among fellow executives, boards of directors, and stockholders that carried the projects past any hesitation. Notably, pastoral capitalism started with well-established corporations in the Northeast, Midwest, and Southeast regions, the hearth of Olmsted's pastoral aesthetic, and only later spread to California and the rest of the West.

Partly in defense of unproven models, corporate early adopters generated publicity for their projects through extensive public relations efforts: opening

1.7
A typical office park found at the periphery of most American metropolitan areas: Cornell Oaks Corporate Center, Beaverton, Oregon, outside Portland, first developed in the 1990s. Individual buildings and surrounding parking lots are encircled by narrow pastoral landscape verges; interior "parkways" provide circulation. As is characteristic with most other office parks, an adjacent highway provides easy access for users and visibility to passing motorists.

ceremonies, political endorsements, press releases, brochures, and photo opportunities. The mass media were more than obliging; these projects were shiny and new, impressively large, and housed the nation's capitalist elite. The sites' stylistic flourishes made good visuals: crisp yet weighty structures framed by green. The media attention particularly extended to specialized literature such as real estate reports, technical journals, business magazines, and design periodicals, which spread the word on the new corporate project types (figure 1.8). This was especially opportune if the new facility coincided with a noticeable ascendancy of the corporation or marked the advent of a new growth industry.

The influence of the early projects resonated through several channels. These widely publicized developments came to be understood as a model for forward-looking corporations, an attractive package for developers, and an appealing setting to potential employees. Since corporate boards were commonly interlocking, that is, members served several corporations, board members spread the word on the new building types and encouraged suburban moves. The initial corporate projects established new ordinances and zoning practices in suburban

At Bell Labs, Industrial Research Looks Like Bright College Years

Ivy is crawling up the brick walls of the huge Murray Hill (N. J.) research plant of Bell Telephone Laboratories, Inc. (above). And the ivy is perfectly at home; the whole 230-acre layout near Summit feels more like a university than an industrial workshop.

Inside, the visitor can easily get lost in the long corridors. But the staff, or faculty—largely made up of faintly tweedy looking people—obviously knows precisely where it is going, though it goes there in no hurry at all. The feeling of a college is strong, a college with its youthful students deleted, though some of the instructors are very young.

You hear no chains of command clanking in the corridors. The staff looks purposeful, and each man's purpose, you feel, is to a surprising extent his own.

Murray Hill, in a rural setting, comes easily by its university ambiance. But the Bell Labs have other centers, in other urban spots, and these, too, preserve the scholarly feeling. It's present even in headquarters, in downtown New York.

• **Relaxation**—The atmosphere is a little startling to some scientists and researchers from other industrial laboratories. All this freedom, this almost relaxed freedom, seems a little odd in the family of Mother Bell whose bustling communications empire is the largest nonfinancial company in the world. Bell Labs itself is a giant in the research field, with an annual budget around $100-million, fed in partly by American Telephone & Telegraph Co. and partly by its manufacturing arm, Western Electric Co. The feeding sustains a staff of some 3,000 professional people, backed by 6,000 technicians and others.

Rival researchers have long since learned that the air of leisure connotes no sluggishness of productivity. Technical inventions, and improvements, flow steadily from the labs. And as revolutionary developments—transistors for example—appear, other companies tend to ask a little wistfully just how you set up an organization that can produce so much with so little sweating and panting. They also wonder, often, just how so many scientists—notoriously uncontrollable—can be kept working in such fruitful harmony without visible controls.

• **Selection**—The answers, of course, aren't simple. Partly, the freedom is illusory. The lab has firm plans, and knows precisely what it wants. Organization can function smoothly without being obtrusive. A more important factor in the relaxed atmosphere is the background of the labs. Over the years, personnel has been meticulously selected, and precisely trained. Men chosen to fit a mold will fall into the desired pattern without any pressure from the mold itself.

Essentially, what Bell Labs has achieved is a pervasive harmony—of programs, of methods, and of people. But it would be a great mistake to think that this harmony is preserved without constant planning and training.

• **Pattern**—Dr. Mervin J. Kelly (cover), president of Bell Labs, weighs with a careful hand the whatness or howmuchness of the different types of research. The even balance between pure research and developmental work is maintained with hairline care. It is within this nicely measured framework that the individual scientist is given freedom that is rare in industrial work.

Over-all, the labs' functions are split into three compartments, though there are no tight divisions to prevent the interplay of talents.

Research and development is the haven of the pure scientists. Their work can wander anywhere in the areas of physics, chemistry, and mathematics, provided there is some possibility of contributing to the advancement of electronic communications.

Systems engineering is peopled largely with electrical and mechanical engineers. Over-simplified, their function is to help translate the theoretical findings of the pure scientists into improving the service of the Bell Telephone empire and lowering its costs.

Specific design and development is made up of engineers who build the laboratory models of new equipment, iron out the wrinkles, and finally help to design the pre-production models of telephones and other equipment. This group works more closely than the others with the engineers from Western Electric, to whom will fall the final job of turning out the working products.

• **The People**—With so much depending on the cooperation of these three groups, Bell Labs is exceedingly careful in picking people who will get along together. Working for labs is made a lifework, as much as possible. Recruitment is exacting. Bell wants to have its men grow up with the job, rather than be hired from outside.

New employees are run through the company's Communication Development Training Program—a three-year study course combined with practical experience in the various specialized labs.

Hiring at a steady pace each year, and sturdily refusing to expand just to meet the calls of a single new project, Bell Labs has achieved an astonishing age balance in its staff, with no preponderance of graybeards or of dewy youth. Actually, the age distribution year by year is almost constant in the whole range from 25 to 65.

• **Age Groups**—Young and old, the professional staff is remarkably homogeneous. To a degree it even looks alike. Shirtsleeves, rather than lab jackets or coats or what have you, are almost a uniform in working hours.

Mother Bell picks her scientists to fit

The lab is the key . . .

. . . but reading rooms . . .

. . . classes for trainees . . .

. . . lounges for relaxing . . .

. . . and sound room all help.

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1.8
A *BusinessWeek* article from 1954 acclaiming the AT&T Bell Laboratories' corporate campus near Summit, New Jersey, as a tool of competitiveness and productivity. Popular and specialized journals spread the word among corporations and the public about the effectiveness and prestige of pastoral capitalist landscapes. (Reprinted from the February 6, 1954, issue of Bloomberg *BusinessWeek* by special permission, copyright © 1954 by Bloomberg L.P.)

jurisdictions, which eased permissions for other new projects of the same type. As suburban power brokers, large developers, and local governments became equipped to handle these new development types and stifled opposition, they encouraged and even sought out new corporate ventures. The early projects also established a stable of knowledgeable designers who went on to promote these types of projects with other corporations. Design literature disseminated the building types among professionals who were consulting with clients considering new workplaces. In turn, corporations that made the decision to suburbanize had the added assurance of design and engineering firms already experienced, or at least familiar, with suburban management facilities.

The following chapters describe how pioneering projects established the essential landscape patterns of the corporate campus, corporate estate, and office park and how, from those few early projects, other corporations followed suit in great numbers. These landscape types became embedded in the expectations of the corporate class and could at a glance embody both the reality and

prospect of capitalist power. Hence, the development forms have remained remarkably consistent for the past six decades. By the end of the twentieth century, the suburbs, not the central business district, contained the majority of office space in the United States.[30] This was a new and potent force in the process of suburban expansion.

Nevertheless, the evolution of pastoral capitalism as a significant component of decentralization has been obscured as the corporate campus, corporate estate, and office park became conventional and omnipresent in metropolitan peripheries. In part, this is because the precise way that this book defines corporate campus, corporate estate, and office park does not reflect the much more free-wheeling use of these terms in the language of developers, journalists, office workers, corporate executives, designers, and scholars. As explained in detail in chapter 5, the Microsoft Corporate Campus is actually a series of office park lots accreted over time by Bill Gates's corporation. Corporate estates are never referred to as "estates" by corporations but are a classification of a certain type of suburban corporate headquarters, which the owners might call a campus. Depending on developer preferences or marketing strategies to attract prospective tenants, an office park could be labeled a research park, industrial park, executive park, business park, corporate park, science park, or technology park. While these colloquial variations in terminology will no doubt continue, one of the purposes of this book is to add clarity and accuracy to our views of the suburban corporate landscape and contribute to an informed discussion about decentralization, suburbs, and the future of urbanism.

As a first cut through the terrain of pastoral capitalism, no doubt this book contains glaring lapses in the next chapters that I hope others will rectify in the future. I welcome the revisions; I am writing this book in order to understand the presumed and actual advantages of metropolitan forms as they have been promoted, built, and reproduced over the past century because I think they need to change. If during the next century business as usual continues in the way we build and inhabit cities, the consequences will be dire for many and palpable by all. But unlike so many, if not most, in pursuit of change in the metropolitan order, I think that understanding metropolitan history is essential in this transformation. You cannot change, at least constructively, what you do not know.