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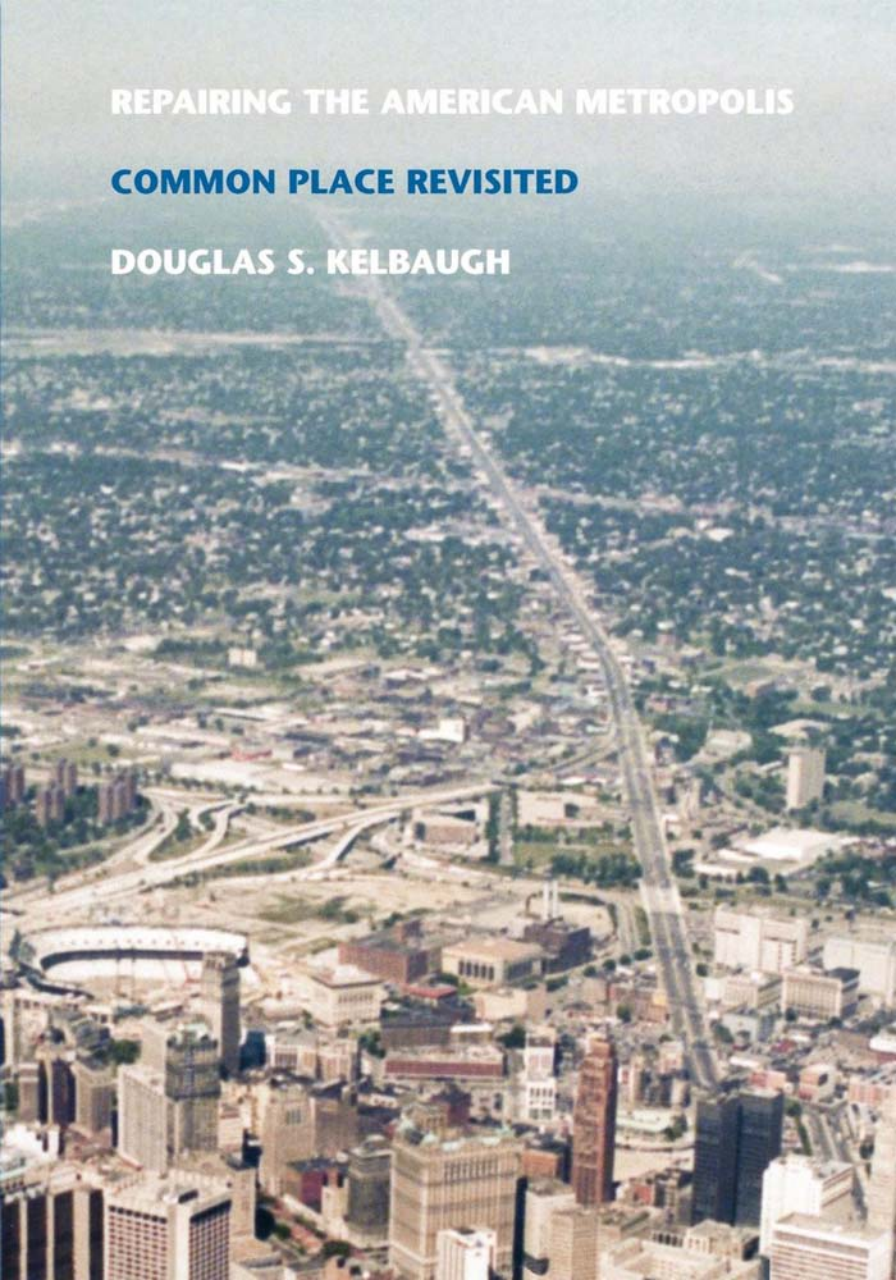
COMMON PLACE REVISITED

DOUGLAS S. KELBAUGH



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COMMON PLACE REVISITED

A SAMUEL AND ALTHEA STROUM BOOK

REPAIRING THE AMERICAN METROPOLIS

DOUGLAS S. KELBAUGH

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To my mother, Marguerite Travis Kelbaugh,

who contributed in knowing and unknowing ways,

and to Don Prowler, 1950–2002

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FOREWORD

REMARKABLY, GIVEN AMERICANS' LONGSTANDING predilection for retreating from the buzz of urbanity, American cities are at the beginning of the twenty-first century experiencing a demonstrable renaissance. This is what *Repairing the American Metropolis* is about, and why it is important. Indeed, the use of "metropolis" in the title is significant, evoking at once the traditional idea of an important place of concentration (which cities have always been) and the more contemporary image of a large urbanized region made up of many places but still defined by, not receding from, its essential center.

Among a number of indicators for an urban revival is a cultural enthusiasm for cities that has been absent, or certainly rare, for several generations among Americans. Our quest for that "good life," which since the Great Depression, at least, seemed more readily to be found away from the stress of city centers, is now being sought by many away from the doldrums and complacencies of suburbia. More than a half-century removed from the middle-class blessings of newly constructed Levittowns, made possible by low-interest, federally sponsored mortgages and inexpensive mobility, progress in one's personal or family life is no longer so universally aligned with urban escape.

There are numerous favorable trends. Urban crime is down, rather dramatically. Urban land values and development interests are up. The sheer scale of

decay associated with urban environments such as the South Bronx—permanent symbols of urban failure, it was assumed—is greatly diminished and continuing to be so. There is a return of commercial enterprise to many center-city neighborhoods; perhaps not quite to the expectations of the most optimistic pundits about the competitive advantages of inner cities, but surely inspired in part by the idea that there can be such competitive advantages. Ballparks, convention centers, entertainment venues—and even a few corporate headquarters—are moving back downtown. Urban tourism is growing, in those cities that have maintained their historical traditions, cultural uniqueness, and social diversity. Venerable cultural institutions are expanding, and surprising new ones—the Rock and Roll Hall of Fame in Cleveland or the Experience Music Project in Seattle—are being created. Spending a weekend in the city seems alluring all of a sudden, an early step perhaps in a suburban generation's reacquaintance with city lifestyles.

The cachet of traditional neighborhoods is rising seemingly in reverse proportion to diminishing satisfactions with sprawling suburbs. There is an emerging urban housing market following decades of (often drastic) reductions in city populations. Again, recalling the South Bronx, it has seen the construction of more than 10,000 new housing units over the past decade. Changing demographics and trends in household formation are also a harbinger of more urban, or at least more varied, lifestyle desires. For example, by 1999 only 7 percent of American households consisted of working dads, stay-at-home moms, and children under eighteen. Only 7 percent! This certainly creates a demand for broader spatial choices for living and for work environments. Having grown up in the suburbs, the now-grown children of baby boomers do not see such places through rose-colored glasses as did their parents in the post-war period. And among their empty-nester parents, some prefer the convenience of urban apartments over sun-drenched but arduous-to-maintain lawns.

Lastly, among the commonly found characteristics (or common conceits) of the practitioners of the "new economy" is cosmopolitan sophistication. This perhaps explains why network sitcoms seem increasingly to identify with or portray urban hipness. The program *Sex and the City* caters to both carnal and cosmopolitan charms. The Walt Disney Company, no less, has bought itself a piece of Times Square. Cities—and more importantly, city-living—are being presented as fun again, exotic even. Today, in one's home newspaper or on the evening news—those longstanding purveyors-par-excellence of crime, poverty, and other forms of urban pathos—it is hard not to encounter good news about the city, and good news on a regular basis.

Still, many will immediately question the durability of such largely anecdotal evidence. Does not the robust economy of the past decade (a rising tide lifting even urban craft) have much to do with this revival? Do not market trends indicate that upwards of 90 percent of development will continue to take place

out on the periphery, even though some of this peripheral growth will acquire an emblem or two of urbanity? Some suburban realtors are advertising the proximity of a Starbucks to their subdivisions! Do not Americans abhor density, strongly associating it with congestion and other perceived urban malfunctions? Indeed, is not one of the reasons for the popularity among suburbanites of the "Smart Growth" slogan its role as a cover for NIMBYism, the self-centered stance that no further growth is best? Fearing additional growth is a very un-urban perspective. Does not sprawl and our continuing auto-dependence threaten the prospects for any meaningful spread of a new urbanism? And has not the digital revolution removed one more—some would say the final—impediment to living where we wish, freeing us of the historical necessity to aggregate spatially? Reading *Repairing the American Metropolis* reveals the many reasons—those destined to endure and some more temporal—why, indeed, even in the face of continuing countervailing forces, there is an urban renaissance underway in America.

Now, neither I nor Douglas Kelbaugh is naive. We are not predicting the imminent end of sprawl or the ultimate rejection of suburban preferences. The suburbs have had—and will continue to have as their design and planning reforms—wide appeal. They embody innumerable attributes that many Americans find compelling, and which many people around the world would also desire if provided with similar choices. No, we are not foreseeing every American moving into artists' lofts in their respective city's version of SoHo. The argument which this book makes so effectively is that at this moment, following a century of embracing a singular preferred model of settlement, Americans are poised to do three things:

1. They seem ready to confront the consequences of privileging a too narrow vision of the good life.
2. They are considering the benefits of alternative patterns of community, along with the benefits of more sane growth management.
3. They are acknowledging that the health of suburban peripheries, the future of undeveloped areas worthy of being maintained as such, and the economic and social vitality of the metropolitan center are intertwined, not separable, phenomena.

These concerns befit a mature American culture, which, while still valuing individualism and egalitarianism, can now look forward to exhibiting such ideals in more diverse and regionally specific ways. It is a moment of cultural self-reflection which occurs infrequently, and so must be seized upon, as Doug Kelbaugh does here.

The initial iteration of this book, *Common Place: Towards Neighborhood and Regional Design*, first published in 1997, was written as the sensibilities of Americans towards their use of land and community-making were just begin-

ning to shift. Relying heavily on a remarkable series of public design charrettes in the city of Seattle and its region, held over the course of a decade under Kelbaugh's direction and the auspices of the University of Washington, *Common Place* both recorded and instigated more enlightened urban design and planning. *Repairing the American Metropolis* builds upon and refines its predecessor while broadening its lessons and audience. It is at once a primer on how architecture, urban design, and metropolitan planning can be pursued in a key that resonates with sustainability and wise stewardship of the environment, and a compelling polemic on why such thinking will produce better places to pursue our livelihoods and live out our lives. Quite aware of the myriad of constraints (and persisting bad habits) facing modern urban planning, Kelbaugh nonetheless projects the necessary optimism. We can do better, he reiterates, and then elaborates how we might.

Ultimately Dean Kelbaugh's book reminds us of the medieval proverb; "the city is new everyday." It is an idea even more important for our own time than when coined, yet too rarely advanced today. The city is new every day. We recognize the importance of maintaining the spirit of "newness" in our economic spheres, and sometimes in our civic and cultural affairs. But generally we respond in times of rapid change and excessive newness as if we wished the opposite to be true of our cities. Suspicious of change, tired of it even, and often afraid of what the city might have been changing into, we imagine a better urban past, bringing forth distilled images of bygone urbanity. Ah, we say; when Cleveland was Cleveland or Detroit was Detroit . . . those were the days. Grainy historic photographs, and even grainier accounts, depict the good-old-days, minus, of course, polluted air, ubiquitous soot, tenements, tuberculosis, and erratic if not entirely absent municipal services. Even the New Urbanism movement that Kelbaugh helped bring into prominence can be accused of overly romanticizing the cities of old. Of course, as Cleveland has shown, as will Detroit, future success is hardly a matter of resurrecting past glories or turning the clock back to an idealized prior state. I will not be surprised if in a few years a third book will be required, chronicling the present round of charrettes organized by Kelbaugh on Detroit.

While being cognizant of the invaluable lessons that preceding city-building traditions provide, *Repairing the American Metropolis* avoids easy (and all-too-common) sentimentality. It doesn't pine for those illusive good-old-days. It advocates, clearly, how still relevant urban traditions and contemporary demands must be fused to achieve a new urbanism. Here is where Kelbaugh parts with both the polemicists (and recent apologists) for the urbanism of the modern movement and with his more-kindred new urbanist colleagues. He understands that like any living organism the urban region itself sustains its most vital characteristics but also continuously evolves. It is the performance and humanity of places well made and maintained, not ideology, that remains primary for him. Through a lucid

articulation of principles and theory, wise policy recommendations, and immense general insight about cities, this book shows us how we must fortify our collective urban instincts.

ALEX KRIEGER, FAIA

Chair, Department of Urban Planning & Design

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March 2001

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THE FIRST PERSON I WOULD LIKE TO THANK IS MY wife, Kathleen, who graciously put up with my extended absorption in this project. She was understanding throughout and always provided wise counsel, a matchless sense of humor, the perspective of a non-designer, and the security of a loving home. I want to acknowledge my intellectual debt to both Peter Calthorpe and Don Prowler, my former professional associates and long-time friends. Their quick minds and lucid revelations have always been enlightening and illuminating. I am grateful to Peter for many images and ideas that are laced through both versions of this book and *The Pedestrian Pocket Book*, which he co-authored with me in 1988; and to Don who was a steadfast collaborator, confidant, and fellow team leader in many charrettes. Speaking of intellectual debts, Ken Frampton inspired much of the chapter on Critical Regionalism, and Leon Krier left a big footprint in the chapter on typology. Trina Deines, Herschel Parnes, Alex Krieger, and Ellen Dunham-Jones were readers, steady supporters, or insightful critics at some point in the process of publishing the two editions. David Sellers, Harrison Fraker, Andres Duany, and Stefanos Polyzoides, whom I have known since architecture school days, were also helpful and influential.

At the University of Michigan Taubman College of Architecture and Urban Planning—my intense and stimulating new academic home—I would like to

acknowledge Mary Anne Drew, whose general assistance and dedication has enabled me to pursue many projects at one time, including this book. Beth Berenter tirelessly and enthusiastically typed and retyped and retyped the many text revisions and additions, while offering helpful corrections, answering nit-picky questions, and providing moral support. I thank both of them for their patience and for going beyond the call of duty.

At the University of Washington Press, I have several people to thank. First Naomi Pascal, an early supporter and sponsor of both books. Marilyn Trueblood continued as the supportive, friendly, patient, and forgiving editor that she has been from the start of the whole process in 1994. Audrey Meyer of their design department brought to the images and text the same kind of legibility and coherence that this book advocates for cities. I want to also thank them for authorizing me to rewrite this book, which allowed me to add insights gained over the last five years, during which time I have tested ideas in the book on dozens of different audiences and in additional charrettes and studios. (I am forever impressed by the fact that Wendell Berry shortened and rewrote his first novel *A Place on Earth* essentially because he wasn't satisfied with it. I feel fortunate to be given a second chance and pleased to refine an argument, rather than to add an entirely new one to a media-saturated world.)

As I explained in the Acknowledgments of the original edition, the act of authoring a book is a lot like designing a building—something I once did every day. They both take several years, involve a tremendous amount of work, and require many iterations, painstaking attention to details, and a willingness to make changes late in the game, when they send unpredictable and far-reaching ripples throughout the work. Both are slow to deliver gratification and both defy shortcuts. There are, however, two major differences. A book, unlike a building, is self-commissioned. Although it needs a publisher and a printer, it doesn't need a client with a lot of capital or a building contractor and many subcontractors. Nor are there the many regulations, codes, and inspectors, although I'm told some editors, fortunately not mine, can be demanding. There is, without so many second and third parties, more freedom when writing than when designing. It's you and the language, plus images to punctuate the ribbon of words. With nothing but your own words to hide behind, an author is more naked than an architect, who is removed from his or her audience by a more abstract, opaque language and the acts of many other people.

The other difference is dimensional. If architecture is three-dimensional and urban planning two-dimensional, a book is one dimensional—a long string of words, some 65,000 in this case, whose message depends entirely on getting them in precisely the right order. Because a building is 3–D, a designer can behold it in her mind as a totality. You cannot behold a book as a whole. It is too linear and long; serial rather than simultaneous. There are no panoramic or perspective views, only a long and sequential narrative. Many friends and colleagues,

who know who they are, read the original manuscript and helped integrate its story, pointing out omissions and suggesting ideas so obvious that they had never or would never have occurred to me. Now it's again time for the reading public to glean whatever truth and find whatever fault that may lie within this wordy strand.

DOUGLAS KELBAUGH

October 2001

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INTRODUCTION

"There ain't nothin' wrong with progress, it's just gone on too long."

—ANONYMOUS KENTUCKY FARMER

I COULD START BY STATING THAT THIS BOOK, LIKE ITS predecessor *Common Place*, is about the salvation of the American metropolis, but that would be stretching it. It is about incremental steps—some small, some large—to reform and revitalize America's architecture and urbanism. It is offered with equal parts of optimism and alarm. There is civic pride and hope in our cities, but there is also fear and disintegration. Modern technology—primarily the automobile and telecommunications—as well as contemporary economic, cultural, and social forces continue to erode and spread the city out. Not only is the modern metropolis at risk, Modernism itself is in question, both at the architectural and the urban scale.

This book is about bringing a greater sense of community and coherence to the neighborhood and the metropolitan region, which are presented as the two most enduring and sensible units in a democratic society and a globalizing economy. It champions physical structure that is simultaneously more diverse, more ecologic, and more livable than mega-zoned suburban sprawl and hollowed-out

urban cores. It is also about our social and cultural physique and about restoring coherence to architecture and urbanism. It touches on commerce and how the market economy needs rethinking if it is going to produce sustainable, post-industrial wealth, as it has so fruitfully produced industrial might in the past. It touches on Critical Regionalism, or how a region can maintain and architecturally celebrate its distinguishing identities and differences. It touches on architectural typology or how the built environment can be physically and spatially understandable and cohesive—a boon if not a prerequisite to shared meaning in our lives. It also touches on Postmodern urban theory, design, and practice, especially New Urbanism, as well as Everyday Urbanism and what I call Post Urbanism. Many ideas are new or revised. Others, now a generation old, are worthy of reconsideration and revival at the start of a new century. Lastly, the book advocates public policies for the contemporary metropolitan region in America.

The first incarnation of this book was entitled *Common Place, Toward Neighborhood and Regional Design* and was published in 1997 (and reprinted in 1999). *Repairing the American Metropolis: Common Place Revisited* is a sequel published with many new, expanded, reworked, corrected, updated, or revised ideas and passages. It has been five years since I finished writing the original text, so there have been many opportunities to test and to both tighten and broaden its message. The Seattle projects have been removed to make a shorter, less site-specific book with broader applicability across the country and beyond. Although ostensibly an analysis of and prescription for American architecture and urbanism, many passages, especially in chapters 2 and 3, apply more universally. To the extent that cities in the U.S.A. are similar to those in Canada and Australia, all five chapters apply to those two countries.

The text has been written and rewritten over many years with many audiences in mind: urban designers, architects, urban planners, landscape architects, government staff, developers, environmentalists, community leaders, planning board members, architectural and urban scholars and critics, transportation planners, housing consultants, energy consultants, civil engineers, traffic engineers, bankers, real estate lawyers, planning and design educators, elected officials, students and concerned citizens.

Because the original *Common Place* was written for such a wide range of lay and professional readers, some readers found that it read unevenly. Some even suggested that it would be better presented as two books, one for academics and design professionals, the other for citizens and community leaders. For me, however, an attempt to bridge and connect to both audiences is worth the risk of sometimes reaching neither with a signal that is either too complex or too simple. Books that narrow the gap between theory and practice, professionals and lay people, are needed more than ever. As scientific and technical subjects become more arcane and opaque to everyday citizens, and as governments and institutions become more open and egalitarian, there is a greater need for popularizing the esoteric

and theorizing about the commonplace. Other readers of *Common Place* suggested it was for two audiences of another sort: first, the design professionals, public officials, and citizens of the Seattle region, and, second, their counterparts nationwide. This latter critique is the one to which *Repairing the American Metropolis* responds by de-Seattlizing its contents to appeal more to a broader audience.

The Title and Other Important Words

The words in the title are the most carefully chosen in the book. Let me explain their selection. "Common Place" was originally selected because it offers both a high and a low reading. The word "common" has many meanings, ranging from "relating or belonging to the community at large" to "familiar" to "coarse or vulgar." "Place" is an abstract word with even more meanings, several of which have to do with a particular location in physical space. Together, the two words are meant to evoke a physically defined realm, either public or private, that is understood, shared, and shaped by its inhabitants. When elided into the single word "commonplace," an entirely different meaning forces itself on the reader: ordinary, unremarkable, even trite. This double meaning is important to the book, which champions the everyday and the typical as much as the civic and the monumental. I have retained "Common Place" in the subtitle because its dual meaning is as relevant as ever, and I want to alert the book-buying public to the fact that this book is a reworking of an earlier book.

Common Place "Revisited" also has two readings, returning to the shared places of a physical public realm and reconsidering the previous book. In the second case, it gives further notice to the readers that much of *Common Place* is repeated in this book. Indeed, chapters 1 and 3 are practically unchanged.

Although there are specific references to metropolitan Seattle and Detroit, where I have lived and worked for many years, the book is about "*the* American Metropolis," that is, *any* metropolitan region in the U.S.A. By "metropolis," I mean the census bureau's definition of a Metropolitan Area, i.e., a core area containing a large population nucleus, together with adjacent communities having a high degree of economic and social integration with that core (or cores). The book is about understanding, designing, and developing the central city or core area and its surrounding region of suburbs, towns, edge cities, and countryside. It does not prescribe universal or global solutions per se. As poet and philosopher Wendell Berry has said, "Properly speaking, global thinking is not possible."[1] Although other nationalities may benefit, this book is about how Americans should design and arrange their buildings into neighborhoods, and their neighborhoods into metropolitan regions. It also reminds us that, although most Americans now live in a metropolitan region, only some of them live in a true neighborhood, another key word in the text.

However threatened by automobiles and telecommunications, neighborhoods should remain the integers of cities. Without them, cities are much less coherent and livable, however beautiful or prosperous they may be. Although we live and operate in multiple circles and at multiple scales, neighborhoods can still integrate many of the daily functions of life—living, working, playing, schooling, shopping, and worshipping. With clear centers and edges, they provide a physical focus and common ground for local social life. If individual structures are the building blocks of streets, and streets are the building blocks of neighborhoods, then neighborhoods are the building blocks of cities. They are indispensable to urban community. They have been with us for a long time, in some eras and in some places known by other names, such as quarter, district, or precinct. Over a remarkably broad spectrum of geography, culture, and time, neighborhoods have served the same purposes and been about the same size—roughly a half mile, or ten minute walk, on a side or about 150 acres. Their average populations vary forty fold, from as few as 2,000 inhabitants in America to as many as 20,000 in Paris, 40,000 in Delhi, and to as high as 80,000 in Hong Kong.[2] Aristotle thought the size of the ideal polis, where a life of moral and intellectual excellence was most possible, was 5,000 to 20,000 people. Despite the great range in population, three things seem to be constant about traditional neighborhoods: their physical size, determined by what is a comfortable walking distance, their ubiquity, and their historical resilience.

Buildings are where Americans spend the overwhelming amount of their time, all but an average of seventy-two minutes per day.[3] Like architecture, another important word in this book, the metropolis must be physically envisioned in three dimensions rather than two. The city can be thought of as a gigantic design problem, whether the "valley section" proposed by Patrick Geddes early in the twentieth century or the "transect" proposed by Andres Duany at the beginning of the twenty-first century. As architectural historian Vincent Scully has pointed out, the city should be designed like a big house. It should always be scaled, legible, and understandable to the human being. The metropolitan region should be shaped with human perceptions and sensibilities in mind. Metro regions as large as New York, Chicago, and Los Angeles can have an overall structure and shape that is comprehensible, not only from an airplane but also in the mind's eye.

Lastly, I have used the word "repairing" in the title. The word repair implies that American urbanism was once better than it is now. I believe this to be true, for reasons enumerated throughout the book. The American metropolis requires more than mere tinkering if it is to flourish again, like it did during the first third of the twentieth century in the heyday of regionalism and metropolitanism. Without major overhaul, it will not be sufficiently livable, affordable, healthy or sustainable to be worth loving, maintaining, and defending. It will also become less socially and economically competitive against cities in other parts of the world that have evolved into more comprehensive and cohesive places to live and work.

Metropolitan regions are becoming the supercharged engines of the global economy. They need to be envisioned as political as well as economic units, as elaborated on in chapter 5. This shift from municipality and nation-state to metropolitan region might also be thought of as a revival of the Italian Renaissance city-state, such as Venice and Florence, or cities of the German Hanseatic League, like Hamburg and Lubeck. Contemporary city-states like Singapore and Hong Kong exemplify how successful city-states have become in recent years.

I would argue that we also need to repair architectural practice and theory, which are farther apart than ever within the academy. The split is even greater between the academy and the profession. Architectural theory can be opaque, precious, and very esoteric. It can split intellectual hairs that are interesting and provocative but often of little direct relevance or utility to the design professions. With some welcome exceptions, theory seems to be drifting aimlessly in the rarefied stratosphere while practice is lost on some suburban cul-de-sac or in the mall. Academics and practitioners alike seem to be headed down a dead end.

Underlying Values

What values underlie these writings—the ones that are so basic they usually go unstated by the author? There are three fundamental values and ideas that frame this book.

The first is *community*. Without community, we are all doomed to private worlds that are more selfish and loveless than they need be. As our society becomes more privatized and our culture more narcissistic, the need and appetite to be part of something bigger than our individual selves grow. Organized religion and individual spiritual development answer this need and calling for many people. For some people, however, belonging to a community may be the highest expression of this spiritual need. People are social animals, and our need to share and to love makes community a sine qua non of existence. On the other hand, humans also have a fundamental need to express themselves as individuals, to distinguish themselves psychologically and socially, even to excel and rise above the crowd. A community must simultaneously nurture both a respect for group values and a tolerance for individuality, even eccentricity. This is the paradox of community that will forever require readjustments.

Few humans would deny the value of community, as well as of mutual respect, and tolerance. But some contemporary critics question the notion of traditional community. They posit that communities of interest, especially ones enabled by modern travel and electronic communications, have supplanted communities of propinquity and place. This is not a new notion in America. Alexis de Tocqueville observed in his early nineteenth-century classic *Democracy in America*: "Americans of all ages, all stations of life, and all types of disposition are forever

forming associations . . . religious, moral, serious, futile, very general and very limited, immensely large and very minute."

It is an undeniable fact that telecommunications and computers have changed our lives in many ways. However, it is not evident that they have reduced our need for physical community. Indeed, living with a computer screen in your face all day and a telephone in your ear, with radio or television playing in the background, may increase the appetite for physical community. As the poet and pundit Gary Snyder has said, the internet is not a community because you can't hug anyone on it. The world wide web may prove antithetical to community by providing anonymous sources with instantaneous access to vast audiences to which they are not accountable. Never have such hidden voices had such access to such large audiences. Electronic snipers alongside the information highway are not engaging in public discourse, any more than a website can be compared to an Italian piazza. If anything, electronic communications have increased the human need for traditional neighborhoods with buildings that you can kick and neighbors at whom you can wave or frown.

To quote Bart Giamatti, former president of Yale University and of baseball's National League:

> Over millennia, this refinement of negotiation—of balancing private need and public obligation, personal desire and public duty, and keen interests of the one and the many into a common, shared set of agreements—becomes a civilization. That is the public version of what binds us. That state is achieved because city dwellers as individuals or as families or as groups have smoothed the edges of private desire so as to fit, or at least work in, with all the other city dwellers, without undue abrasion, without sharp edges forever nicking and wounding, each refining an individual capacity for those thousands of daily, instantaneous negotiations that keep crowded city life from becoming a constant brawl or ceaseless shoving match.[4]

Society must strive to be both tolerant and just enough to allow minority groups and subcultures to coexist with dignity and in peace. Achieving this tolerance is easier said than done, as America has found after centuries of slavery and immigration. It is becoming an even bigger challenge as more and more Americans grow up without firsthand experience and skills in city living. "There are now several generations of Americans who have no idea or experience of the kinds of tolerance and cooperation which are implicit in higher density neighborhoods or communities."[5]

Community must deal with the full range of human nature, including its own dark side. If it projects its own dysfunction and pathologies onto an outside enemy or stigmatized minority, it has not fully faced itself and is in collective denial. More typically, the unity in community is bought at the price of

identifying enemies, who are sure to return the favor. Enemies will get even some day, as the chain reaction of intolerance and injustice is perpetuated. The tragic events of September 11, 2001, which happened as this text was being typeset, dramatically underscore this point. If this dialectic is an inevitable part of the human condition, the question arises as to what is the most hospitable scale for social harmony and political unity and the least hospitable scale for hatred and enmity. It begs a deeper question: at what scales are justice and brotherly love best fostered? As you will see, this book presents the case that neighborhood and region are the most sensible and equitable scales for community and governance in the American metropolis.

The second fundamental is *sustainable order.* I have joined two terms that were listed as separate values in the original *Common Place,* because they are two sides of the same coin. In a sense, you can't have sustainability without some sort of ordering system, however static or dynamic, even chaotic, it may be at times. An example of an ordering system that was *not* ecologically sustainable was the post–World War II eastern European socialist system. (It remains to be seen whether corporate capitalism can become ecologically sustainable.) Ordering systems are not always transparent or understood, or even understandable, as discussed in chapter 3. Hidden political values and social agendas are inevitably embedded in calls for sustainability (or community, for that matter). We must acknowledge, as geographer David Harvey argues, that ecological thinking is as much a sociopolitical construction as a scientific one.

Difficult to define precisely, for me sustainability generally means living within our means in a way that allows future generations a good and decent life. It often means constructing time and space differently than our economic system presently does. "The purpose of the rhetoric of sustainability is to direct public policy towards thinking about time horizons well beyond those encountered in the market. . . . Spatial usages and definitions are likewise contested terrain between ecologists and economists. . . . "[6] Until we adjust the rules of market capitalism to encourage longer-term thinking, Americans have little or no right to talk about the "seventh generation" values and practices of Native Americans.

The other paradigmatic adjustment needed in the sustainability movement is the acknowledgment that, if everything *is* connected in the natural world, as environmentalists are correct to point out, then the urban world can no longer be disconnected from their conception of nature. Pleas to preserve natural habitat, pristine wilderness, and pure nature are head-in-the-sand appeals if the urbanized habitat of the planet's dominant species is treated like a necessary evil or summarily dismissed as a negative in our environmental accounting. Cities are as much a part of nature as rainforests and tidal marshes.

To play with a full deck, environmental groups should pro-actively support as much new growth and development in the right locations as they try to stop them in environmentally sensitive locations. For every legitimate housing unit

they stop, they need to champion a unit somewhere else in their community or their metropolitan region. Otherwise, their good cause can soon become little more than a veiled obstructionism and NIMBYism. To truly *stop* growth, one must be for some sort of population control. Fighting about where development should or should not occur remains locked into a zero-sum game.

Sustainability involves respect and reverence for life itself—for the billions of living things that have taken billions of years to evolve, for that miraculous web of plants and creatures that truly passeth all understanding. It may be a human responsibility to protect all life, but it is unequivocally our responsibility not to mess it up. This obligation is to protect the quality as well as the longevity of life. Humans have often been cavalier and rogue members of the natural order. Now our technology and population have grown so gargantuan that we are the planet's greatest threat. It would not be much of an exaggeration to say that most species on this planet other than human beings are in decline. It is not plants and animals that have fouled up the world, but the wanton, rapacious habits of homo sapiens.

We're not going to change human nature. However, we can reform human values, habits, and institutions. We can shift paradigms and transform culture. Among other urgent changes, we must change industrial commerce so that it can coexist with natural systems. As the eloquent "green" architect William McDonough puts it, we need a second industrial revolution. This will not happen unless the market economy starts factoring the true and total cost of commodities into prices. Otherwise, we're not sustained, as false cues and distorted signals from the marketplace lead American society, unknowingly but inexorably, in unsustainable directions. We are like a bull with a ring in its nose who is being led into rather than out of the china shop.

Sustainability, alas, is not enough. As Paul Hawken says in The *Ecology of Commerce*, "The dirty secret in environmentalism is that sustainability is an insufficient objective . . . we have also probably already passed the point where present planetary resources can be relied on to support the population of the next forty years. Any viable economic program must turn back the resource clock and devote itself actively to restoring damaged and deteriorating systems—restoration is far more compelling than the algebra of sustainability."[7]

We also have to stop the population clock. Its alarm has already rung. The planet is expecting another four billion newborn over the next thirty years. Somehow we've got to come to grips with overpopulation, which is probably the ultimate biggest problem now facing humanity. Denis Hayes of Seattle's Bullitt Foundation has proposed a plan for an international birthrate that would actually *reduce* world population within the next century. Again, we must guard against concealed sociopolitical values and agendas in even the best-laid plans for controlling population growth. Inevitably, there are winners and losers in all such policies and practices, which usually protect the positions of power and privi-

lege from which they are promulgated. Nonetheless, the planet cannot afford to let this unavoidable structural fact paralyze us into inaction.

We must rely on current income, that is, living efficiently within the flow of radiant energy from the sun and energy responsibly released from biomatter. One of the keys to living within our current means is old-fashioned yankee ingenuity and frugality—killing as many birds with as few stones as possible. (I should probably say photographing as many birds with as little film as possible.) That's why passive solar architecture had me totally in its thrall from the oil embargo of 1972 until I moved to cloudy Seattle in 1985. Passive solar heating, cooling, and lighting are a holistic, natural way to go about tempering the daily and seasonal cycles of climate. Unlike active solar systems, they are integrated into the architecture rather than hardware that is added on. The Trombe Wall that I designed and then lived behind for a decade supports the roof as well as heats the rooms. The only moving parts in the system are the sun and the occupants. Its primitive yet elegant simplicity encourages straightforward architecture and living.

Another contemporary example of multivalent, efficient design is the greenway. These riparian corridors and their flood plains can fulfill many goals simultaneously. They can act as a city edge; provide community recreation and amenity with walkways, bikeways, parkways, outdoor rooms, and views; serve as wildlife habitat corridors and detention and retention ponds for controlling floods; work as filtration systems for polluted runoff; and be a source of water, beauty, and rejuvenation.[8] A last example of this synergy is the alley with garage apartment. Simultaneously, it provides affordable housing for a tenant, a second-income stream for the owner, enclosed parking for both parties' vehicles, alley surveillance, a corridor for utilities and garbage pick-up, and a place to work and play. It is this kind of design thinking and designing that is both savvy and sustainable.

Why hook sustainability and order together? Is a major role, perhaps the major role, of human beings in the world helping to bring order and meaning to it? Ecosystems are essential in ordering the physical cosmos. "What is remarkable about living systems is the way they capture diffuse (and often high entropy) energy or information flows and assemble them into complex but well-ordered (low entropy) forms."[9] As entropy runs down and exhausts the physical universe, is there an equal and opposite force creating order? And if so, is it a metaphysical, spiritual life force that humans contribute to or even are entrusted with? Or is it solely a physical order, such as a black hole or anti-universe? And is it order discovered or order constructed? Although these questions are unanswerable, they give us enough pause to realize that humankind and other intelligent life may be collectively playing a critical role in sustaining the cosmos. If this is the case, we need to do our job of bringing, or at least embracing and supporting, order in the world, just as billions of other organisms are faithfully and flawlessly doing their jobs. Most are constantly toiling, if not directly

on our behalf, at least to our benefit—whether it be through photosynthesis or eating our garbage.

Nobody does more with less than nature, and its sublime efficiency seems to be a sustained one, even though chaos theorists tell us that ordered systems are periodically subject to violent and sudden leaps to higher levels of order. However turbulent it may be at times, we could hardly find a better model for ordering architecture, engineering, urban design, and city planning. Inherent in this discovery and construction of order is meaning. Human beings seem set on finding out not only what makes things work but why they work and why it should matter. They are forever looking for questions as well as answers, in what appears to be an endless spiritual quest for the meaning in life and of life.

Although cities are inherently messy and chronically unfinished, bringing sustainable order to them is clearly a big part of bringing sustainable order to our world. They are soon to be where most of our species dwell. After thousands of years of a world population that was almost exclusively rural and hundreds of years of one that was predominantly rural, the majority of the people of the world will live in urban areas early this century. The United Nations predicts that by 2025 our species will be over 60 percent urban.[10] At this historic moment in civilization—the urban/rural equinox—it behooves us to better understand, plan, design, and build cities. (This is why a number of schools of architecture and planning, like the University of Michigan's, have recently started urban design programs.)

As with nature, sometimes urban order is enhanced in single, giant steps, but usually it evolves slowly and after many little trials and errors. A city needs both many little moves and a few big ones. It can't be all organic or all monumental. Open, organic urbanism is the appropriate mode for most development in our political economy, but it can be enhanced by having key blocks, centers, corridors, axes, and edges more intentionally designed. Gradual reformation is sometimes more difficult to bring about than quick or cataclysmic revolution. Like building maintenance, it is less exciting and creative than building anew. Incremental change, whether social or physical, is, however, often more lasting than radical or revolutionary change. It is usually the appropriate mode of improvement in a society that is more right than wrong, which is on balance what I believe to be the case for the majority of Americans. (This positive balance sheet is why I believe it makes sense to be more liberal than radical or conservative; when things are drastically more wrong than right, then radical or even revolutionary change makes sense; when things are clearly more right than wrong, then conservatism is sensible.)

Incrementalism seems the correct strategy for urban design and development in most cities, especially its residential neighborhoods. Where people make their home is not the place for avant-garde or radical experiments. Dwelling is an essentially conservative act and neighborhood is a fragile condition. As long as they

are more good than bad, more hopeful than hopeless, dwelling and neighborhood both need to be guarded and changed carefully. This book will argue that Modernist architecture and urbanism have not been kind to neighborhoods and unnecessarily experimental with housing.

I will spend less time on the third underlying value, *human spirit,* which was a serious omission from the Introduction to the original *Common Place.* Simply put, community and sustainable order may be enough to survive but they are not enough to flourish and grow. For this we need human spirit. By that I refer to the unstoppable, endless proclivity of all human beings to reach outward and upward for new ideas and inspiration and not to fall prey to the easily available excuse that one has been victimized or that one is not good enough or that one has been passed over. It is that irrepressible desire and ability to do their job better, to invent, to improve, to laugh at mistakes, to cry at successes, to fix the broken, to loft ideals, and to keep on keeping on—all in uncanny, spontaneous, unpredictable ways. A big part of this spirit is belief in one's self, both as a person and a community. Indeed, often what's missing in beleaguered communities is a lack of self-confidence. For an inner city neighborhood to bounce back after decades of disinvestment and dysfunction what is most needed are residents who believe in themselves, community leaders who believe in themselves, and investors/developers who believe in a broken place enough to take a chance. This take-charge, we-are-good-enough attitude is a manifestation of the human spirit that is often needed in many parts of the American metropolis.

The ancient Greeks had two names for human spirit. The first and most relevant to what I mean in the context of this book was *arete,* which represents virtue and the upward reach to excellence and perfection. The second was *agape,* which means reaching down to lift the fallen, to treat other, less fortunate human beings with compassion. (Architect Philip Bess writes that it was actually ancient Jerusalem more than ancient Athens that first embraced and cared for the poor, homeless, sick, orphaned, and widowed.) The former is about striving, self-help, and self-improvement, the latter about brotherly love, selflessness, and helping others. In ancient Athens, the good life was constituted by the pursuit of moral and intellectual excellence through courage, wisdom, temperance, and justice. This pursuit of arete was both individual and communal and was thought to be fostered by a city of the proper size and composition. (Ancient Greeks also attached "high class" to arete, which opens up a subject slightly beyond the scope of this book, namely the complicated relationship of social class to the practice of architecture and planning, an important issue that architecture professor Michael Benedikt deals with in his provocative, insightful essay "Class Notes" in the Summer 2000 issue of *Harvard Design Magazine.*)

Community will dry up without the unconditional love of agape and sustainable order will stagnate without the self-love and the self-discipline of arete. Healthy communities promote human spirit that balances these two types of love.

The physical scale and configuration of community must also be balanced with the socio-cultural-economic factors of community. All these physical and non-physical factors are essential but not sufficient for true and full community. For this we need love; without it, community life is arid and empty. (Two other important ingredients are the loving family and spiritual love, subjects beyond the scope of this book.)

Part of arete, I would argue, is creativity, which I will contend throughout the book has been out of balance with and overvalued by Modernism. We need to privilege this part of our DNA when and where our creativity genes are needed, not as compulsive originality and obligatory innovation (or worse yet, the appearance of innovation) but as the magical power of a virtuoso performance at the right time and place. The human spirit is often but not always about swinging for the fences; sometimes a modest bunt is all that's needed. Indeed, the exact baseball term is "sacrifice" bunt, a metaphor very relevant in a culture that has favored individual virtuosity over teamwork, arete over agape.

There are other important, liberal values, such as popular sovereignty and civil equality, that I am omitting. Certainly liberty and freedom are also bedrock values that are sacred to the Western World—so sacred that I will let them pass without elaboration. Equality is so very basic to any American's inherited values that it scarcely needs mention. Except to say that of the three rallying cries that united the French Revolution, Liberté and Fraternité are roughly equivalent to human spirit and community. And, one could argue that sustainable order is Egalité over time or intergenerational equity, i.e., extending equal rights to posterity. Interestingly, of the three inalienable rights in the Declaration of Independence—life, liberty, and the pursuit of happiness—life corresponds to sustainable order and liberty and pursuit of happiness to the human spirit. (Without knowing it, I have aligned the three basic values of this book with the ones that spawned intellectual and political revolutions more than two centuries ago.)

Of these liberal values, I think equality is the most elusive. It is not so difficult to assure everyone of equality in the eyes of the law (although Affirmative Action is, unfortunately, under dire attack, as if several decades of socioeconomic redress have sufficiently compensated for centuries of racial and gender injustice). But to assure egalitarian status in the eyes of other people is a very ambitious ideal. Human beings seem very persistent about reasserting their individual or group superiority. They are snobs by nature. Class distinctions seem ubiquitous in every culture and time. If history is any measure, egalitarianism is the most difficult of all these values to realize. Maintaining true political and social equality takes constant vigilance and affirmative effort.

These are all consciously taught and learned values. There are also the less consciously transferred values that we inherit from our families, before society gets a chance to unpack and temper them. For me, Protestant respect for industry, thrift, and moderation has come down from my parents and grandparents

as surely as it has unceremoniously. Honesty and fair play are also essential values to this view of life, because commerce won't sustain itself without trust in the marketplace and honesty in government.[11] Hard work, frugality, conscientious attention to details, and economy are bodily reflexes in the Calvinist genealogy on my paternal side. Comfort, wit, and play are fine; but luxury, laziness, and profligacy are not. Fortunately, there was some *joie de vivre* in my mother's house, where a little hell-raising was winked at and exuberance encouraged. I suspect many Americans, with their hybrid ethnicities, enjoy and suffer similar moral and cultural crosscurrents, which can be as liberating as they are paralyzing at times.

The Role of Design

This book results more from the work and thinking of architects than from city and regional planners. Architects have become more and more vocal about urban design and planning in recent years. They have been active at this scale before, from Renaissance and Baroque town planning to early twentieth-century visions such as Broadacre City by Frank Lloyd Wright, Cité Industrielle by Tony Garnier, and Radiant City by Le Corbusier. Landscape architects, too, have been thinking and designing more and more at a larger scale, whether habitat, ecosystem, or bioregion.

Architects, landscape architects, and urban designers differ from urban planners in two basic ways. They are synthesizers and designers rather than analysts and policymakers, and their work is three-dimensional rather than two-dimensional. In the 1970s, many planning schools moved away from teaching physical shaping of the environment toward economic and sociopolitical analysis and policy. (A number of American urban planning programs and departments actually moved their academic homes from schools of architecture to schools of public affairs or public policy.) Planners are often better equipped to answer the locational questions of where development should go, while architects and urban designers can better answer the design questions of what development should be like. Because architects care passionately about form and aesthetics, they worship a different god than planners, who share a less intuitive god with social science. Landscape architects can often answer both locational and design questions, because of their understanding of natural systems from the micro to the macro scale. They know regions and open space—from wetlands to watersheds—and have provided critical leadership in the understanding, conservation, and restoration of the environment.

Architects, landscape architects, and urban designers are visually imaginative and creative. They are comfortable envisioning new places and illustrating them in ways that lay people can understand. Because architects must detail a

building design to the nearest eighth of an inch and specify every material and component, their visions are usually grounded in reality. Designers are also used to making intuitive trade-offs and weighing costs against benefits—often without all the data. In fact, the mark of a good designer, unlike a scientist, is the very ability to make good decisions without all the requisite information, because it is rarely all available at the proper time. (Nor are all the data necessary, because good design is about getting most of the answers mostly right. It does not require the perfection of science or precision of philosophy.) Holding a great number of design variables up in the air as long as possible and bringing them together synergistically at the last possible minute is an essential skill and talent needed for design.

Many of these design and planning professionals, as well as environmentalists and government officials and developers, are increasingly pointed and unanimous in their critique of the contemporary metropolis. People drawn from this group participated in the design charrettes that undergird this book and are detailed in its earlier, longer version. Some have a long history of community activism and reform-minded design. Many design team leaders addressed community design in the 1960s, energy in the '70s and regionalism in the '80s. They have added urban design and town planning to their focus during the '90s. During the last three decades this group has gone full circle. They have taken on widening, concentric concerns.

It has been a fast ride for the generation that came of age in the Vietnam era: the sixties' anti-war and civil rights militancy replaced the complacency of the Eisenhower decade; the seventies' energy, preservation, and environmental movements overtook the civil rights movement; the eighties' softening of energy prices and boom mentality pulled the rug out from under the energy movement and added impetus to the consumptive lifestyle, while female and gay rights came to the foreground; and the nineties' credit-card hangovers and government deficits brought on downsizing in first the private and then the public sector, while underscoring the costs of suburbia and the disinvestment in our inner cities as the stock market roared and the internet beeped its way to record highs, only to be brought down like the World Trade Center towers in the early 2000s.

At this moment in American history, design professionals have a particularly compelling message. Physical design has been left out of the policy and political debate so long that designers are becoming more vocal and assertive. The growing chorus of voices for reform includes not only design professionals but also government officials, university faculty and students, environmental groups, community groups, and developers. The legislative and executive branches of many state, county, and municipal governments have embraced growth management, "Smart Growth" and "Livable Communities," as has the Urban Land Institute and American Institute of Architects. The federal government should

also get more involved in urban and suburban policy, like central governments the world over. Increasing terrorism has recently made the role of national governments all the more important, because they are in a position to help reduce dependence on oil from the Mideast, which has been a root cause of so much conflict.

The theory and policy espoused in this book were spawned to a large extent by my thirteen years in Seattle at the University of Washington Department of Architecture, which I chaired for eight of those good years. The dozen design charrettes that I organized and several articles that I wrote for its pithy journal *Column 5* were the anvil on which the ideas were hammered and turned more than once. Charrettes produce ingots that are especially hot, because they are competitively executed in real time, for real clients, on real sites. They are also malleable, as multiple teams of open-minded students led by design professionals shape a panoramic range of visions. Although these charrettes have been deleted from this volume, they are worth a little discussion.

The University of Washington design charrettes started in 1985. Since then there has been a charrette the first week of every Spring Quarter. All the ones before 1994 are included in the original book, with the exception of the 1986 and 1987 charrettes in Italy, the 1988 Pedestrian Pocket charrette (see *The Pedestrian Pocket Book*, edited by the author and published in 1989 by Princeton Architectural Press), and the 1989 Public Restrooms in Downtown Seattle charrette. Together these illustrated brainstorms add up to a blueprint for a metropolitan region—not a master plan but rather an acupuncture chart for strategic urban interventions. They are the theory and policy of common place translated into site-specific design. Subsequent charrettes in Detroit, New Jersey, Ohio, Canada, India, and Australia, as well as intellectual exchange and cross-fire in my new academic home, have further shaped and refined the theories and policies advanced in this edition.

The planning efforts for a region need the benefit of sound design theory and practice in their formative stages. Neighborhoods, towns, cities, and regions should not be planned and designed, or zoned for that matter, by abstract and nonvisual formulae drafted by lawyers, lawmakers, and bureaucrats without the help of design professionals. Such methods have led to zoning codes as thick as the local telephone book. Among other flaws, these creeping codes inadvertently prohibit building a traditional town or neighborhood. To build anything resembling "Main Street" or "Elm Street" in many American municipalities is actually now against the law!

Planning a region should not be done ex novo; it is an interactive process that involves illustrating and testing proposed policies and laws in three dimensions before they are adopted. It is not only a question of academicians, designers, and planners validating policies and laws; it is also very much a question of

design *formulating* policy. Design is more than a service to be bought by the pound or the hour and plugged in at the appropriate time in a problem-solving process. It is too powerfully integrative and formulative to be withheld until all the policy and programming are in place.

Historic Opportunity?

The urban poor have long experienced the economic, social, and environmental problems that now beset the suburbs. Why, they rightfully ask, have suburbanites waited so long to raise a hue and cry? Before suburbia was visited by decaying infrastructure, drugs, bad schools, high school gangs, noise, hate crime, mass murder, gridlock, and low-paying jobs, there was little upper middle class concern for these issues. The urban lower classes have an undeniable case that should strike humility into the hearts of suburbanites, who come lately to crime control, infrastructure decay, traffic calming, school crises, job training, etc. These are old problems for the urban poor and working class. These underclasses are in danger of being further ignored as the political muscle and investment quickly shift to the suburbs.

The potential confluence of interests among the inner city, the poorer suburbs of the inner ring, and the very new suburbs of the outer ring offers an historic opportunity. As different classes and communities discover more problems in common, there is an opportunity to build broader coalitions and more metropolitan solidarity. The imperatives of environmental justice and global equity will bring more and more people together at the national and international scale. There is already a feeling that everyone is in this environmental dilemma together. Although there is still an unfinished agenda for social justice, the clicking environmental clock and population time bomb have brought a new urgency to working together.

Despite near-unanimous agreement about the problems of physical sprawl, social fragmentation and environmental degradation, all three have continued and in some cases accelerated on their alarming trajectories. There are bright spots to be sure. The bored progeny of suburbanites and empty nesters are moving back into the city; many downtowns and even inner city neighborhoods are rebounding, some to even better built environments than in their earlier heydays. The rebirth of public markets, cottage industries, and live-work neighborhoods bodes well for a healthy local economy. The burgeoning of community groups, organizations, and events helps weave and reweave the traditional social fabric. Environmental strides are numerous, although it's unclear which side of the ecologic ledger has more entries.

While the citizenry may disagree about what constitutes salvation and what is possible for the future, it *is* clear that we cannot continue to spread ourselves

endlessly across the countryside, to live by, for and in our automobiles, to produce tons of waste and pollutants for every man, woman, and child. We are sucking the planet dry of energy and resources, and letting our established communities wither, particularly the older cities in the eastern half of the United States. There is, however, a fundamental optimism embedded in the theory and policy espoused in this book. The whole project is predicated on the belief that the right infrastructure, the right land use, the right design at the right scale at the right time, in conjunction with the right public policies, will go a long way toward solving many of society's problems—not all the way to be sure, but a distance we are very unlikely to otherwise traverse. There are some difficult trade-offs ahead and our choices are not going to please everyone. Even if most citizens are against sprawl, they are also against density—leaving society at one of those arterial traffic lights in suburbia, where turning left takes forever and continuing straight leads to more nowhere.

Our choices will not get easier with time. The demographics are intimidating. In 1900, one person in ten lived in cities. Now five in ten live in urbanized areas, many of which are crowded, impoverished, and dysfunctional global cities with populations of ten million or more. In the meantime, Americans continue to suburbanize, with metropolitan areas getting less and less dense. Is this sprawling of America too costly and unsustainable in economic, environmental, and social terms? And in a world moving in the other direction, is it geopolitically tenable? And ethically defensible? In chapter 1, we look at these and other costs of sprawl.

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1 SUBURBAN SPRAWL

PAVED WITH GOOD INTENTIONS

"But then the Depression came, and war, and a generation of Americans grew up who had apparently forgotten what a town was, or how a city was built and who were obsessed by enthusiasm for the free passage of the automobile at the expense of all other values. We were told that this was the way it had to be done by hero-architects . . . ; and hero administrators . . . put it heroically, savagely, into practice, and the Bronx was destroyed, and I-95 and its connectors came to New Haven and smashed through between the railroad station and the old town, destroying everything in their path. And I-95 went on down the east coast, reaming out the centers of cities, scattering neighborhoods, mostly those of black Americans, all the way to Miami, where as its last act it obliterated Overtown, an African American community of long standing, where Cab Calloway had delighted to sing."

—VINCENT SCULLY, 1999

WE ARE A CULTURE OF PRODUCTION AND CONsumption. We produce and consume so much because we borrow so much. We borrow from the past when we burn fossil fuels and clear-cut ancient forests. We borrow from the present when

we overfertilize the land and overfish the oceans. And we borrow from the future when we bequeath government deficits and chemical toxins to our children. Put less gently, we are robbers: by plundering the planet's savings account and squandering its income, we rob future generations of a good and decent life and maybe of life itself.

The First to Sprawl

No phenomenon embodies and sponsors our predicament more than suburban sprawl does at this point in our history. The United States is the first nation to distribute its metropolitan populations at extremely low densities across the countryside, to achieve that unlikely mix of both sprawl and congestion. The American metropolis is far less dense than its counterparts in Europe, Asia, and other parts of the world—about a third as dense as metropolitan Paris and a thirtieth as dense as metropolitan Hong Kong. And it is getting less dense every year. Only recently have cities begun to sprawl.

> Since the first cities of the ancient Near East, cities have existed to define a center. The Egyptian hieroglyph for the city was a cross inscribed in a circle—the idea of a crossroads or center combined with that of a defined border. In Hellenistic and Roman times the very form of the classical city expressed the idea of a center around which a hinterland was organized; later, the Renaissance used the techniques of linear perspective along great boulevards to reinforce the meaning and dominance of the core. . . . The coming of the global trading city and the 19th-century industrial city did not contradict but reinforced the desire to create classical urban space at least at the city's core.[1]

Why are we the first suburban culture in history, with more people residing in the suburbs than in the city or country? An underlying reason for spreading out is the historical propensity of Americans to depend on expansion, growth, and the new start as a way to solve difficult problems. Westward expansion across a vast continent provided a giant safety valve. Abundant natural resources supplied inexpensive building materials. Compared to other cultures, Americans opted for bigness over quality—big houses with big rooms, quickly constructed on big parcels of land. They also opted for newness, perpetually starting over again, rather than sticking it out in the old place and reworking it until they got it right. Waste, largeness, obsolescence, and impermanence were not worrisome. There was plenty of room and resources; and no reason to crowd together in small dwellings in tightly packed communities.

Our agrarian roots and pioneer spirit held the promise of generous acreage and commodious homes. There were no compelling reasons for permanence, fru-

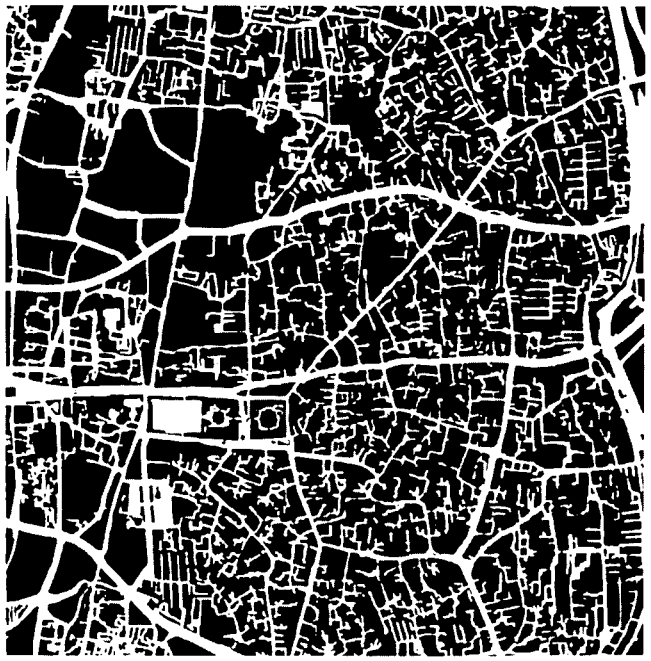
gality, or sustainable practices. In fact, there were social and political pressures to be free of these restraints and shed the crowded and oppressive European or Asian models of dwelling and community from which many of our forebears emigrated or escaped.

Another factor in the American way of life is physical mobility. The typical household now moves more frequently than it votes for president or watches the summer Olympics. This transience has deterred the investment in housing of more permanent construction, which is less expensive in the long run than shorter-lived buildings. The easy ownership of automobiles and the vast highway and interstate system amplifies this mobility. Both have made it more convenient and attractive to move to and commute to pastures that are presumably greener. Moving is not the physical ordeal today that it once was when, for instance, the farmhands migrated westward in the 1930s, so vividly depicted in *The Grapes of Wrath*. Whether for executives being shuffled around by national corporations or for migrant workers, modern vehicles and highways have made migration much easier—with inevitable dissipation in the sense of community.

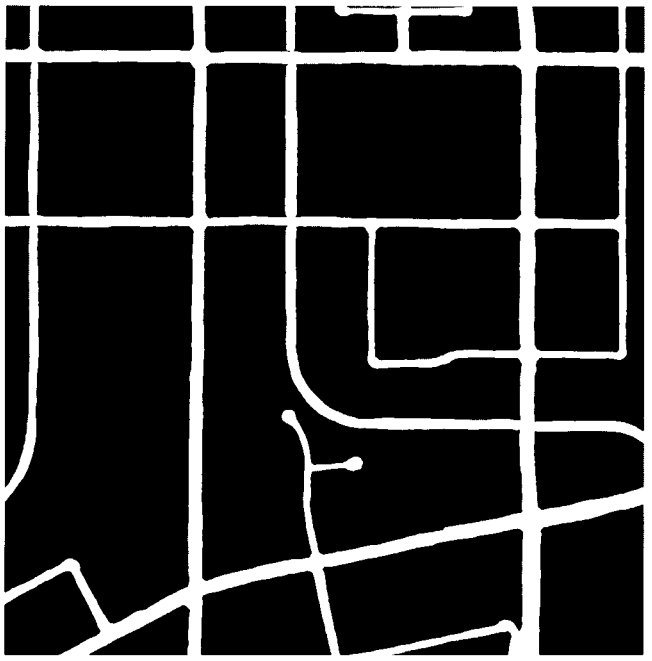
Automobiles and automobility are by now deeply rooted in American culture. There is now one motor vehicle for every licensed driver, nearly twice as many per capita as a generation ago. Cars and trucks are a major part of our modern folklore, mythology, movies (*American Graffiti, Hud, Batman, Road Warrior*), art world (Cadillac Ranch), music (The Beach Boys, Don McLean), sports world (Indy, stockcar, and drag racing), entertainment world (demolition derby, monster trucks), styling world (car shows), and media (TV and magazine advertising, Click and Clack). They are also fundamental to our economy, providing many jobs in designing, manufacturing, repairing, servicing, and fueling cars—not to mention the need for roads and bridges, police, insurance, etc. Automobiles are objects of desire as well as of mobility and represent some of the more beautiful and refined industrial designs of the century. Their bodies, grilles, headlights, and tailfins titillate us everywhere we go.

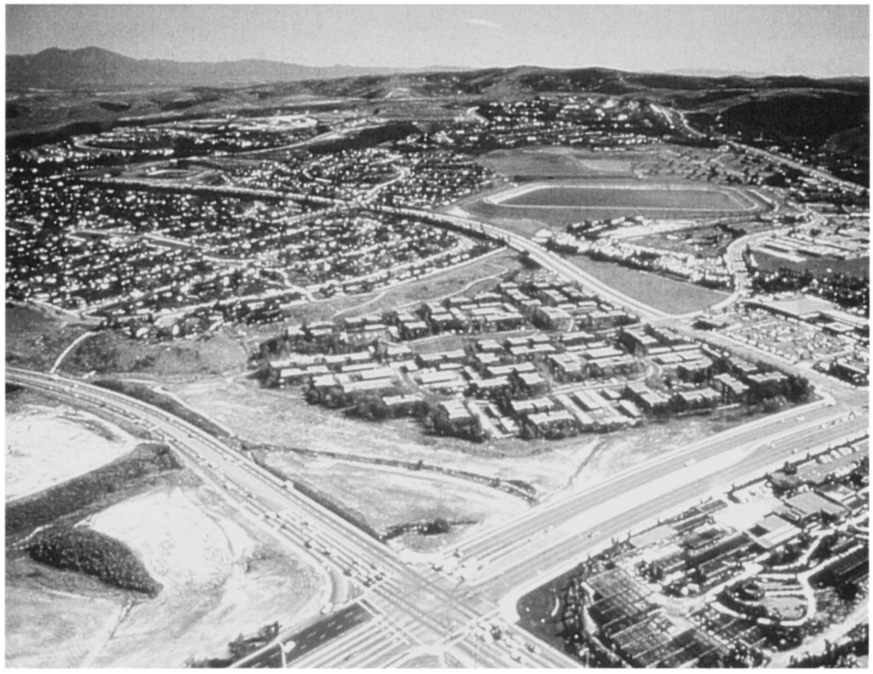
Automobile names "are the single largest set of discriminated nouns in English. . . . The typical 26-year-old American man can name 12 to 20 colors, maybe 15 fruits, but he can name 60 or 70 cars and tell you something about most of them."[2] Americans also put a lot of money where their mouths are. Young people spend four billion dollars a year customizing their cars, not to mention what they spend to buy them in the first place. We are not going to exorcise automobiles from our culture in the foreseeable future. Nor do we have to. We can, however, tame these metallic monsters and return them to an expeditious and pleasurable mode of travel, rather than the addictive answer to our restlessness.

Our national restlessness seems to go hand in hand with the local traffic we have come to expect daily on our crowded roads. Gone is the sheer joy of driving—the exhilaration of acceleration and the wind-in-the-hair, heart-in-the-mouth thrill of moving effortlessly and fast along an open highway. Life on the



What a difference the car makes in urbanism. The top diagram is of public streets in Ahmedabad, an Indian city founded in the fifteenth century; at the bottom is Irvine, California, established in mid-twentieth century. The former is pre-automobile; the latter is planned for the automobile and is, remarkably, drawn at the same scale. (Allan Jacobs, Great Streets, MIT Press))





The biggest perpetuator of sprawl is zoning that segregates different land uses into large, single-use zones that are monocultures, i.e., all garden apartments, all single-family houses, all retail, all office. Large arterials separate these areas like rivers, impassable to pedestrians and often gridlocked for automobiles.

run has become the norm, and the transportation network is overloaded. Gridlock is no longer just a rush-hour phenomenon. It occurs much of the time in much of the metropolis here and abroad. "In the 1950s a similar situation faced two other cities, Tokyo and Seoul. Tokyo opted for a mass transportation system that today is respected the world over. Seoul went for more roads; today the city has twenty-eight lane highways and traffic jams that would impress even a Manhattan taxi driver."[3]

Not long ago the Southern California Association of Governments, including some thirty municipalities around Los Angeles, commissioned a computer simulation of traffic in the year 2010. It modeled many possibilities, among them double-decking highways, additional lanes, expanded bus and rail transit service, and staggered work hours. They concluded that nothing that could be done to add capacity to the system would have a lasting effect on congestion—except for one strategy that was not a transportation fix per se. Mixed-use neighborhoods, because they eliminate the need for trips in the first place, were found to offer a permanent solution to traffic congestion!

American metropolises have managed to do the impossible: to sprawl at very

low densities and choke themselves with traffic congestion at the same time. If we are going to make metropolitan areas that are more livable, more affordable, and more sustainable, we need new paradigms and mixed-use models that do not perpetuate sprawl and that recognize its economic, social, and environmental costs. Peter Calthorpe and Henry Richmond have succinctly summed up the situation:

> Unrestrained sprawl around our cities is generating profound environmental stress, intractable traffic congestion, a dearth of affordable housing, loss of irreplaceable open space, disinvestment in our inner cities, and life-styles which burden working families and isolate elderly and singles. We are using land planning strategies that are 40 years old and no longer relevant or affordable to today's culture. We are still building World War II suburbs as if families were large and had only one breadwinner, as if jobs were all downtown, as if land and energy were endless and as if another lane on the freeway would end traffic congestion. It is time to overhaul the American dream, returning to the values and patterns of our traditional towns—diversity, community, frugality, and human scale. We must move back from cul de sac subdivisions to elm street neighborhoods, from drive-through commercial strips to main street communities, quite simply from segregated sprawl to places more like traditional American towns.[4]

A Primer on Costs

Some thoughts on the nature and definition of costs may be helpful before tallying the costs of sprawl. There are two important distinctions to be made for the purposes of this book. First, there is the distinction between public costs and private costs. Public costs, a.k.a. social costs, are the ones borne by all of society, or at least by a large group or class within it. These costs are exacted primarily through government taxation or through collective sacrifice or loss. Private costs are the ones paid in the market by individuals for goods and services.

There is also the distinction between cost and price. Price is the numerical value affixed to goods and services by the market. It is driven by supply and demand, although often modified by taxes or subsidies. Cost, sometimes referred to as true cost, is the fully reckoned cost of providing goods or services. It includes both direct and indirect costs. Direct costs include expenditures by the supplier for items such as design, supplies, raw material, manufacturing, packaging, transportation, advertising, sales, transaction fees, and profit. Indirect costs include environmental and social costs or subsidies that are not reflected in the price. They are often called externalities, a term that also can refer to either costs or benefits that accrue to a third party. External costs refer to measurable costs, such as environmental clean-up or disposal costs, and to less quantifiable costs or losses,

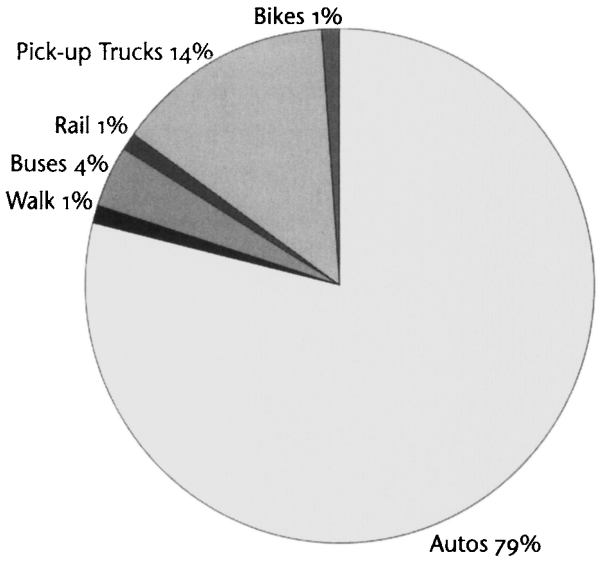
such as degradation of the quality of life; loss of comfort, convenience, or time through congestion, crime, or negligence; or outright loss of life. These externalities are borne by individuals or society or both.

However brilliant and quick the market may be at establishing price for a given product or service, it is not very good at determining cost including externalities. In a more perfect market, the true and total cost would be more accurately reflected in the price. A closer correlation between cost and price would serve to assign the costs for goods and services to the actual beneficiaries of those goods and services. Although there may be cases or times when society decides it is advantageous to favor or penalize a particular enterprise, sector of the market, or segment of the population, a society has a greater chance of equity and sustainability when market prices square with true costs. Without such accountability, society or an economic unit within it can make foolish decisions and transactions. This is one of the main reasons that the former eastern block of Socialist European countries, whose centrally planned and managed economies failed to factor in industrial pollution, ruined vast reaches of their environment. Even if the pricing for small items is below cost, it can result in minor environmental deficits that can accumulate into disastrous results. The everyday use of millions of underpriced aerosol cans, for example, has quickly helped to open a bald spot in the planet's ozone layer. Underpricing can result in false savings and deep risks.

Last, there are subsidies. These are attempts, usually by the public sector but also by the private sector (in the form of charitable contributions), to benefit a particular industry, institution, region, or segment of the population. This assistance can be through grants, services, or tax relief. Sometimes they are out in the open and well known (e.g., the National Endowments for the Arts and the Humanities or agricultural price supports), and sometimes they are hidden and hard to trace (e.g., the oil depletion allowance; defense contracts that aid corporate research and development; military commitments that benefit a particular foreign investment; reduced tuition at state universities). Government subsidies are often hidden because special interest groups have successfully lobbied for favorable policies, taxes, or tariffs that are too subtle, complex, or numerous for the average citizen to follow. Private gifts and grants are often publicly acknowledged, but they, too, are sometimes anonymous or secret for the sake of the donor and/or the recipient. Because subsidies, including many to suburbia, are often hard to understand and track, it is important that we account for them publicly.

The Economic Costs of Sprawl

Government subsidies have played a large role in promoting low-density suburban development. The federal income tax deduction for home-mortgage inter-



"The price of private vehicle travel in the United States is very low. Private vehicle users do not pay directly for the pollution they generate or the congestion they impose on other travelers. Police and other emergency services, maintenance of local roads, and many other parts of the transportation system are supported indirectly by property and other taxes. Gasoline taxes, vehicle-registration fees, driver's license fees, and automobile taxes are lower here than anywhere in the developed world. Parking is offered free to most workers and shoppers. Given the extent of subsidies to private vehicle use, we should not be surprised that other forms of transportation cannot compete. . . ."
(Genevieve Giuliano, "The Weakening of the Land Use/Transportation Connection," On the Ground, *summer, 1995, pp.13–14; pie chart, p. 4.)*

est payments has had a powerful impact on home ownership, raising it to among the world's highest rates—65 percent, almost double the turn-of-the-century rate. However, this tax policy has tended to encourage the construction of detached single-family houses, most often in suburbs. This single tax provision costs the federal treasury an estimated $50 to $90 billion a year, making it in effect the broadest and most expensive welfare program in the U.S.A. Earlier this century, the federal government intervened after the Great Depression to bail out the banks that were financing suburban homes. Later, FHA loan guarantees and VA loans made long-term and low-interest mortgages available to homebuyers (not for renovation of existing homes), who were purchasing new homes for the most part in suburbia.

Another oft-cited subsidy is the federal road-building program, which promoted automobile usage almost to the exclusion of rail transit. The interstate highways that radiate from and ring our central cities have made inexpensive land on the urban fringe suddenly accessible. It is estimated that revenues raised at the federal and state levels from vehicle use covers only 60 percent of the cost of building and maintaining roads and bridges.[5] Federal grants have allowed the extensive construction of sewers for suburbia. Tax policy that allows businesses to write off the expense of providing free parking to their customers or employ-

ees, who don't have to declare it as income, is another loophole. The post–World War II policy of federal, state, and many municipal governments to decentralize their own offices and facilities has also encouraged sprawl. American defense policy also spurred defense contractors to locate new plants outside the city centers. In general, the perceived threat of nuclear attack during the Cold War prompted federal policies that favored decentralization.

Some subsidies are less obvious. Federal energy subsidies such as the oil depletion allowance and support of nuclear and hydroelectric power are examples. They have helped provide the cheap energy required for operating a typical suburban household—whether it is the oil, gas, or electricity to heat a large freestanding suburban house or the gasoline to power the eleven automobile trips made per day by the typical suburban household. (Many of these "trips" are linked together; this number represents the number of travel segments; i.e., a round trip to work equals two trips; if you stop at the store, it's three trips. Nonetheless, the number and length of trips continues to rise per capita.) This incredible rate of automobile usage is perhaps the most damning of all suburban statistics. There are virtually no work or shopping trips taken by foot or by bus or rail in the suburbs, and there are few pedestrians on the sidewalks, should sidewalks exist. Aside from the cost of owning and maintaining the automobile, work commutation to, from, and within suburbia is relatively cheap compared to true costs or to earlier times. Over time, the monetary *price* of commuting has dropped dramatically if the hassle and the cost have increased. "Turn-of-the-century streetcar commuters spent about 20% of their daily wages on the work trip; urban auto commuters now spend about 7%."[6]

A subsidy of another kind is the profound cost paid by the American people in highway deaths and injuries. Pedestrian-automobile accidents are the leading cause of death among children aged five to fourteen. Automobile accidents of all types are the leading cause of death among Americans aged fifteen to twenty-four.[7] All told, automobiles have maimed or injured 250 million Americans, and killed more Americans than have died in all the wars in the country's history. They also kill a million wild animals per week, from deer and elk to birds, frogs, and opossums, plus tens of thousands of domestic pets."[8] Although the death rate per motor vehicle mile is way down (perhaps as much as eight times) since pre–WWI rates, the much greater number of miles driven has cancelled out this prodigious achievement. Northwest Environment Watch's Alan Durning has made a very provocative statement in *The Car and the City* that, despite higher crime rates in the inner city, the suburbs are the more dangerous place to live. This is because suburbanites "drive three times as much, and twice as fast, as urban dwellers. All told, city dwellers are much safer."[9] Far more people are killed and injured violently by cars than by guns and knives in the American metropolis.

Probably the least obvious government subsidy is that part of our national defense budget used to secure or maintain sources of oil. This indirect subsidy

sometimes takes the form of war, as it did in the Persian Gulf, with its consequent loss of life and property. The securing and defending of distant oil fields and shipping lanes by armed forces is a cost not paid at the gas pump. Durning's little book goes on to point out that our security interests in the Middle East added about $40 billion to our annual military budgets during the 1980s. Keeping a naval fleet off the Gulf of Oman and fighting terrorists in Afghanistan are expenses we rarely associate with our automobile dependence. Most of these energy subsidies result in large-scale but relatively hidden income redistribution—from people who drive less to people who drive more, from city residents to suburban residents, and from poorer households to richer households. There is regressive social engineering embedded in these policies, perhaps unintended but nonetheless unfair.

The availability of cheap land and the subsidized roads, sewers, and utilities that serve it have probably been the biggest causes of the rise of *homo suburbus* and the suburban lifestyle and economy. Underpriced land has reduced the capital cost of the suburban home, and underpriced fossil fuels have reduced the operating costs of suburban living. And the subsidized infrastructure has veiled the cost of low-density suburban zoning. Together, artificially cheap land, infrastructure, and transportation have masked the costs of suburban housing and a regressive redistribution of wealth. We have fooled ourselves into thinking we can afford this wasteful pattern of settlement.

Because the home and the workplace are entirely separated from each other, often by a long auto trip, suburban living has grown to mean a complete, well-serviced, self-contained residential community, a complete, well-serviced place of work such as an office park, and a self-contained mall for shopping. In a sense, we are constructing three freestanding communities where we used to have a single, integrated one: a town. Three communities cost more than one; there is not only the duplication of infrastructure but often of services, institutions, and retail, not to mention a parking space or garage for each car in each community.

As the cost of suburban development and the role of subsidies are becoming better understood, communities are forcing developers to pay impact fees or some equivalent assessment. These fees are for off-site improvements such as roads, sewers, and schools. They are usually passed on to the housing buyer or renter in the form of higher prices and rents. In a sense they are paid by the developer on behalf of the future residents, although there is also evidence that the farmers who sell the land to developers are being forced to absorb some of the impact fees by dropping their asking prices. This "concurrency" requirement that the developer pays up front for costs incurred by the development has not yet become fully accepted by the real estate development community. Many developers want to repeal or reduce impact fees and assessments.

Impact fees, however, are usually not high enough to cover the marginal costs of providing off-site infrastructure for new suburban developments.

Researchers at Florida State University estimate that the true cost of sewer service alone to a new home ranges from $2,700 to $25,000—far higher at the upper end of the range than most impact fees, which are also meant to offset road, utility, school costs, etc. This means that new homes, which are usually purchased by more affluent households, are subsidized by poorer households. These studies also suggest that the premium for providing services to three-unit-per-acre sprawl located ten miles out is $48,000 per house, or twice that of a twelve-unit-per-acre development closer in.[10] These cost estimates have only gone up since they were made in the mid-1990s. Moreover, none of these figures reflects environmental costs and other economic externalities. The assignment of infrastructure costs to the developer shifts some of society's costs to the private sector, where additional capital must be raised. Developers take large risks and should be rewarded accordingly. However, they should not be allowed to socialize all the risks and privatize all the gains. Their profits, which can be obscenely high when cheap land is upzoned and developed, should be more heavily assessed when local governments absorb many of the costs and reduce many of the risks.

The ancient, ongoing shell game between the public and private sectors, between society and the individual, and between buyer and seller must be recognized as essentially a zero-sum game. While the shell game can be made more economically equitable among the players, it can never represent a net saving to society. Concurrency is part of a legitimate political and moral question of economic fairness—do those who benefit pay their fair share? It is also a question of economic feasibility. Suburban development is too expensive in absolute terms for the combined means of government and its citizens. Suburban sprawl is bankrupting local and state governments, which are falling behind on social service programs among others. The economy of sprawl also may be contributing in unrecognized ways to the federal deficit and has finally gained the attention of national politicians, under the banner of "livable communities." Yet we continue to subsidize suburbia.

There is growing consensus that suburban land use and transportation patterns are not economically sustainable—at least at their present scale and pace. This is not to say that suburbia or the automobile is destined to disappear. Suburban living may remain the preferred alternative for many. The option for citizens to live at lower densities can be maintained, but the full costs of such lifestyles should be more equitably distributed and more accurately reflected in higher purchase prices or rents. Suburban residents of the future should have to pay their way and not expect society to continue to shoulder some of the indirect costs.

For those who are willing and able to pay the higher premium to live in arcadia, more environmentally benign ways to dwell in single-family homes at lower densities must be developed. More sensitive ways to insert single-family homes into rural settings without degrading the environment are also needed. First, homes can and should become smaller to reflect not only true construction and land

The disinvestment in the city can be dramatic and demoralizing. Hulks of well-designed substantial buildings haunt surrounding vacant lots in many U.S. inner cities, waiting forlornly for refurbishment or replacement. At their worst, American cities may not be the poorest in the world, but they are the emptiest.

costs but also shrinking households. (Between 1960 and 1990, American houses grew in area by 50 percent while household size shrunk from 3.4 to 2.7 persons.) Second, detached dwellings on large lots should incorporate passive solar heating and cooling, as well as composting toilets, native plants, organic gardening, green construction, and more efficient vehicles. Last, rural development should preserve open space, agriculture, habitat, wetlands, and other critical areas.

Not only is suburban sprawl expensive in and of itself, it usually adds to the economic woes of the inner city. Suburban investment is often matched by urban disinvestment. This is especially true of East Coast cities, many of which have been hollowed out at the core. There is only so much money to go around, and the older, central cities are hemorrhaging capital income and tax base to their suburban fringes. This makes the economic costs of sprawl even higher: savings are foregone by leaving behind an underutilized physical and institutional infrastructure. It's not only the redundant schools, roads, bridges, sewers, and utilities. Building new firehouses, libraries, police stations, and parks outside our cities when they are already in place in our urban neighborhoods is economically redundant. Built during times when we spent a higher percentage of income on buildings, the existing facilities are typically of higher architectural quality, especially in terms of craftsmanship and materials. The common response that renovation of existing facilities is more expensive than new construction fails to recognize the lower quality of contemporary construction.

The Environmental Costs of Sprawl

Our continent has tolerated wasteful and rapacious American settlement patterns for several centuries. The land, air, and water have been vast enough to absorb our excesses and our wastes. Indeed, nature was once feared as the world of the heathen and even of the devil. Then it was something to be subjugated and tamed, first by farmers with their plows and then by engineers with their railroads, highways, bridges, canals, and dams. By the end of the twentieth century, we have gone from thinking of the wilderness as threatening and evil to thinking of it as threatened and sublime. We have taken shortsighted advantage of its forgiving size and abundance. We have liquidated our environmental trust fund in the currency of pleasure, convenience, profit, or environmental indifference and become the world's greatest polluters per person. We can no longer foul our planetary nest at the present rate; nor can we continue to live the environmental lifestyle to which we are accustomed.

"The United States is the world's largest polluter of the atmosphere, alone emitting nearly one fifth of the world's greenhouse gases annually (which means that we're contributing roughly four times our per capita share to global warming). . . . Our rapidly expanding automobile fleet is the largest greenhouse gas

Because the contemporary American city is often 60 percent paved (plus roofs), little of the sun's energy is absorbed by vegetation, thereby heating up the pavement and overtaxing air conditioners. Run-off from streets and roads accounts for more water and ground pollution than all point-source water pollution, i.e., from industrial sources.

producer."[11] The other major cause of greenhouse pollution is the high vehicle miles traveled (VMT) associated with sprawl. A week of twenty-five-mile commutes to and from work plus weekend errands typically pumps two forty-pound sacks of carbon into the air shed. (A car that averages less than the national norm of 21.5 MPG adds even more carbon dioxide to the atmosphere through the tailpipe and through losses at the refinery.) Government policies have attempted to cut fuel consumption by increasing the fuel efficiency of cars and trucks rather than reducing sprawl. The new car fleet went from 13 MPG in 1973 to 29 MPG in 1989, but has since fallen. This improvement was impressive but was outstripped by the explosive growth in use of internal-combustion vehicles and was well below what was technically possible for Detroit automakers. Ironically, the United States transportation sector may burn more and more fuel because of, not in spite of, improvements in fuel efficiency.

Air pollution is a symptom of sprawl that cannot be cured without treating the underlying malady. Despite more stringent tailpipe emission standards, traffic increases are predicted to make air pollutants even worse in the future. Traffic

Carpooling is not a new urgency. During World War II it was thought to be a significant enough economic factor to mount a national campaign. Now we realize it is also a significant environmental factor, worthy of another campaign.

congestion not only increases the production of pollutants, it also wastes gasoline. Reducing highway congestion by building more metropolitan highways is self-defeating and ineffectual: they add to sprawl and generate more and longer trips. We must reduce the need for trips by mixed-use land planning. We also need planning that encourages ride-sharing and carpooling, which means mixed-use workplaces where passengers can reach lunchtime destinations by foot.

Most cars on the roads carry only one person; currently only 13 percent of commuters share a private vehicle, down from 20 percent in 1980.[12] We have so much extra room in our cars, it has been estimated that everyone in Western Europe could fit in them with us.[13] High Vehicle Miles Traveled is, after all, an index of economic and social dysfunction; it illustrates that people are not where they want or need to be and therefore must get in a car and drive.

Telecommuting from home by phone, fax, and computer can never replace face-to-face interaction. Nonetheless, it can provide significant relief to the congestion, fuel consumption, and air pollution that results from commuting. In some cases, employers are notifying their white-collar employees that they will no longer provide an office. AT&T expects that "one half of its 123,000 managers will be telecommuting within five years. It is estimated that by the turn of the century, involuntary telecommuting could encompass over 30 million information workers."[14] Other experts estimate that such phenomena as telecommuting and e-commerce will only come to affect about 10 to 15 percent of, respectively, commuting trips and retail transactions, which presumably may reduce trips to the store to a commensurate degree. Whether voluntary or not, bringing work back home to domestic space could ultimately build a greater sense of community. Having the breadwinner home with the bread baker means more balanced neighborhoods. In some households, it could mean more and better balanced family life.

Whether it be the preservation of clean air, open space, wetlands, wildlife habitat, clean water, or scenic views, environmental stewardship will cost us money—a great deal of money, as highlighted by the multibillion dollar Superfund, to fully clean up brownfields. As stated earlier, our market economy efficiently determines price, but is notoriously weak in acknowledging hidden

costs. It doesn't assign costs to intangible losses such as air pollution and oil spills. Clean-up costs are actually counted as "economic activity" and add to our GNP (as do health care costs and hospital stays). When the costs of a clean environment are added to the direct and indirect economic costs of low-density development, sprawl becomes even less tenable. And there are many other well-known environmental pathologies of sprawl, such as a lowered water table, excessive storm water run-off, and loss of agricultural land, that are beyond the scope of this book.

The Social Costs of Sprawl

The social costs of suburbia are the most elusive but also the most explosive. The flight of the middle class from city to suburb is a well-documented demographic shift in America. The census now counts half of the United States population as suburban, up from a third in 1960 and a quarter in 1950. Since the 1950s, racial tensions have caused the "white flight" to suburban communities, schools, and social institutions. Indeed, scholars such as Kenneth Jackson in his *The Crabgrass Frontier* argue that race may have been the major factor in this demographic shift, at least in the nation's large eastern cities. But now middle-class African Americans, Latinos, and Asian Americans are moving in large numbers to the suburbs.

Racial tension notwithstanding, homebuyers often seek out like-minded neighbors and retreat into familiar and secure surroundings. "Sociologists take the rural-urban migration of the nineteenth century to be the result of economic compulsion, but the twentieth century exodus into the suburbs tends to be explained by the notion of a 'search for environment.'"[15] Anthony Downs of the Brookings Institute points out that "there is the temptation of the most successful Americans to 'secede' from the society of the majority, and especially of low-income households, by withdrawing into exclusive enclaves inhabited only by other economically prosperous people like themselves: this temptation is especially prevalent in suburban communities."[16]

Not only is this voluntary social withdrawal common in suburbia, there is often outright opposition to low-income and higher-density housing. There are several reasons, articulated again by Anthony Downs:

> The first reason [for the opposition] is that most Americans do not want to live in neighborhoods with people poorer than themselves for social reasons. They want to establish and reinforce their own social and economic status by living with others whose socioeconomic levels are as good as or better than their own. Also, many Americans believe that poorer households have different values and

behavior patterns—such as a greater propensity to commit crimes. And many whites associate poorer households with ethnic groups they dislike, such as blacks and Hispanics. That may not be ethical, but it is widespread.

As a result of this widespread view (plus our use of the trickle-down process to house the poor), we establish a definite social economic hierarchy of residential neighborhoods within every metropolitan area. This enables people of each socioeconomic level to live together, and it therefore benefits the vast majority—at least in their own eyes. It also compels the very poorest households to live together in extremely poor areas.

The poor are legally excluded from higher-income communities by local laws that deliberately raise housing costs there. This creates severe disadvantages for their life chances and those of their children. Hence it is a fundamentally unjust arrangement.

Wealthier residents also resist lower-income housing because they fear their property values will be reduced. Homeowners dominate suburban electorates, and their primary assets are their homes. In fact, homeowners want housing prices in their towns to rise, not fall, since that increases the value of their main assets. They believe letting lower-priced homes into their communities will reduce property values there.[17]

Rigid social hierarchy and exclusivity are exactly what many colonists and later immigrants sought to escape when they came to America. We would be better sustained if our communities were more mixed in socioeconomic, racial, and ethnic terms. It is better to take out our differences with our fellow citizens on a day-to-day basis in mixed communities, where we rub shoulders in a true public realm with everyone, including people we don't understand and don't like. Many small face-to-face encounters, however unpleasant, are better than infrequent but cataclysmic violence, whether it be mugging, civil insurrection, or terrorism. Living on cul-de-sacs in monosocial, gated subdivisions and communicating by telephone, fax, and computer may be more comfortable but is a long-term recipe for social disaster.

A recent market study found that fifty out of fifty of the most recent market rate projects in suburban New York City were gated.[18] This is an extreme case, but real estate agents speculate that a third of all new development in Southern California in the last five years has been gated and regulated by private covenants.[19] These private worlds are free from random encounters, encouraging not only social aloofness but an unwillingness to support public schools, parks, even roads. This kind of separation breeds ignorance and misunderstanding and builds tension. This tension, allowed to fester long enough, is likely ultimately to erupt in violence and confrontation. In more than a symbolic sense, the price of suburban insularity was the rioting in the inner city neighborhoods of Los Angeles.

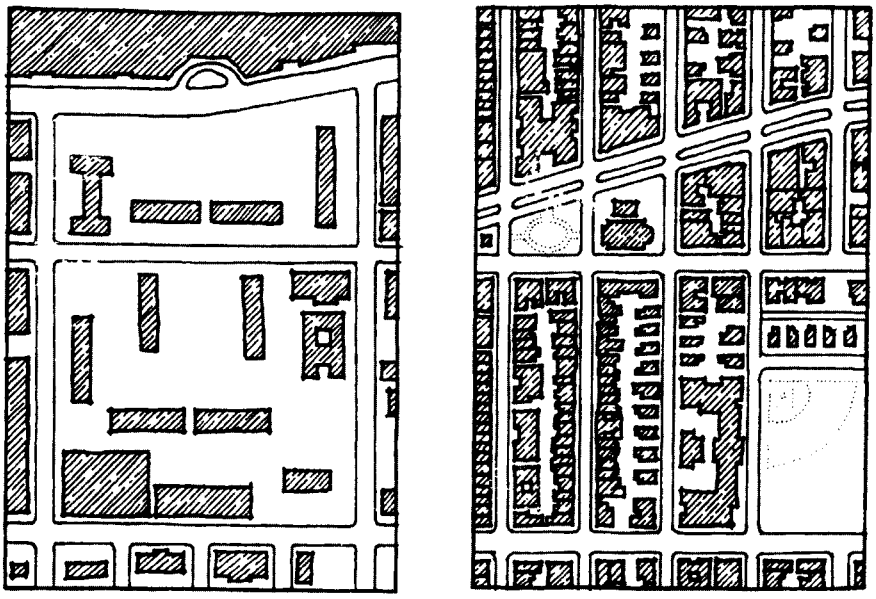
Violent crime is not limited to the inner city. The most obvious signs of social malaise—youth violence and substance abuse—are becoming more widespread in suburbia. If adolescents are any measure of social health and if stable and cohesive communities generate less pathological behavior in youths, there is reason to believe there are problems brewing in the suburbs and that violent outbursts by high school students are part of a bigger pattern of alienation. "Nothing really local is left, and there is nothing to distinguish one town from the next. It is ironic to notice, as we sacrifice coherence and sense of place, that a major preoccupation of youth gangs is with marking territory, with defining their 'place.' . . . If we tour through large sections of the suburbs, we might well ask 'Why wouldn't a kid join a gang, growing up here?' "[20] Although suburbs do not in and of themselves cause gangs and youth violence, their lack of physical coherence, public space, local businesses, and palpable identity surely contribute to social trauma and failure in the suburbs.

Not only is civil and criminal violence tragic and traumatic, it is economically counterproductive—in the cost of clean-up and rebuilding but also in the cost of the law enforcement, legal, and prison systems that attempt to deter it. Some states now spend more on prisons than universities. In the long run, our country and our region are going to survive in global competition and in human terms only with the realization of the potential of all its population, not just the affluent.

The Architectural Costs of Sprawl

There are also several architectural costs associated with sprawl. They can be divided into categories: banalization, scalelessness, commodification, and typological impoverishment. Another way of describing these costs is as losses: loss of architectural detail, loss of human/pedestrian scale, loss of local authenticity, and loss and confusion of architectural types. These losses apply to all contemporary architecture, but they are usually more acute in suburbia.

Architectural banalization is another negative byproduct of the automobile. Designing buildings for the side of the highway, to be seen at high speed through a windshield, is a different problem from designing them for a pedestrian environment. For the former, the building must be set further back from the curb and possibly sited at an angle to it, so as to present a wider face to the faster-moving viewer. Also, the building won't be detailed as richly or as authentically, because few people will get close enough to it to scrutinize or appreciate any virtuosity at the small scale. Compared to traditional architecture, which rewards approach and inspection, the architecture of the commercial strip is a cartoon. Sometimes exaggerating but always simplifying the imagery, it tends to flatten, cheapen, and trivialize the building. The architecture of the strip tends to be two-



auto scale pedestrian scale

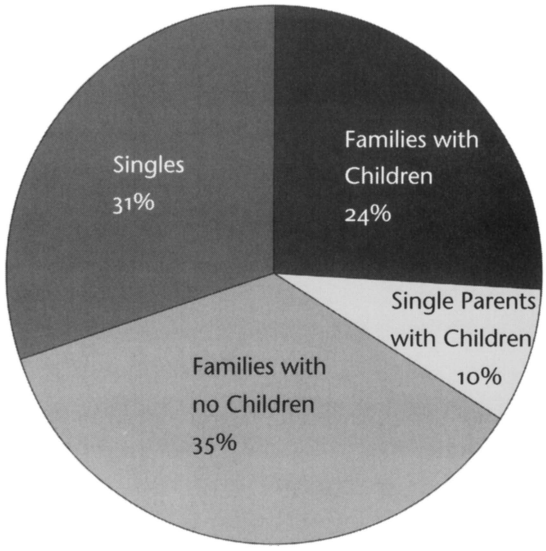
The automobile and our growing dependence on it have slowly changed our built environment to a completely different scale and pattern than prevailed in the American city before World War II. Building footprints are bigger and farther apart, and normal city blocks have been combined into or designed as superblocks. (Calthorpe Associates)

dimensional—like the signboard that sits out in front of the obligatory parking lot and is often grander, more carefully designed, and crafted with better materials than the building it advertises.

Another architectural byproduct of the automobile is the loss of human scale. The suburban strip is a place where buildings are often very large in footprint and surrounded by parking lots even larger. The parking lots are oceanic, designed to a formula of some 350 square feet of parking outside for every 200 or 250 square feet of retail space inside. Along the highway strip of offices and stores, horizontal distances between buildings are vast. There is a corresponding lack of vertical dimension in these one-story buildings of big, simple footprints. The dearth of human-scaled, outdoor space enclosed by humane architecture can make for bleak, wind-swept wastelands piled high with dirty snow in winter and hot, hazy wastelands sweltering with asphaltic fumes in summer.

In the parking lot, the human body is no longer the basic measure of architecture, just as the pedestrian is no longer the design determinant of the street. Scalelessness can also be a problem in the inner city, where the erosion of fabric has been social as well as spatial. To quote a recent HUD document: "In its most concrete expression, human scale is the stoop of a rowhouse or the front porch

Household Composition in 1998



The housing market tends to overbuild for some household types and underbuild for others. This chart, based on U.S. Census Bureau figures, vividly illustrates one of the more surprising demographic shifts: the overwhelming number of households in America are not nuclear families with children—the families for whom suburbia was originally conceived. Among new households formed in 1998, nuclear families with children are an even smaller slice of the pie, approximately one in four. And the average household in America has dropped from 4.8 people in 1900 to less than 2.6 people in 2000. Yet we still build residential developments as if most households need large homes with many bedrooms and bathrooms.

of a home rather than the stairwell of a high-rise; it is a cop walking a beat rather than the helicopter overhead. Human scale in housing means creating homes with individualized detail, identity, and a sense of place."[21]

Like much of contemporary culture, architectural design has been commodified for the marketplace. The gift-wrapping of Postmodern buildings, nowhere more obvious than in a suburban shopping mall or office park, is indicative of how commercialized and trivialized the role of the architect has become. The design of retail architecture is usually formulaic, superficial, and divorced from place, however sophisticated its imagery and packaging may be. It is also repetitive, with many buildings identically designed except for their signs and facades. Many retail buildings are chain stores or franchises, often with national or regional affiliation. Nor are arterial strip stores constructed very well or very permanently, because their owners see them as quick investments. Wal-Mart expects and sometimes gets a payback period of less than two years for some of its big-box stores. This expectation renders buildings more like office equipment and supplies than a capital investment. No wonder the architecture is trash, literally.

The residential architecture of the subdivision is no better than its commercial counterpart. Houses are often designed by builders or their engineers, who are looking for ways to offer inexpensive homes with a splash of variety. While this

is a predictable, even commendable, intention, it results in cosmetic differences. The stylistic variations in speculative development tend to cater to the least common denominator. "Greige" becomes the standard color and hodgepodges of colonial, modern, rustic, French provincial, or Mediterranean become the architectural norm. Such is the nature, quite understandable given the risks, of speculative building. The commodification of taste cannot be blamed on the developer, although some clearly take design less seriously than others. The speculative real estate system and the consumer mentality themselves are to blame.

Finally, suburban architecture tends to be more typologically impoverished than urban architecture. Although typology will be discussed at length in chapter 3, mention of it must be made now. An architectural type is, to employ a tautology, a typical or standard building configuration. Commercial types in the suburbs include the corner gas station, the single-story strip retail or office building, the tilt-up warehouse or factory, the fast-food restaurant, the big-box discount or "category-killer" store, the shopping mall, and the drive-through bank. Residential types include the ranch, split-level, bi-level, mini-chateau, and center-hall colonial, as well as the garden apartment. The architectural expression and style of these and other housing types usually vary more than for commercial types, although genuine regional differences in domestic architecture are continually being veiled and blunted.

Although quite a few suburban architectural types have been mentioned, the range is less than in a traditional city, where a city hall is typologically distinguished from a church, school, library, or concert hall, which in turn is different from a jail, train station, post office, office building, department store, shop, apartment house, townhouse, bungalow, etc. Nor are different functions always housed in different building forms in the contemporary city. Indeed, the fit between function and form is far from exact in either the suburb or the city, but there is often enough consistency to establish a recognizable hierarchy and some common legibility and meaning in the city. (However, when suburban architectural types such as the mini-chateau, invade the city, the hierarchy becomes confused.) Suburban architectural types are fewer, since different functions are housed in the same forms. A Modernist glass box on a suburban street could be a gas station, an insurance office, a church, or a house.

The looser fit between function and form, also to be discussed in greater detail in chapter 3, has resulted in a less articulate and more confusing built environment. Not only is the function of a building not legible, the distinction between public and private buildings is lost. While this vagueness is true throughout the contemporary metropolis, it is especially true in sprawl. If the public post office looks like a medical office building, the public school like a factory, and the public motor-vehicle inspection station like an automobile repair shop, suburbia is a less intelligible and intelligent place. People who are born and raised in suburbia no doubt develop new sensibilities and antennae that can better read sub-

tleties in their environment. Even so, they are reading a less architecturally thoughtful and less rich text than dwellers in a traditional city.

Other Costs

Ideally, the psychological and health costs of sprawl would be included in this critique. These are the personal tolls that living in a disaggregated community take on us individually, whether they be in suburban, rural, or urban conditions. They are, practically speaking, bottomless, murky, and beyond the scope of this book. However, some things are very clear, such as the obvious health hazards of pollution. (There have been, for instance, major increases in asthma, emphysema, heart disease, and bronchial infections due to air pollution alone.) The impact of traffic on the conviviality of neighborhoods has been measured. It is also clear that endless chauffeuring of children is a heavy burden on parents. What is less obvious is the developmental toll on the kids themselves, for whom healthy autonomy and maturity is postponed. This toll is especially high on children living in suburban nuclear families: "The urban child sees the harshness of the street; the rural child witnesses the frightening operations of nature. Both have contact with an eternal reality denied the suburban middle-class child who is cushioned from risk and fear."[22]

The psychological effects of such things as ennui and privatization are impossible to measure. Nor can we know what long-term impact perpetual driving or TV watching might have. When the weekly "Ozzie and Harriet Show" broadcast a happy picture of suburbia in the 1950s, there were two lanes on the arterials and three channels on television. Some of my youth was spent in the suburbs (of Long Island, Indianapolis, and Houston), where there was, in fact, a remarkably strong sense of neighborliness and a web of conviviality and care. But as pointed out in *The Crabgrass Frontier*, this sense of community is age-skewed. "When people have children, they have a much greater sense of community because the schools foster it. But once the kids have left, you have people moving out and going to Florida, because the community bonds were not strong enough to hold them."[23] (In my case, my father's corporation moved us around every couple of years, with all the concomitant social uprooting and re-rooting; and, sure enough, my father and mother, to whom the first and second versions of this book are earnestly dedicated, ended up retiring to Florida. I'm happy to hear that corporate spouses now are not so willing to move at the corporate snap of a finger and that this assertion of women's rights has changed corporate culture.)

We cannot feel too sanguine about children averaging twenty-six hours of television per week on dozens of channels while their parents scoot out for sev-

enty or eighty automobile trips per week. Unfortunately, many of these conditions and problems are experienced by city dwellers as well. In fact, city residents are more heavily assaulted by some environmental irritants and pollutants. Noise is especially invasive, both in the street and through the less massive walls of cheaply constructed apartment buildings now being built. Any call to greater densities and more urban lifestyles must address issues such as acoustic privacy and noise abatement.

Sociologists, social pundits, screenwriters, and novelists have addressed the psychosocial dysfunction and cultural deficits of sprawl. Some academicians, starting with Herbert Gans's *The Levittowners* in 1967, have recently been more sympathetic to suburban life, but in general the media have been negative. ". . . Hollywood hasn't made the suburbs look healthy since 'Leave it to Beaver' was on television. . . . *Ice Storm*, set in New Canaan, Connecticut said that no grown-up tells the truth in suburbia. In *American Beauty*, the 1999 suburban-life-is-hell movie, the only normal, well-adjusted people are gay. Or dead."[24]

Musicians, poets, and artists seem slower to respond. Unlike the city and the country, few songs have been written about suburbs. No body of music has yet come out of suburbia, unless grunge can be indirectly attributed to the boredom and alienation of suburban teen-agers, and the Beach Boys to the automobile lifestyle of Southern California youth. Jet-lag blues, Ralph Lauren ballads, or fast-food musicals may emerge with time and cultural confidence. Not much strong visual art jumps to mind either, with a few exceptions, like David Hockney's swimming pool paintings. Tellingly, there are few postcards of suburban scenes. However, a book published in 1999 features scores of English picture postcards depicting mid-century scenes of fresh new suburban streetscapes, townscapes, and vistas along motorways. The images seem remarkably innocent and quaint in the twenty-first century but were intended to herald a brave and happy new Modernist world. The book is entitled *Boring Postcards*.

The Shortfalls of the Marketplace

Traditionally, the distribution of goods and services has been left to the market in our economy. This market economy has proven better at creating wealth than any other system known. It has been extremely efficient and fruitful, lifting the average American household to a standard of living that ranks among the very highest in the world. While this chapter does not question the general benefits or efficiency of a market economy, it does challenge the notion that all durable goods are commodities in the same sense as a pork belly or tennis racquet. Housing is a big exception.

Because shelter is a necessity, it requires government interventions in its sup-

ply and demand. Indeed, the federal, state, and local governments have been regulating housing for generations in recognition of the fact that shelter is not a straightforward commodity. (As noted later in the book, the accumulation of these regulations has had a negative effect on housing affordability and density because, despite their good intentions as individual policies and laws, they have been conflicting and duplicative.) However, we still treat housing too much like a commodity and not enough like a necessity, or even a right. The term "commodity" implies that resale value in the market is more important than its inherent use value is to the purchaser/user.

A commodity's price is determined to a great extent by its supply and demand, rather than its cost to design and build. Its mortgage rates are also a function of the supply of and demand for, in this case, money. Both dwelling and mortgage (in a secondary mortgage market) are bought and sold for financial speculation as well as for shelter. This commodification of housing is different from investment in housing, which is the common and productive attempt by homeowners to slowly increase their home's value by buying a well-designed and well-built house or condominium in a good location and prudently maintaining and improving it over the years. Whereas commodifying shelter does not add value to the world, this kind of investment does.

When housing is traded in the marketplace, one person's gain is another person's loss. As long as this is the case, there will be citizens—decent citizens, playing within the rules of our moral and economic system—in whose interest it will be to make housing less affordable. As long as people see their homes as the major investment of their lives, as hedges against inflation, and as their financial nest eggs, there will be economic and social forces in favor of increasing the price of housing. While this may be sound and fiscally understandable behavior for individuals, it is detrimental to that segment of society who cannot afford to buy their first home (or rent in a tight housing market) and get a foothold on a rung in the ladder of real estate trade-ups.

An additional exception to simple supply-and-demand economics has to do with transportation, another sector of the economy that is not pure commodity or service. Vehicle travel has long been subsidized by government and paid for by people other than the user, including future generations who must shoulder government debt. It has been estimated that auto commuters in major cities directly pay for only about one-quarter of the total costs of their commute. The other three-quarters is jointly carried by their employers (free parking), other users (in reduced safety and increased congestion), fellow workers and residents (air and noise pollution), and governments, who pass some of the cost on to future taxpayers.[25] Public transit has been subsidized, although at token levels compared to the automobile.

There are other structural problems with market economics. One is its ten-

dency to be blind to and therefore slowly eliminate extraneous quality from a commodity or service. Because the fierce competition of the market favors the cheapest product that fulfills its demand, minimum quality will tend to prevail. And because the market has trouble putting a price on superfluous quality, it ignores it. Like Gresham's law, which states that bad money will drive out good money, inferior products will tend to displace superior ones, whether watches, housing, or clothes. (And because the market has similar trouble putting a price on externalities like pollution, less environmentally sound products tend to drive out environmentally sound ones.)

Another problem with free markets is the license it gives to multinational corporations. They can play the global marketplace not only for the least expensive labor and materials, but also seek out the most lax environmental and tax laws. In a sense, international corporations are exempt from the ethical strictures of any one culture or place as they maneuver like latter-day pirates, moving capital and management across oceans from one country to another. As a result they are often able to operate with legal and moral impunity or at least with an ethical agency unknown to local and national businesses. This amorality (as opposed to immorality) extends to the boardroom, where many directors, who are otherwise fine, upstanding citizens, can be turned into single-minded, coldhearted warriors of profit—all in the name of fiduciary responsibility to their shareholders. This latter-day corporate capitalism with its global grip and anonymity is a far cry from the small-scale entrepreneurship that built America.

For the last word on shortfalls of the marketplace, I turn to Michael Benedikt and his perceptive analysis of Wal-Mart stores and their hidden costs to which Americans fall prey. There is probably nothing truly new about these clever marketing techniques, just their scale and insidious invisibility, which illustrate the need for eternal vigilance in a free market.

In small towns across America, people flocked to Wal-Mart in spite of the complex damage done to their communities and landscapes, because Wal-Mart presented as simple a proposition and as undemanding a face as is possible: *one-stop* shopping, *guaranteed* lowest prices with, moreover, *no* unwanted *commitment* (your money back if you don't like what you got). Furthermore, there would be no sticky social transactions with the likes of the old pharmacist or hardware store owner, just efficient and smiling youths to help you when you cannot help yourself (!) to the cornucopia. Simple as 1–2–3. Long hours, easy access, and plenty of parking too! Availing themselves, almost robotically, of this sort of simplicity, ease, and apparent money savings, Americans demonstrate how they choose freedom *at all costs*—as long as the costs are rendered invisible, as when they are diffused into tiny, long-term "quality of life" degradations, as when they are borne by the community rather than themselves, as when they are paid later rather sooner and/or exacted

in . . . non-monetary tokens rather than monetary ones . . . arrangements, all, which aggressive sellers, financiers, and politicians are more than happy to make for them.[26]

Economic Costs to the Household

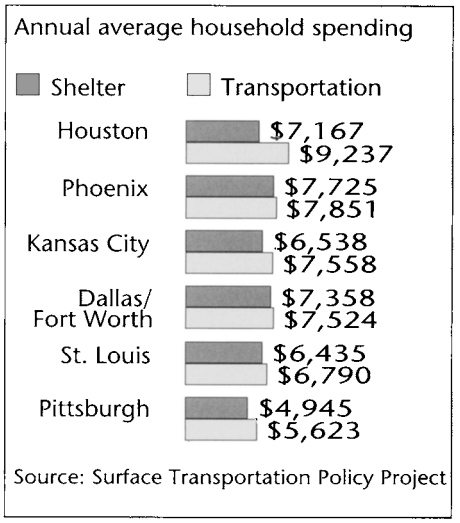
If society cannot afford low-density sprawl, can the individual home buyer or renter afford it? Does our economy still allow the average household to accumulate the down payment and to carry the monthly costs of owning a new home? Clearly low-income households can't afford to buy new homes, but does the average household have the economic wherewithal to purchase or rent the average new home? The answer across much of the country is no.

If the average-income household spends 30 percent of its $40,000 annual income on buying a home, it has at its disposal $1,000 per month. Assuming $350 per month for utilities, taxes, maintenance repairs, and insurance, there is $650 available for the monthly mortgage payment. Such payments would support a thirty-year, 8 percent mortgage of about $88,800, which is 80 percent of a home price of $111,000. A house at that price might normally require a down payment of 20 percent, or $22,200. Assuming such a down payment could be amassed and interest rates were available at this rate, housing units would have to be priced at $111,000 or less to be affordable. It is very difficult if not impossible in many parts of the United States to find new housing units priced in this range. The situation is not so dire for families as for the average household. United States median income for four-person families in 1999 was approximately $57,350. However, if the household is run by a female with no husband and children present, annual income in 1999 averaged only $19,917—well into the low-income ranks.

A quick look at the monthly carrying capacity of a low-income household is even more sobering. Housing that is affordable to a low-income family is shelter that can be occupied for 30 percent or less of their income (anything more than that, although commonplace, is judged by government and banks to be a prohibitively high burden on the household budget). If the turn-of-the-century United States median household income was about $40,000 (about $28,000 for African-American and $31,000 for Hispanic households), then a low-income household earned between $15,000 and $25,000 per year. If a household earns 50 percent of the median, or $20,000 per year, it can afford $6,000 for rent and utilities, which is $500 per month. It is difficult to find decent quality or sufficiently large rental units at that price in most parts of our country, hence, low-income households often settle for substandard units or pay more than 30 percent of their income.

The fiscal gap that many households face when trying to buy a house is exac-

A man's horse is now more important than his castle. In some metro areas, households spend more on transportation than housing. If all the hidden costs were included in transportation pricing (and if air and ship travel were included), the gap would be considerably larger. (Transportation costs include vehicle, gas maintenance, insurance and public transit; shelter costs include rent or mortgage, maintenance, taxes and insurance.)



erbated by automobile ownership and usage. Many families spend as much or more money on their cars as on housing. In contemporary suburbia, the average household drives about 30,000 miles per year, while its counterpart in urban centers drives only 8,000 miles, and 15,000 miles in traditional mixed-use neighborhoods. Some suburban households spend more than $6,000 per car per year for insurance, maintenance, car payments or depreciation, fuel, and parking. If a household could get by with one less car by walking, carpooling, and using transit, they would have another $500 per month to apply towards housing. This money could amortize a mortgage of an additional $50,000 or so. Banks should liberalize their mortgage lending policies to acknowledge home buyers who live in neighborhoods well served by transit—just as they sometimes discount for design that reduces the consumption of energy, the other major operating cost of the American household.

The reasons that the average home price has risen dramatically are many and complicated. Some of them are regulatory impediments and code requirements. The accumulation of these well-intentioned regulations has created a litany of problems: innovative developers struggle with variances, financing, and concerns of "not-in-my-backyard" neighbors; median-income households have mortgage loans rejected because of the gap between income and mortgage payments; low-income households are not even considered because banks have redlined their neighborhoods; many households have to devote an increasing percentage of their budget to owning and operating two or three vehicles; banks fail because of bad risks; the FDIC has to bail banks out at huge taxpayer expense; speculators and immigrants from wealthier states help drive up the price of real estate; developers build ever larger and more expensive houses for ever smaller and less affluent households; communities fail to provide their fair share of low- and moderate-income housing; building officials try to enforce complicated and

sometimes contradictory codes; state governments struggle to subsidize and finance housing without federal assistance; the federal government has trouble providing housing aid to state and local governments because it, too, is plagued by deficits. In short, the whole housing delivery system is troubled.

Nonetheless, housing costs on a square-foot basis remain lower than most industrialized countries and much lower than Japan or Europe. The affordability gap in the United States pales before Japan's, which requires hundred-year mortgages to bridge. In the welfare economies of Europe, government programs often make up the difference. Americans have always opted for larger houses than Europeans—not only because more space and building materials have been available here, but also because the New World considered itself bigger in every way. Americans were able to maintain generous standards because land and natural resources remained plentiful and environmental controls lax. Now these factors have tightened, and the middle class is having trouble mustering down payments and mortgage payments, especially for first houses. Housing is reaching crisis proportions in some areas, but the real crisis is not economic. It is a crisis of expectations. Americans have simply come to expect—because of good luck, favorable economic conditions, hard work, regulations, and bountiful land and natural resources—large houses. By any other standards, including those of richer countries, these expectations are unrealistically high. They need to be downsized.

Good Intentions

Architectural and urban design can play an important role in kindling a new vision. During this century in the western world, there have been many heroic visions presented by designers, including Frank Lloyd Wright, Le Corbusier, Ebenezer Howard (a court reporter), Patrick Geddes, John Nolen, Tony Garnier, Antonio Sant'Elia, and Leon Krier. C.I.A.M. (Congrès Internationale d'Architecture Moderne) attempted to codify and promote Modernist notions of city making. Less idealistic but no less profound visions, such as company towns and Levittowns, are scattered around our country, some with a well-developed sense of community. Many turned out to be unsuccessful when implemented. This is because city making is among the most complex and difficult human undertakings—as complex as life itself. It is beyond the powers of rational analysis and synthesis. Like civilization or language, cities cannot be invented in one generation. They must be designed and built incrementally, evolving slowly and laboriously—the sum of many acts, some large, some small. And, like any self-regulating system, they must correct and recorrect themselves continuously.

During the last decade, there has been a surge in design charrettes, competitions, essays, books, and projects that attempt to reform or preempt contem-

porary and Modernist models of urbanism. Central to these efforts is the New Urbanism, or Neo-Traditionalism, which will be discussed in greater detail in chapter 4. It is less intent on reinventing the design of community than previous movements have been and can be seen as a revival of earlier models and patterns. It addresses head-on the economic, environmental, and social costs of sprawl. As for affordability, the New Urbanism is predicated on the notion that the most promising and cost-effective strategy for affordable housing is the development of affordable communities. Among other things, the new model better accommodates smaller households. It also subdues the automobile. Automobiles are too basic to our culture and economy to be eliminated, but suburban Americans are more than ready to take fewer and shorter trips, as well as to be freed from excessive fuel and insurance expenditures. The oil companies in Houston and the insurance companies in Hartford need to take heed as much as the automakers in Detroit (as well as in Germany and Japan).

This quiet revolution has been going on in town planning and architectural circles over the last decade. Established zoning and urban design ideas are being questioned and reversed. There is less of the Modernist mandate to be inventive and heroic. Designers are remembering, reviving, and reinterpreting ideas that prevailed before the automobile spread our cities apart, before television kept us inside our houses, and before telephones and home computers reduced face-to-face interaction. Although these technologies have increased the convenience and efficiency of daily life, they have precipitated a widescale privatization of our lives that is deleterious to community. These revived models are to be distinguished from most Master Planned Communities, Planned Unit Developments, and cluster housing—all of which were important steps in their day toward reestablishing community, but remained too auto-dependent and too low in density to redress the costs of sprawl.

Redreaming the American Dream: A Quiet Manifesto

The new paradigm can be reduced to the following principles and ideals:

1. Denser, more compact, and clearly bounded communities that preserve sacred places, places of beauty, open space, agriculture, natural systems, and natural habitats need to replace continuous, undifferentiated suburban development.

2. A fairer sharing and finer-grained mixing of diverse land uses, household types, building types, age groups, and socioeconomic groups need to replace the single-use zoning that has sponsored the all-too-

ubiquitous housing subdivision, the shopping mall, and the office park, as well as excessive dependence on the automobile.

3. Walking, bicycling, and public transit on an interconnected network of streets, alleys, paths, greenways, and waterways that enhances convenient and healthy mobility, connectivity, and efficiency need to replace the automobile for routine trips.

4. Because their social, physical, and institutional infrastructure is in place, conserving, restoring, revitalizing, and infilling existing urban centers and towns need to be given higher priority than building new communities on greenfield sites.

5. A spatially coherent and cohesive sense of place, of neighborhood, and of region that builds on what is locally unique and enduring needs to replace the monoculture, anonymity, and placelessness of sprawl.

6. The strengthening of the public realm, with face-to-face interaction, citizen participation and public/community art in dignified, physically defined places, needs to be given higher priority than electronically mediated reality (TV, video, computer, fax, virtual reality) and life spent primarily in privatized spaces (the home, mall, car).

7. Environmental, economic, and cultural practices, traditions, and mythologies need to become more sustainable and energy-efficient to reduce the commodification and consumption of land and natural resources. (The lone-riding Marlboro man needs to be overtaken by a bus-riding urban hero; Paul Bunyan needs to give way to Johnny Appleseed; and the detached house with three-car garage needs to move over for the solar townhouse with bicycles and walking sticks.)

Place making should become our central mission, within which other issues facing society are confronted: employment, health care, education, crime, energy, pollution, growth management, etc. There is neither the time nor the money to solve these problems one at a time. We need comprehensive, place-specific solutions for these chronic and interdependent problems. This strategy is not a 180-degree turnabout. It is a 90-degree shift that addresses problems vertically (i.e., co-locating resources and services in one place) rather than horizontally (i.e., relying on agencies and initiatives that address a single problem throughout a city, county, state, or country). At present, there can be an utter lack of connection between housing, health, social, welfare, education, law enforcement, and environmental and energy conservation programs—both to each other and to physical infrastructure and place. Even infrastructure—highways, streets, bridges, waterways, parks, and utilities—is often ill coordinated.

Under this scheme a city would have, like Seattle, a Department of Neighborhoods with reasonably autonomous budgets, offices, and agendas for different neighborhoods rather than a general Department of Housing and Social Services.

Neighborhoods, in turn, could focus on place making and place management, appointing place managers to look after specific blocks, streets, centers, and parks. To maintain regional differences, the federal government might have a Department of Appalachia or of New England, for instance. Rather than the Department of Housing and Urban Development, there should be a Department of Neighborhood, Town, and City[27] (or Department of Neighborhood and Urban Development[28]). Federal and state grants to local government could be orchestrated to focus on particular places and neighborhoods rather than remain a shotgun of separate programs, which now number in the hundreds. This sea change from a problem-specific to a place-specific approach would result in more holistic governments and communities.

Suburbia may be paved with good intentions, but mainly it is paved. And it is getting more so, as Malcolm Wells has so wittily drawn, written, and lectured about for thirty-five years. (His latest book, *Recovering America*, is overstated, no doubt intentionally, about the length to go with underground buildings, but this gentle warrior for underground architecture deserves a great deal of credit for his perseverance and vision.) The hundreds of New Urbanist brownfield and greenfield developments, including the watered-down versions and downright imposters, are losing the numerical battle to conventional sprawl. The rate of development of farmland, forest, and other open space in the mid-1990s more than doubled the 1982–92 rate.[29] Although New Urbanism has changed the design, planning, and development debate in America, it has had a modest effect in slowing down sprawl. The vast majority of growth in the United States still manifests itself as a carpet of conventional cul-de-sac sprawl.

A new paradigm with its accompanying movement to promote these ideas has emerged to fill the vacuum. Like all new paradigmatic visions, New Urbanism is idealistic. Is it another road paved with good intentions that simply leads to a New Urbanist hell with "hundreds perhaps thousands of attractive Charleston, Nantucket and Seaside look-alikes springing up across the American landscape wherever large landowners and developers happen to own a suitable piece of land"?[30] There are tradeoffs with any vision, and this one has its dangers and penalties to be sure. Not everyone will benefit. However, on balance, it offers a much more promising future than business as usual.

2 CRITICAL REGIONALISM

AN ARCHITECTURE OF PLACE

"I didn't like Europe as much as I liked Disney World. At Disney World all the countries are much closer together, and they show you just the best of each country. Europe is boring. People talk strange languages and things are dirty. Sometimes you don't see anything interesting in Europe for days, but at Disney World something different happens all the time and people are happy. It's much more fun. It's well designed."

—A COLLEGE GRADUATE JUST BACK FROM HER FIRST TRIP TO EUROPE

REGIONALISM IS AN AMBIGUOUS TERM. TO AN URBAN planner it means thinking bigger: planning at the scale of a region rather than at the scale of the subdivision or municipality. To an architect, regionalism means thinking smaller: resisting the forces that tend to homogenize buildings across the country and around the globe in favor of local forces. Critical Regionalism is a term coined by architects that means thinking regionally in ways that are both reactive and liberative. It guards against the mindless nostalgia and sentimentality for traditional architecture to which regionalism has been prone in the past.

This public rest facility in the mountains of Washington uses local and natural materials to reinterpret the muscular National Parks architecture of the 1930s. The building defers to the magnificent setting by keeping a long, low profile and to its remoteness by utilizing composting toilets, photovoltaic power, and low-maintenance landscaping. (Kelbaugh, Calthorpe & Associates)

This chapter is about the theory of regionalism as opposed to regional architecture. It theorizes about what kind of architecture is appropriate for regionalism in general rather than for one region in particular. It is not about the particular characteristics of the architecture of a specific metropolitan region, like Seattle, or a bioregion, like the Pacific Northwest (where, for example, the prevalence of wood, large windows and overhangs, attention to views, a soft and impure color palette, and Japanese influence are defining characteristics).

Critical Regionalism is actually more of an attitude than a theory or a set of motifs. It is an attitude that celebrates and delights in what is different about a place. What makes a local architecture local and unique is valued more than what makes it typical and universal. In that sense it is a reaction to the standardization and universality that Modernism promoted. It is also an attitude of resistance, sometimes an angry response to many of the changes made in the name of progress that are blanching geographic differences in place and culture. It is against foreign ideas and styles that are imposed rather than imported.

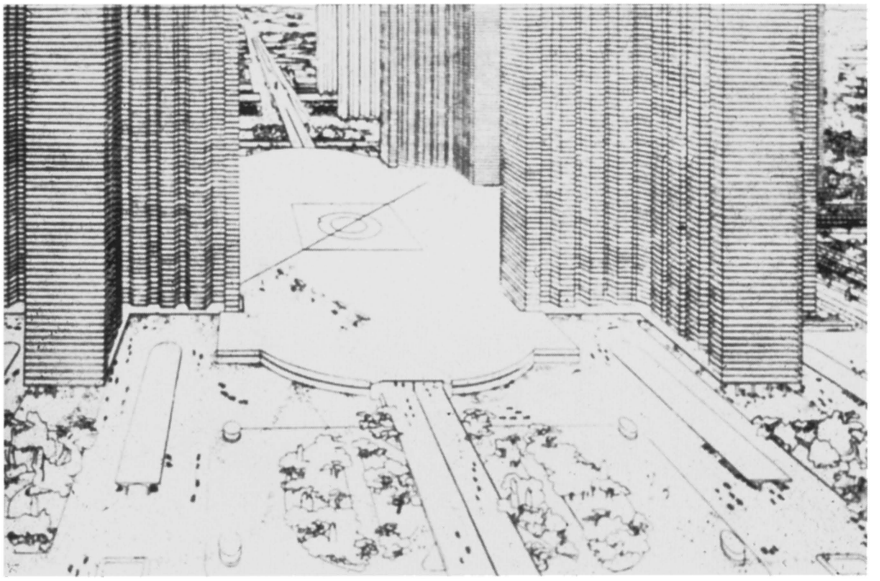
Architecture is in a rare position to embody and express regional differences—more so than manufactured products like cars, chairs, shoes, or even clothing.

Perhaps only food is as local, although regional food products are now shipped far and wide. Because architecture is one of the few remaining items in modern life that is usually not mass-produced and mass-marketed, it can resist the commodification of culture. Because it is a site-specific and one-of-a-kind production, it can resist the banalization of place. And because it is one of the few hand-built items left in the industrialized world, it can resist standardization. Architecture can still be rooted in local climate, topography, flora, building materials, building practices, architectural types, cultures, history, and mythology.

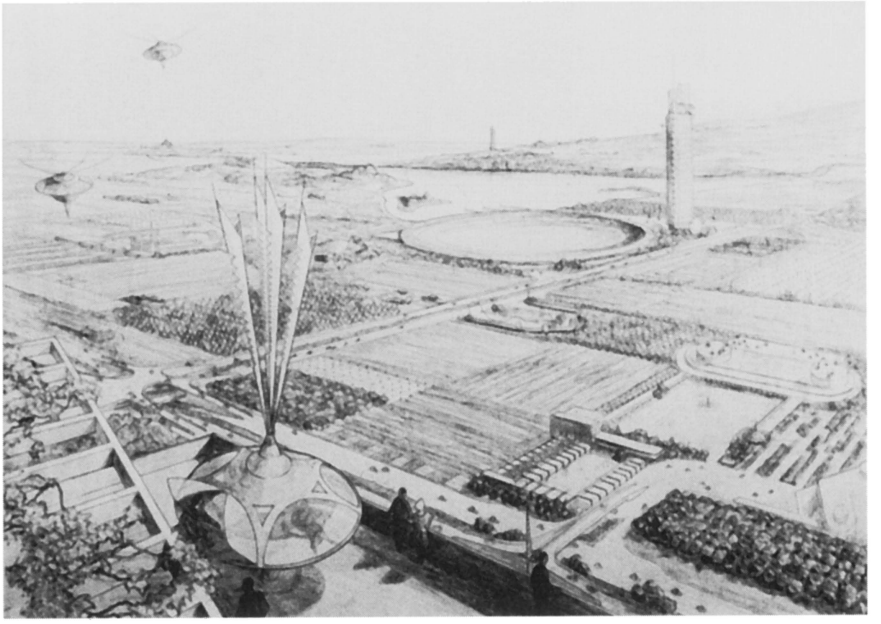
Before exploring Critical Regionalism's general principles—ones that could be applied anywhere—it is necessary to take a relatively lengthy and admittedly subjective look at recent architectural history. First, a few words about the twentieth-century chronology of architectural history in this country might be helpful. Roughly speaking, the century started during an architecture of Neoclassical or Beaux-Arts style. In America, Neoclassicism—sometimes simply called Classicism—was given a big boost by the World's Columbian Exposition in Chicago in 1893. Beaux-Arts refers to the Parisian academy where leading architects of the era studied the axial formality and monumentality that often characterized civic architecture during the City Beautiful Movement around the turn of the last century. Modernism started as an avant-garde movement in Europe after World War I. It was brought to America in the 1930s, debuting as the International Style in a show at the Museum of Modern Art. It slowly became accepted by American corporations, institutions, and individual clients and was the prevalent architectural mode after World War II. Postmodernism emerged in the 1970s, about the time solar and environmental architecture was a movement. Deconstructivism replaced Postmodernism in the late 1980s, but has lost momentum. Critical Regionalism started to gain a following in the 1980s.

Modernism as a Movement and a Period

In architecture, Modernism started out in the 1920s as a polemical and radical rupture with hundreds of years of tradition. There were bold manifestoes and a messianic avant-garde. Its pioneers had a heroic vision of a new society served by a new technology. It was to be an international movement that would erase national differences. Walter Gropius, Mies van der Rohe, Le Corbusier—to mention a few of its most famous pioneers—preached a complete break with Neoclassicism and the lassitude of fin-de-siècle art and architecture, which they attacked as corrupt, inefficient, and outmoded. They and their colleagues bravely fought and won many ideological, technical, and aesthetic battles. Their architecture, at first scorned or ignored, eventually served as the basis for an international design orthodoxy and what amounted to a doctrinaire religion for many designers. The Modernist building was, as the late architectural historian Colin



The pioneers of Modernism had heroic visions of a new society served by new technologies. LeCorbusier's proposal (top) in the 1920s and 1930s for high-rise office towers and high-speed transportation was a precursor to modern American downtowns. Frank Lloyd Wright's Broadacre City, with its one-acre lot for every citizen, was prophetic of today's sprawling suburbs. Both visions celebrated mobility, including family helicopters in the latter—an idea whose future has clearly passed.



The Corbusian vision of towers in the park degenerated into a template for endless high-rise apartment houses on the periphery of European and Asian cities; in this case, one in central Turkey. In the meantime, Wright's Broadacre City of one-acre lots was watered down into endless American suburbs of quarter-acre lots and landscapes dominated by the automobile.

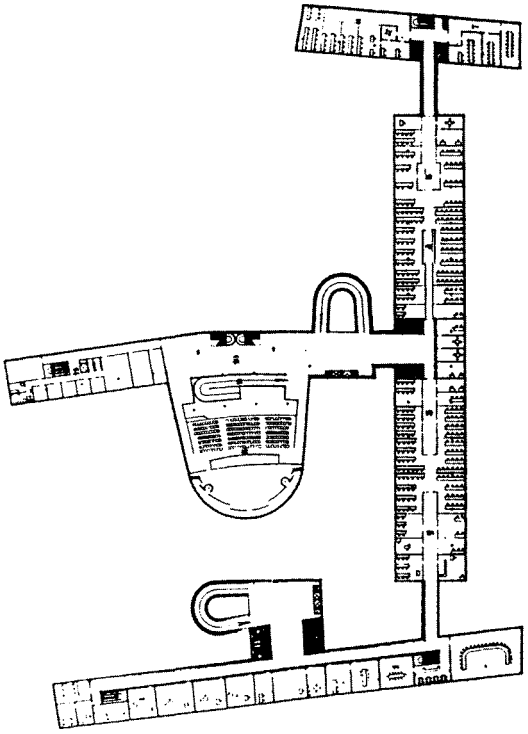
Rowe put it, "an icon of change, an icon of technology, an icon of good society, an icon of the future."[1] Functionalist philosophies and designs ultimately prevailed over the Beaux-Arts establishment. Le Corbusier, Mies van der Rohe, and Alvar Aalto were finally accorded the stature of masters, and their influence was broad and deep in both the academy and the profession.

Although the public was slower than academia to accept Modernism, after World War II corporations and government began to embrace the International Style as their official architectural language. Its stripped forms and no-frills functionalism appealed to their sense of efficiency and economy. It was cheaper to build and represented technical modernization as well as cultural modernity. More recently this style and certain of its more conspicuous building types, such as the high-rise office building and airport, have become economic status symbols in emerging nations. For most of the industrialized world, however, Modernist buildings have run the inevitable course from prototype to type to stereotype, and Modernism as a movement has lost its intellectual and moral clout.

After the public finally warmed up to modern architecture, it was forsaken by academicians, critics, and professionals, who began to embrace Postmodernism. In architecture and urban design, the term Modernism no longer refers to a movement but to a period, not unlike the terms Gothic, Renaissance, and Baroque, although these periods were of longer duration. Modernism refers to that half-century from the First World War to the Vietnam War. There was no unitary style adopted by the Modern Movement. With the exception of the International Style, stylistic consistency was rarely achieved, even within the oeuvre of an individual designer. There were, however, consistent attitudes about architectural and urban space and form, as well as an abiding faith in technological progress and rationalist methodology.

Modernist Methodology: Looking Inside the Problem

From the outset, Modernism put great stock in the ability of rational analysis to provide both functional and aesthetic designs. A clear statement and rational analysis of the problem, the site, relevant technology, and user were to produce a new, superior architecture that was scraped clean of the encrustation of historical styles. At early Modernist design schools such as the Bauhaus, it was believed that by looking hard and deep enough inside a problem, the designer could unlock solutions that were rational and inevitable outcomes, uncontaminated by preconception, precedent, or tradition. Looking inward—into physical materials, processes, and production and into social and psychological needs—was necessary and sufficient to design good products and buildings. In fact, it was believed



The Modernist expression of discrete functional areas and the circulation systems of a building were the result of looking inside the problem for a solution, which usually meant inside the building's program. In many cases, Modernist buildings were functional diagrams writ large—robust, efficient, but harsh on the occupants and neighbors. (Centrosoyus Building, Le Corbusier)

that probity and aesthetic integrity could come only out of this rational and empirical methodology.

The study of design methodology, which peaked as a discrete movement in the 1960s, brought a rigorous new look at the process of designing, just as "whole systems" were bringing a similar rigor to large building design and urban planning. The question of technique was paramount. This focus was possible only because the question of direction was rendered less important by a prevailing orthodoxy and broad consensus in the schools and profession. This agreement allowed the pursuit and refinement of technique: more scientific programming, systems engineering, better drafting tools, better simulation devices, earlier involvement of the building contractor, construction management, critical path scheduling, value engineering, more prefabrication, kit-of-parts construction, post-occupancy evaluation, etc. It was all part of the positivistic attitude that a definite, correct solution would become transparent for every problem if only the method or system was rational enough.

This overly optimistic paradigm harkens back to the Enlightenment and the scientific and industrial revolutions of the seventeenth and eighteenth centuries. Science and technology have had us in their clutch ever since. Geology was the most popular science of the first half of the nineteenth century, and botany and zoology seemed most to intrigue the second half. There were important discoveries in chemistry throughout the eighteenth century. The first half of our century was excited by physics, especially the atom and relativity theory; the latter half has been more in the thrall of ecology, computer science, biotechnology,

and genetic engineering. If Modernist architects had "physics envy," regionalists and green architects are jealous of the life sciences.

Modernist methodology made a sharp turn in the late 1960s when advocacy planning and citizen-participation took hold. Coupled as it was with political issues, especially civil rights, the movement attempted to replace technical methodology with a social and ideological one. Rather than entrusting professional experts and specialists to program and design buildings, advocacy planners tried to enfranchise local groups with more control of design and planning within their community. Community design centers sprang up where free or low-cost design services were given to disadvantaged and grass-roots organizations. It was not just a question of helping a sector of the population that could not otherwise afford professional services, but also of reforming the delivery system for architecture and planning services in society as a whole. The more militant advocates wanted a radical redistribution of power and capital. Advocacy planning was primarily concerned with what was being designed for whom, by whom, rather than what it looked like or how it was constructed. Ironically, it paralleled a period of professional and governmental interest in prefabricated housing systems—a methodologically driven idea somewhat at odds with the activists' do-it-yourself ethic but consistent with the commitment to make new housing affordable to all.

The advocacy movement petered out, except for scattered pockets of activity, by the mid 1970s when radical and liberal sentiment shifted to other issues such as energy, ecology, self-realization, feminism, and gay rights. It also lost momentum because of the broad, simultaneous swing toward conservative politics and religion. But it left a legacy of citizen participation in architecture and planning that is still with us today and is in fact on the upswing in many communities. In other communities it has degenerated into NIMBYism and other attempts to protect real-estate values, often in affluent neighborhoods rather than the poor ones for which advocacy was once so vocal. Some architecture schools have continuously maintained community design centers and others are reinvesting in community outreach, including design centers, design charrettes, and involvement in primary and secondary education.

The Modernist search for standardized solutions has since devolved into the Postmodernist search for variety, made possible by contemporary modes of production and transportation. Standardized building components are reverting again to customized components, helped along by both the flexibility of computerized manufacturing and the speedy international distribution of goods and services. It is now possible for designers to specify any product in any color from anywhere in the world. This freedom has not necessarily resulted in better design. Indeed, it can be argued that modern buildings, towns, and cities have developed too much visual variety, that they are a riot of different building materials, colors, and shapes. *Sweet's General Building and Renovation Catalogue*, the

eighteen-volume library found in every architect's office, contains 21,000 pages of products offered by 2,300 manufacturers. When products are vended in this variety and at this rate, it is impossible for users to evaluate them and for knowledge to accumulate in meaningful ways. Is it any wonder our buildings and cities are such visual circuses?

Perhaps this visual chaos is why a traditional English town where every roof is covered in slate or an old New England town in which buildings are clad only in wood is so appealing to today's sensibilities. Tourists spend a lot of money visiting pre-industrial settings. Almost limitless material and product availability coupled with pluralist design attitudes have given too much discretion to designers and builders. This lack of constraint and restraint has tended to blot out regional distinctions, as well as to add to the clutter and chaos of the environment.

Postmodernist Methodology: Looking Outside the Problem

As recently as the 1970s, Modernism was still a true movement with its polemic intact and its protagonists still kicking. Modernism still has its staunch loyalists, zealots, and diehards. These old warriors continue to maintain aging practices and teach in the academy. Recently, Neo-Modernism has gained strength, but Modernism has clearly lost the moral and social potency it had when it prevailed as the norm during the middle half of the twentieth century. To be fair, this loss of influence and exhaustion of forms are not entirely due to its internal shortcomings. There are "global economic and cultural forces that turn all architecture—modern, traditional and Postmodern—into a commodity that merely adorns an increasingly degraded environment."[2]

After the decline of both Modernism and advocacy planning in the 1970s, a new design paradigm emerged to fill the vacuum. Rather than a single orthodoxy, it was a pluralist array of attitudes—historicism, contextualism, historic preservation, environmentalism, Neoclassicism, and Neo-Traditionalism. Instead of an inward examination of the plan, the outside of the building—its elevation—often became the point of departure for the designer. How the exterior relates to its immediate visual context and to historical precedent became major design questions.

Relating to physical context literally and sympathetically is not surprising in an approach that respects the traditional street and square above the individual building. Postmodernism tended to view the building's functional program as secondary to historical continuity and architectural context. It used the public faces of the building to mediate between the interior and exterior forces that push

and pull on every building. Composing the elements of a facade in an expressive and artful way became more important than directly revealing the structure, materials, and functions of the building. Indeed, the very ideas of composition and expression ran counter to the tenets of Modernism, which wanted to reveal rather than express a phenomenon. The transparent and unadorned presentation of physical fact was a canon of the Modern Movement. Postmodernism rejected this austere ethic for a freer representational mode. It used figural and representational form to symbolize or signify ideas, rather than the abstract forms of Modernism, which were intended to embody ideas or simply be themselves.

Phenomenology

Phenomenology is worth a digression. This philosophical term refers to a way of knowing and being in the world through the senses rather than through the mind. It is based on sensory experience, ranging from everyday kinesthetic experience to sublime aesthetic experience. In architecture, phenomenology is used to refer to the experiential or perceptual rather than the abstract or conceptual dimension of buildings. It is about direct and active aesthetic perception of the physical environment with all the senses. Aesthetic experience, according to philosophers of art such as Suzanne Langer, is only possible through direct and total sensory connection to an object, image, or scene. In her theory, aesthetic experience bypasses all conscious mental interference. At its quietest, it is Zen meditation. At its most kinesthetic, it is ecstatic dancing.

Grounded in the physical world, phenomenological architecture is very different from conceptual architecture, which springs from the mind and is based on autonomous constructs such as geometry and logic. It is not associated with any particular instance or place. At its purest and most Platonic, it is conceived apart from application to a particular use or site. In some quarters conceptual design is considered more sophisticated than phenomenological design, presumably because it is more idealized, intellectual, and cerebral.

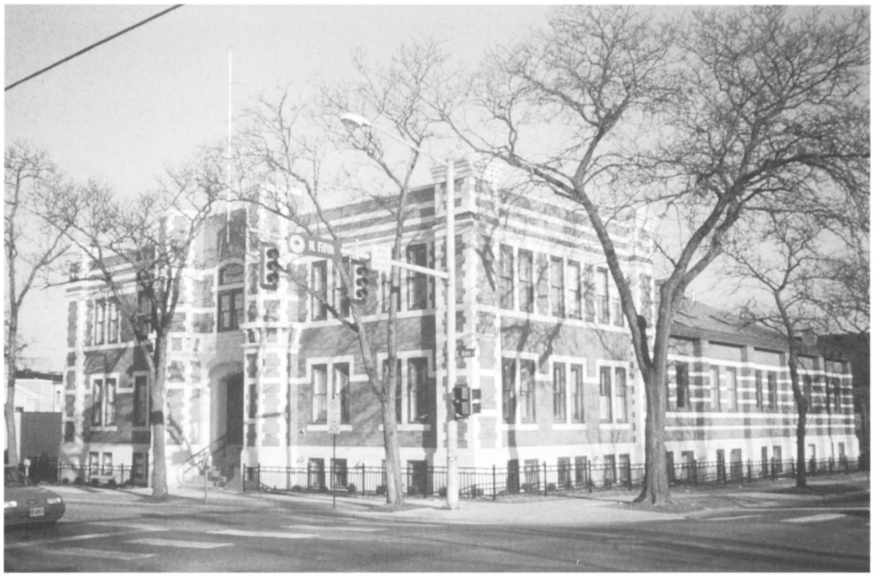
Given that phenomenological architecture is rooted in its place and its material being, it is more akin to Critical Regionalism than to Modernism. It seems more sympathetic to the designers of the West Coast, who tend to reject the cerebral mind games of East Coast and European architects and who respect work that comes more from the stomach than the head. It is not surprising that Steven Holl, a practitioner and protagonist of phenomenological architecture that is simultaneously palpable and transcendent, grew up in the Seattle region and studied architecture at the University of Washington. It is also not surprising that many architects of this persuasion are fans of the philosopher Martin Heidegger, the great exponent of phenomenology who believed being in the

world is revealed through active involvement rather than detached observation and reflection.

Historic Preservation

The nation's historic preservation movement was a major challenge to modernity. It put the Modernist axiom "form follows function" to a test it would continually fail. An old building often became more interesting and potent when a new function replaced the original one—a bakery in a firehouse, an apartment in a stable, a restaurant in a factory. The most interesting buildings frequently turned out to be the ones where new function and old form were not a tight fit. This architectural merit, however, does not necessarily make good urbanism, which can accommodate only so many exceptions to the rule.

Vincent Scully has called historic preservation "the only mass movement to affect critically the course of architecture in our century."[3] Although the envi-



The preservation and adaptive reuse of historic structures, in this example an early twentieth-century armory converted into condominiums, often makes for unanticipated and architecturally interesting interplay of form and function. In this case, the architectural type (gymnasium with headhouse) and style (striped Neo-Gothic) are sufficiently forgiving to accommodate housing; other cases, e.g., a grain silo as restaurant or hotel, may be of greater architectural drama, but the physical conversion is more problematic. Architecture and urbanism can tolerate only so many of these exceptions and surprises if it is to remain coherent.

Older cities, like Detroit, are blessed with splendid building stock, especially their pre–WWII houses, apartment buildings, office buildings, and institutional structures. This architectural inventory, impossible to duplicate in terms of craftsmanship and materials today, is a precious treasury that needs to be conserved and refurbished like a natural resource, even if there is no foreseeable re-use. In many cases, the architectural heritage is an inner city's greatest and most distinctive asset.

ronmentalists may challenge this assertion, it was a remarkably swift and successful revolution that happened everywhere, without as much hoopla or as many high profile leaders as the environmental movement.[4] Historic structures and areas were passionately championed by a loud chorus of enthusiasts from all walks of life. The National Trust for Historic Preservation, which was founded in 1949, became an effective national watchdog advocate and sponsor for these enthusiasts and the many Americans who fell in behind historic preservation.

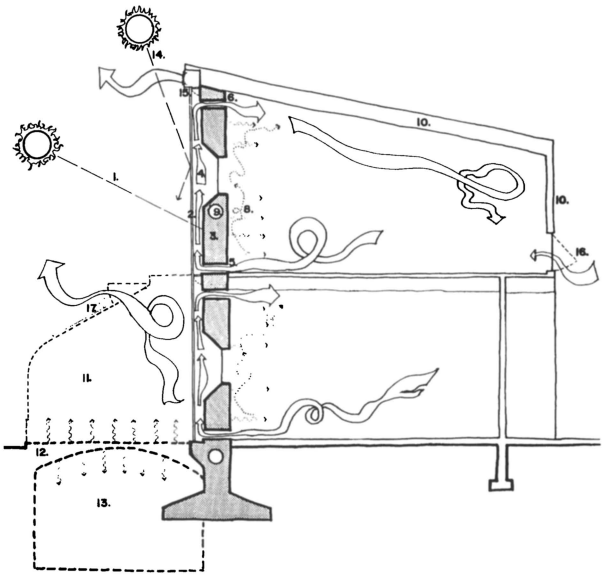
Many deserving buildings were saved and restored, sometimes to mint conditions that might be described as overly precious and slavishly archaeological.

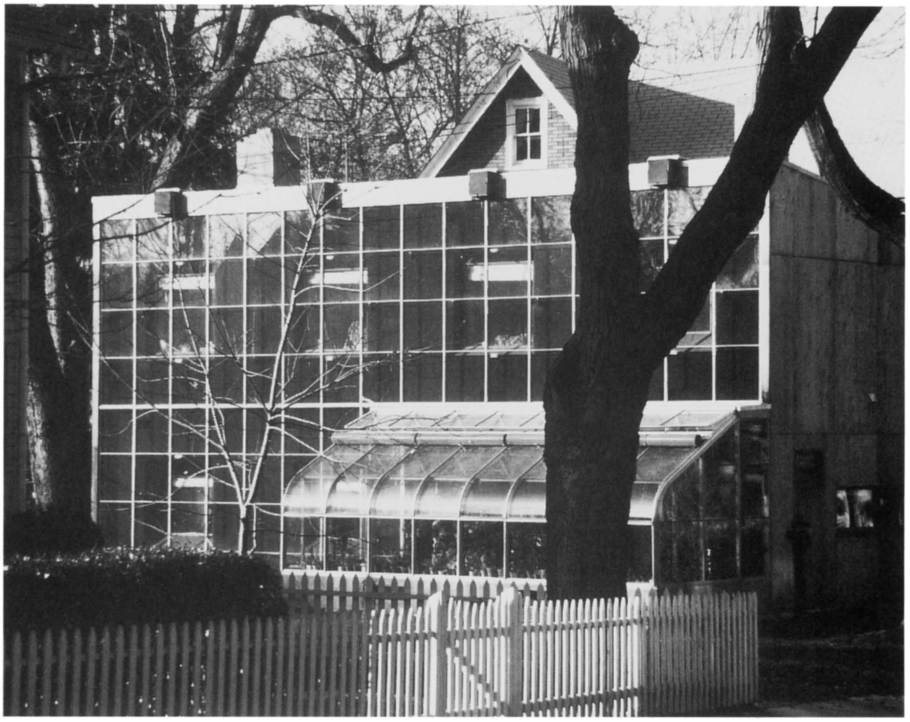
Compared to Europe, historic preservation in this country was very literal, correct, and zealous—perhaps because Americans have a shorter architectural history and a smaller, shrinking inventory of distinguished structures with which to work. (Europeans, on the other hand, seem more zealous about technology, something we take for granted as much as they tend to take history for granted.) In European cities, adaptive reuse of buildings, rather than historically exact restoration, is prevalent. This attitude allows life in the city to respect history while accommodating new technology and functions. Nonetheless, American historic preservation has recuperated scale, character, and authenticity to American cities and permanently stopped the shortsighted demolition of significant building stock.

There are those of us members of the design community who feel that American preservation legislation and the national movement have perhaps succeeded too well (like the Americans with Disabilities Act). The preservation of historic buildings has become ossified and precious in America and needs the oxygen of new blood and new attitudes. For a lively discussion of the past and future of this movement on the National Trust for Historic Preservation's fiftieth anniversary, see *Preservation* magazine's September/October 1999 "Visions and Revisions" special, based on an e-mail exchange led by Robert Campbell that included James Marston Fitch, Ada Louise Huxtable, Stewart Brand, myself, and several others.

Environmental and Solar Architecture

The energy crisis in the 1970s promoted an architecture more sympathetic to the environment. Petroleum and other natural resources were seen as finite, as was the planet's capacity to absorb our wastes and support our consumption. The search for sustainability and the belief in global limits were first imprinted on the psyche of America during that period. This ecological view encouraged architects to employ design strategies of active and passive solar heating and cooling, as well as natural lighting as ventilation. (Unfortunately, these energy-saving techniques often were used to compensate for rather than to correct low-density, gas-guzzling land use patterns.) More importantly perhaps, it compelled many designers and builders to make buildings more site-specific, that is, crafted to the local climate, solar radiation, terrain, building materials, and construction practices. It was not only a question of saving BTUs but also of assuming a more humble view of humanity's place in the natural world and accepting a more modest planetary allotment for our national and individual needs. It was also about holistic design, especially passive solar design, which rejected the single-mindedness of engineering solutions in favor of designs that addressed social, environmental, and aesthetic issues simultaneously.





This passive solar house, designed by the author in 1973 for a small lot in Princeton, New Jersey, is naturally heated by a Trombe wall and an attached greenhouse. The large south-facing wall is a sandwich of glazing to trap the sun's energy and a thick concrete wall to absorb, store, and radiate it to the interior during night. The top of the thermo-siphoning wall is opened to the outside in summer to boost natural ventilation. The only moving part in the system is the sun, whose diurnal and seasonal cycles are taken advantage of in the design and siting of the building.

The connection between modernity, or the modern "project" (as Europeans are wont to refer to epochal initiatives), and the exploitation of natural resources and the environment became more and more evident in the 1970s. Modernist architecture seemed to be the vehicle of quick and dirty growth, increasingly devoid of its original social agenda. Its freestanding, horizontal buildings seemed to go hand in hand with low-density suburban sprawl; its vertical skyscrapers sprouted higher and higher in downtowns. As awesome and beautiful as these high-rise skylines appear from several miles out—especially at night—they can dehumanize life at street level and on the countless floors of offices or apartments. (If these sixty-story buildings told sixty slightly different stories rather than repeating the exact same one on every floor, they might be more humane and meaningful. At the least they could tell three stories: one at the base, another in the shaft, and something quite different at the top.) These tall, vertical glass boxes and their long, horizontal counterparts in suburbia were invariably designed with four equal sides, indifferent to climate and site.

Site specificity was the passive solar movement's greatest architectural legacy. It expanded for some design professionals and academics into an interest in regional specificity in the 1980s. Regionalism elevated local culture, history, and mythology, as well as environmental factors, to be prime determinants of form. This more complete set of concerns attempted to inform an authentic, local, rooted architecture that resisted mass culture. A minority position, it necessarily operated on the margins of the corporate world, which continued to commodify and co-opt regional and cultural differences.

Postmodernism

While energy buffs and environmentalists were struggling for the attention of the academy and design professionals in the 1970s, Postmodernism emerged with greater force and a larger following. It was particularly strong in the schools of architecture, where there was an increasing intellectualization of the discipline and a search for new theoretical legitimacy in other scholarly fields, like linguistics, philosophy, and history. Questions of architectural meaning and interpretation or hermeneutics overtook more practical issues. The discourse, which was both heated and rarefied, came to dominate academic conferences and journals. In the meantime, an elite group of star architects came to dominate the professional magazines and awards programs, both of which seemed to multiply in this age of media hype and glamour. Several economic recessions during this period hit the profession very hard, as did the gradual erosion of the architect's power in the construction process. The newfound fame for a few stars did "not compensate for the profession's weakness or its strategic withdrawal into discourse. . . . The

freedom to imagine and conceive appears to have been paid with irrelevance and exacerbated professional segmentation."[5] In retrospect, giving up power on the construction site and in the corporate boardroom for a higher profile in the media and more design freedom was not a good trade for most members of the profession.

Postmodernism let loose the reservoir of architectural tradition that Modernism had dammed up as well as damned for half a century. This quickly eroded the moral force, technological prowess, and social vision of Modernism. It licensed designers again to employ ornament, symbolism, wit, irony, color, and history, much of which seemed welcome relief after the severity of Modernism. The single-minded orthodoxy of Modernism was undermined by pluralism and diversity. If Modernism represented the dominance of western rationalism, Postmodernism held out the possibility of multicultural architecture. It also called for the suspension of experimentation and bringing design and planning back into the bosom of the community. But, instead, it tended to degenerate into an empty formalism.

Postmodernism deadened social conscience and ignored technical advancements. It revived eclecticism, historicism, and pluralism that often proved superficial and banal in the hands of less skillful practitioners. In talented hands it proved more successful. In general, buildings of the 1980s overflowed with an excess of architectural forms and materials. With the floodgates open, Postmodernism ran the course from prototype to type to stereotype with record haste. It failed to capture the lasting and popular support that historic preservation had gained a decade earlier. The style also seemed to aggravate the already precipitous decline in quality of contemporary building construction. The Sheetrocking of America happened within a single lifetime. Ersatz and fake materials that imitate nobler materials have been a fact of life throughout the history of building and architecture. But tectonic impersonation and cheap construction have worsened with the commercial image-making and shorter life spans of late-twentieth-century buildings. There are Postmodern walls sheathed in stucco-covered foam insulation that cannot take a kick or even a punch from a wanton vandal. As a result, some Americans have developed an especially hearty appetite for more permanent materials and better craftsmanship during the last generation.

To be fair, cities are the richer for Postmodernism. It championed better urban design and planning than Modernism, although suburbia continued its cul-de-sac sprawl throughout the period. Very importantly, it revived more positive and figural public space, often treating private space as secondary and residual. This represented a dramatic shift from the object-making of Modernism, which tended to treat buildings as sculptures in the round. The Postmodernists' respect for the traditional street, architectural typology, and context—so often looked down upon as obsolete or archaic by Modernists—brought renewed interest in public spaces and in the urban fabric.

A major component of Postmodern urbanism was greater sensitivity to context—primarily the built context, but also the cultural and historical contexts of a building. This consideration of neighboring buildings and artifacts, whatever their period or style, was a direct challenge to the Modernist notion of starting with a blank slate—with either a nose-thumbing or a token nod to the massing and character of nearby buildings. Contextualism made the task of visually composing a building more complicated and conflicted. For example, the building façade, as mentioned earlier, had to simultaneously express both internal and external design determinants. Architects, for whom visual issues are of the utmost importance, have always lavished untold hours on perfecting how their building will *look*. Yet when the focus is shifted to the adjacent built environment, the level of attention among Modernists quickly shrunk from 100 percent to almost nil. Their cone of vision was centered almost exclusively on the new project at hand, whereas Postmodernists incorporated materials and motifs from, and aligned their elevations with, existing buildings within sight.

Today's Neo-Modernists continue, like their Modernist predecessors, to make limited gestures to the massing and general character of nearby buildings. Or they ignore their neighbors altogether. Some contemporary stars like to claim that they're dealing with context, but one that is invisible, less immediate or less obvious. This stance seems ironic if not disingenuous, given their extreme preoccupation with the visual appearance and visibility of their own building. Others might describe the disregard for context as dialectical, but that would be stretching it too, given the fact that there is rarely synthesis between the old and the new.

Why this disregard for context? Is it the belief that the new zeitgeist must be expressed and that anything less than a current style would be sentimental and hollow? Is there also some disdain for out-of-date architectural styles, or at least for mediocre examples that may happen to be part of the immediate context? Or is it an abiding confidence in a fresh start, or simply an appetite to stand out in the city and the media? Whatever the answer, this lack of respect will no doubt be repaid by equally self-centered architects and clientele in the future. Unless attitudes and paradigms shift, cities will continue to be battlefields of architectural attack and revenge, with destruction of the visual harmony, historical continuity, and contextualism that Postmodernism once promoted.

Revivals of architectural typology, contextualism, and urban design were Postmodernism's greatest legacy, although often realized on paper rather than on the ground. Its use of typology as a design methodology helped heal the rift between architecture and urban planning. Its revival of contextualism and traditional urban and town planning lives on in the New Urbanism. As Alex Krieger has observed, "For many, the most important mission of Postmodernism became the reform of Modern planning: to strip away its abstractions, universalisms and apparent disregard for the places which the modern world inherited. . . . The greatest sin of Modernism, its most problematic abstraction, may have been its insis-

tence that the city was fundamentally . . . an amalgam of systems rather than as a collection of places."[6]

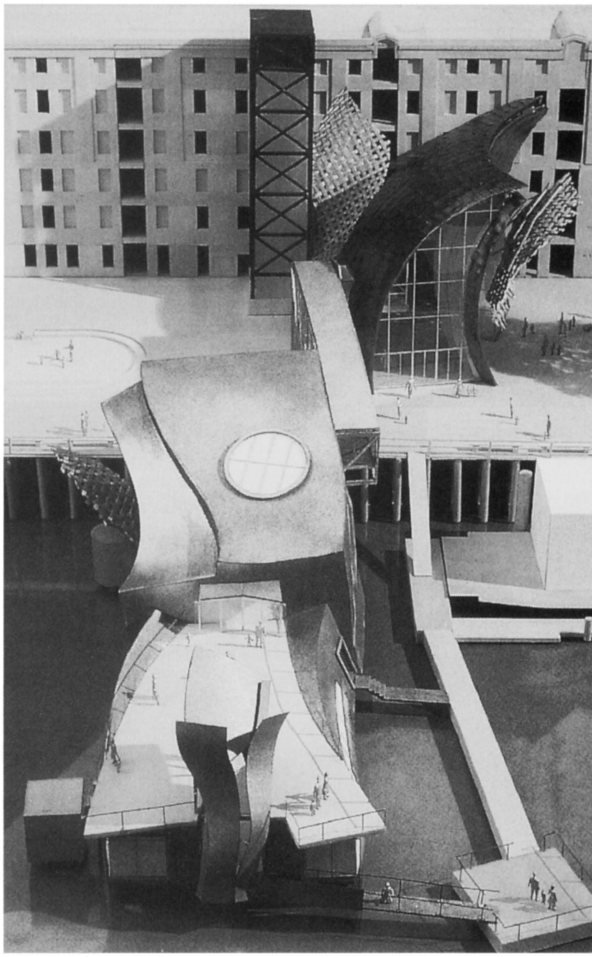
Deconstructivism

In the late 1980s, there was a quiet, almost embarrassed shift in the academy away from Postmodern architecture toward Deconstructivism. In fashion until the late 1990s, it proved to be another brief chapter in the architectural history of the twentieth century. Like Postmodernism, it was heavily based on theory, but literary rather than linguistic theory. Its theoretical construct (if such a word can be applied to poststructuralist theory) had its foundations in the works of Jacques Derrida, the French philosopher. Essentially nihilist, it accepts and architecturally celebrates the fragmentation, dislocation, acuteness, and impermanence of contemporary life.

Deconstructivists have embraced fractal geometry, a branch of mathematics that has discovered shapes that repeat themselves in nature at all scales, from snowflakes to mountain ranges. Unlike humanist architecture, Deconstructivism works with a mathematical system that has nothing to do with and is even antithetical to human scale. It is literally scaleless geometry. Nature repeats itself at different scales in both rounded, flowing shapes (especially when shaped by wind and water) and in faceted, crystalline ones (especially when shaped by natural pressure such as geological, thermal, chemical, or structural forces). Why Deconstructivists have generally ignored the former in favor of the latter is curious and seems more a matter of aesthetic than mathematical preference. Biomorphic forms, whether those of Santiago Calatrava, Dave Sellers, or Jersey Devil, offer a more graceful and friendly architecture that has as much antecedence in nature as the faceted work of Zaha Hadid or Peter Eisenman.

Deconstructivists often try to express the complex crosscurrents of the city in a single building rather than in a larger accumulation of urban fabric. But they need the foil of conventional urban fabric, off which they feed and to which they contribute little. Like most Modernists, their buildings are not the straw but the egg, albeit a rough-hewn, crystalline one, typically. They never incorporate familiar bits of context, say a conventional roof monitor, balcony, doorway, or window. And they seem to have little faith in the acts of other designers to help make an urbanism that is sufficiently fractured to be an accurate reflection of what they believe to be the contemporary social condition. In this sense, Deconstructivism is simply a wilder version of Modernism, which was equally solipsistic and distrustful of context. Both movements have produced self-centered buildings, the former ones typically of pure, Euclidean geometry and the latter ones typically of shattered, fractal geometry.

Despite the different syntax of Eisenman and Hadid, as well as Frank Gehry,



A look behind another curved Gehry skin, the Experience Music Project in Seattle, reveals an awkward and wasteful array of torturously bent steel frames that belie the smoothly flowing forms of the building's exterior. (Photo by John Stamets)

Some contemporary Deconstructivists slice and break their building forms into slivers and shards; others twist and contort them into warped and disheveled buildings; still others make rounded bio-morphic shapes. In celebrating decentered and fragmented contemporary reality, Deconstructivism has given up hope of urban clarity, coherence, and civility—sometimes even of the possibility of urbanism itself—in favor of a mannered fin-de-siècle architectural exuberance and urban exceptionalism, as in this Frank Gehry design. (Frank O. Gehry & Associates)

Daniel Libeskind, et al., their formal vocabularies are all Modernist in their abstraction and minimalism. There is also an ironic consistency of shapes and materials for an architecture that purportedly celebrates complexity and violation. The shapes and facets are all abstract, clean, fragmented fractals, whether pure or "degenerative." Perfection has not so much been deconstructed and violated as it has been artfully sliced and diced into a carefully random, carefully collaged collection of forms. In the end, Deconstructivism's theoretical bark is worse than its architectural bite, although its urbanism can inflict nasty wounds.

Its drawings and models can be elegant and its built examples can be powerful, beautiful sculpture. There is an exuberance and joie de vivre, verging on a fin-de-siècle decadence in Gehry's work. His work is long on the human spirit but short on community and sustainable order. Deconstructivist architecture can also be second-rate sculpture, compromised by both contemporary construction systems and budget. In the hands of Southern California architects, for example, Eric Owen Moss, it can slip into angry and perverse architecture—convincing neither tectonically nor sculpturally, however earnest its angst may be. Not surprisingly, Deconstructivist designs, produced by awkward collisions, splinterings, and fragmentations of form, are often impractical or near impossible to construct and maintain.

They are impossible to design and construct without computers. As Alexis Tzonis has pointed out, "The computer driven proliferation of forms at the end of the millennium has spilled over to the level of the self-indulgent and hedonistic."[7] He goes on to describe how Gehry's work uses computers to "ease" the design and construction of buildings conceived with traditional sketches and models, while Calatrava uses them in his high-tech architecture "to empower design vision."[8] Indeed, a look at the structural system behind Gehry's flowing forms, which seem so effortlessly constructed, often reveals a grid of awkwardly bent steel members. The issue of whether the computer revolution represents a change in degree or a change in kind continues to haunt current architectural debate. Which of these two design modes prevails may answer this conundrum of whether computers have precipitated a paradigmatic change in architecture or simply speeded up, economized, and enriched conventional design methodologies and delivery systems.

Green Building

Also emerging—re-emerging actually—in the 1990s was "green" design and building. It is not so much a revival as a survival of energy-conscious design that flourished twenty years earlier. Part of the larger sustainability movement, it addresses the energy embodied in building materials and practices, as well as energy consumed by the lighting, heating, cooling, and construction of buildings. It also

This green building at Oberlin College designed by William McDonough & Partners uses one-fifth of the energy typically used in new classroom/office buildings, purifies its wastewater on site, and uses recycled steel, nontoxic fabrics, wood from certified forests, and leased "product of service" carpet. David Orr, Chair of Environmental Studies at Oberlin, says "the curriculum embedded in any building instructs as fully and as effectively as any course taught in it."

tackles the issues of toxicity and pollution more aggressively than the passive solar and "Smart Building" movements of the 1980s, respectively. It also promotes the idea of reusing and recycling building materials, a regular practice in earlier eras. (In medieval construction, for example, heavy timbers were unpegged and reused in new structures.) Last, the movement is more sensitive to the issues of environmental justice, which has uncovered many of the unintended and hidden sociopolitical agendas that are embedded in environmental imperatives and mandates (which often embody the moral norms of the privileged class, in some cases passing them off as science, much like the Victorian social reformers cloaked their noblesse oblige in pseudoscience).

Although increasingly international in following, green design is ultimately dedicated to local acts of design and construction and therefore sympathetic to

regionalism. And because it is committed to lower-energy, less auto-dependent, less consumptive households and communities, it is very compatible with New Urbanism. Green designers are seriously needed, even if they are sometimes too single-minded or austere about their agenda. Green design is paralleled in landscape architecture by such ecological practices as the biological treatment of sewerage, natural filtration of storm-water runoff, urban horticulture, organic farming, and Xeriscaping, i.e., using native plant materials that need less water, fertilizer, and pesticides. Such work must be beautiful as well as green. If aesthetically pleasing, buildings and landscapes will be loved, and if loved, they will be cared for over time. And if cared for, they will be sustained.

Fortunately, the "green" movement promises to be both more politically sophisticated and more internationally coordinated than earlier environmental and energy movements, as evidenced by the Earth Summit and International Habitat conferences in Rio de Janeiro and Istanbul, respectively. A compelling case for green design is made by Sim Van der Ryn and Stuart Cowan in *Ecological Design*, which outlines five important principles of sustainable building design. William McDonough's *The Hanover Principles* is a concise statement on the principles of green design, a large and critical subject that must, alas, remain beyond the explicit scope of this book. Suffice it to say that most of the values, principles, and ideas that imbue this book and New Urbanism are about the sustainability of the built, social, and natural environment, especially at the neighborhood and regional scale. In fact, New Urbanism has added several shades of green to the sustainability movement: a greater appreciation that vehicular flows can be as significant as natural flows in the environment and that the party wall is as important as the solar wall. It has also exposed some environmentalism as obstructionist NIMBYism and asserted how critical urban infill is to stopping sprawl and preserving open space.

Related to green architecture and worth a detour is the work of Paul Hawken, whose *Ecology of Commerce* is a seminal book on the sustainable possibilities of a revamped market economy. With co-authors Amory and Hunter Lovins, he followed with *Natural Capitalism*, a book so chockfull of compelling ideas and facts that it should be required reading for all corporate leaders and recommended reading for everyone else. Large corporations, they note, are "using too many resources to make too few people more productive."[9] They turn on its head the basic assumption of classical industrialism, stating that

> The *summun bonum* of commercial activity is to use more natural capital and fewer people. When society lacked material well being and the population was relatively small, such a strategy made sense. Today, with material conditions and population numbers substantially changed, it is counterproductive. . . . the equivalent of pre-Copernican in its outlook. The true bottom line is this: A society that wastes its (natural) resources wastes its people and vice versa.[10]

Capitalism, as practiced, is a financially profitable, non-sustainable aberration in human development. What might be called 'industrial capitalism' does not fully conform to its own accounting principles. It liquidates its capital and calls it income. It neglects to assign any value to the largest stocks of capital it employs—the natural resources and living systems, as well as the social and cultural systems that are the basis of human capital.[11]

Another important green concept is "the ecological footprint," as put forth by Mathis Wackernagel and William Rees. It examines the ecological capacity of a locale to support consumption and lifestyles by converting the total flow of material and energy needed to support a regional or national economy to an equivalent land area or "footprint."

Worldwide, productive land available per capita since 1900 has declined from fourteen to 3.7 acres, of which less than an acre is arable. On the other hand, the amount of land required to support populations in industrialized countries has risen from 2.5 acres per person in 1900 to an average of 10 acres today. From a surplus of 11 acres in developed countries in 1900, there is now a deficit of 7 acres per person. For all the world to live as an American or Canadian, we would need two more earths to satisfy everyone, three more still if the population should double, and twelve earths altogether if world-wide standards of living should double over the next forty years.[12]

To bring the footprint back to the scale of the human body, take note of the fact that "for the average American, the daily flow of materials (other than water) totals more than 20 times his or her body weight, nearly all of it waste." Lovins et al. also state that some 50 pounds of fuel and 50 pounds of construction materials, not to mention almost 400 pounds of waste and detritus from the extractive industries and 2000 pounds of water, are mobilized every day on behalf of each one of us.[13] The books cited above are full of suggestions, strategies, and tactics that irrigate and reform capitalism rather than damn it.

High-Tech Architecture

A remarkably resilient movement in the face of all these recent architectural currents and countercurrents, high-tech design is meant to not only embody and utilize but also to express modern construction techniques and materials. It has its historical roots in the Bauhaus, Russian Constructivism, Mies, Buckminster Fuller, and Jean Prouvé. Starting in England in the 1960s with the architectural practices of Peter Cook, Archigram, Cedric Price, and James Stirling, it has been honed to a high art by Lords Richard Rogers and Norman Foster, and Renzo Piano of Italy, often with Ove Arup and Partners as consulting engineers. They and their

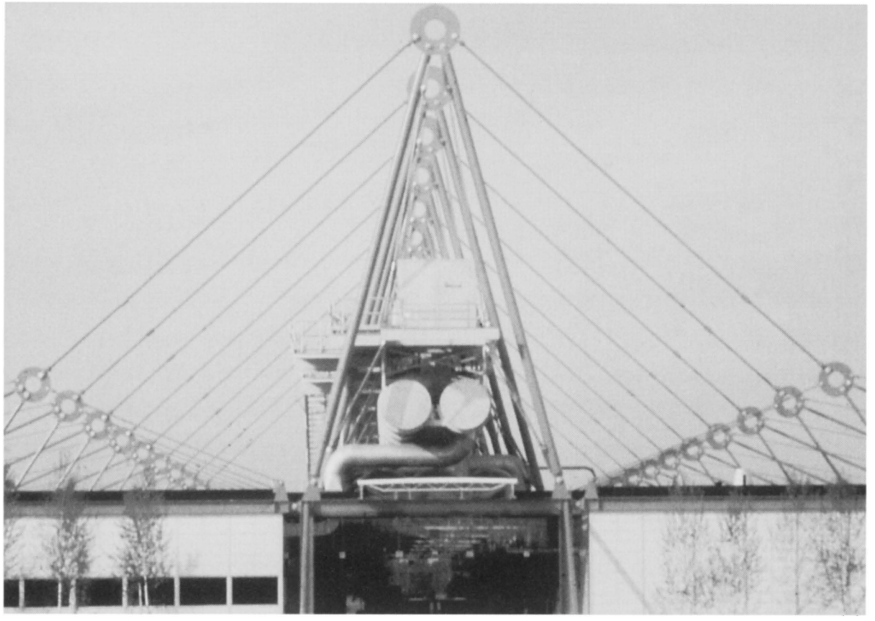
colleagues and followers deploy technology in aesthetically refined and materially elegant ways, with a high priority placed on the legible resolution of structural forces and the architectural forms that result from such engineering purity. They delight in clear structural systems and an industrial craftsmanship that respects the innate qualities of materials and how they are joined one to another. The viewer wants to touch and stroke the handsomely crafted components, much like one wants to put his or her hand on a beautiful racing bike or motorcycle.

There are deeper justifications given for high-tech architecture than aesthetics, such as the rational efficiencies and economies of using off-the-shelf products, factory pre-fabrication, dry and lightweight construction, and precision engineering. But architectural construction is inherently a low-tech to middle-tech activity. True high technology is prohibitively expensive for buildings and reserved for scientific tour de forces, such as lunar landing vehicles and electron microscopes.

Despite their rhetoric about technological and engineering determinism, high-tech architects are most passionately driven by a love of building craft and artistry, so long as it produces work that is aesthetically exquisite. They run the risk of letting refinement turn to fetish. Some major talents, like Calatrava, are in danger of becoming too mannerist with their more personally expressive and stylistic interpretations of technology. They must also guard against structures that age and deteriorate quickly. Like automobiles, their colorful, highly articulated superstructure and cladding tend to fade, dent, and rust. They also run the risk of seducing themselves with a single-minded and hermetic logic of construction and technology. Rationality, although based on reason, can become unreasonable if taken too far. Indeed, as architectural historian Kenneth Frampton has pointed out, high-tech design can become an all-consuming obsession. "Architects should be encouraged to discriminate between science-fiction maximization of high technology as an end in itself and the deployment of an appropriate technology as a means to a liberative and poetic end."[14]

High-tech architecture has already lasted longer than Postmodernism and Deconstructivism, which in itself is quite an accomplishment in this era of fast-changing fashion and theory. It is progressing toward its own perfection, which, if not intelligently handled, could prove to be yet another architectural dead end.

High-tech embodies the three basic values enumerated in the introduction. First, the search for engineering refinements and ever-lighter, clearer, and more daring structure is a positive affirmation of *human spirit*. Second, its more recent focus on energy efficiency and environmental concerns is a positive manifestation of *sustainable order*. And third, such efforts as Norman Foster's interest in "space syntax," a computerized analysis of spatial integration and connectivity that can predict and optimize how urban life will evolve, shows a growing commitment to *community*. Many of Richard Roger's public projects are enlivened by his Mediterranean love of street life and the public realm. In general, the star



High-tech architecture has already outlasted Postmodernism and Deconstructivism. If it can continue to respond to the environmental and energy-conscious mandate, as well as become more sensitive to both its physical and historical contexts, high-tech architects could set a very high standard for architecture and urbanism over the next decades. (Patscenter by Richard Rogers Partnership/Kelbaugh & Lee)

architectural practitioners of Europe are more sensitive to urban design than their American counterparts. If these social and environmental tendencies are developed further on either side of the Atlantic (or Pacific for that matter), the high-tech movement offers great promise to blossom into a more complete and mature architecture and urbanism.

The most promising and exciting avenue for progress at the scale of architectural design and production seems to be in the development and application of new materials, products, and ecologically conscious systems. As architecture begins to mimic the sophistication of nature, it can begin to exhibit the dynamic, self-regulating, and even self-repairing behavior of flora and fauna. (As a science writer points out, a spider spins silk as strong as but tougher than bullet-proof Kevlar from digested crickets and flies without needing boiling sulfuric acid and high temperature extruders; and the abalone makes from cold seawater without furnaces an inner shell much tougher than the ceramics used on missile nosecones.) Skins and joints, which are so important to high-tech designers, can become soft and supple or sinewy like an epidermis or ligament. Benign chemical compounds, biological enzymes, and nerve ganglia can find their architectural analogues and counterparts, maybe even direct applications. New materials

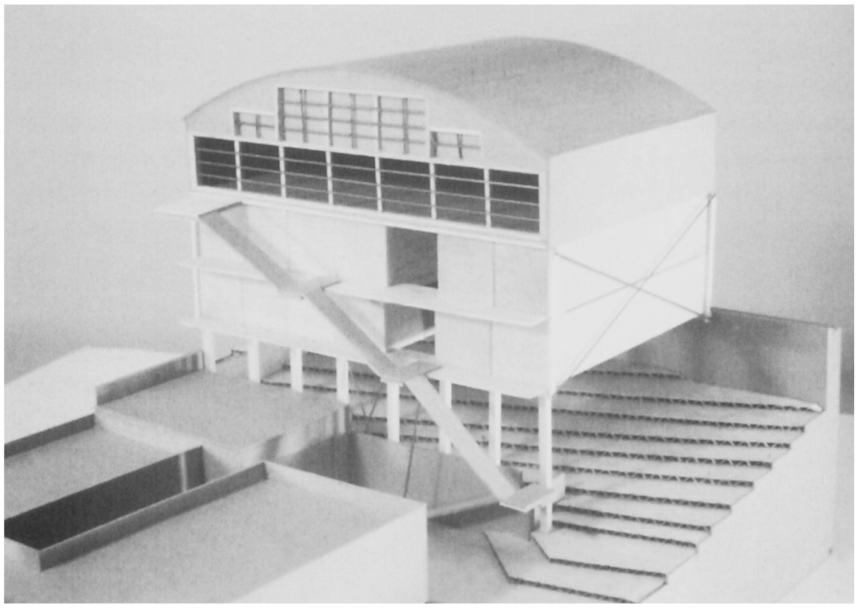
and systems like photochromatic glass, cloud gel, and photovoltaics begin to suggest how windows and walls can modulate themselves, produce energy, and dynamically maintain the sensory environment. It is not just a matter of designing user-friendly, intelligent buildings with the computer ability to monitor and regulate their energy flows, comfort levels, and security, but of designing buildings that are actually organic and alive. This agenda is anything but a dead end, and could lead to an architecture that is not only efficient but wonderful in the true sense of that word, i.e., full of wonder for its users. However, high-tech buildings must continue to develop a greater sensitivity to their sites and their historical and regional contexts if they are to reach their highest architectural and urban potential.

Regionalism with an Edge

If Modernism as it was once known is dead, Postmodernism finished, and Deconstructivism in decline, there is an existential dilemma for architects. On the one hand, the social and technological agenda of Modernism still seems correct. But the Modernist commitment to place, context, history, craftsmanship, and resource and energy conservation seems distinctly lacking. On the other hand, the urban agenda of Postmodernism still seems right-minded, but its Neoclassical ornament and tectonics seem pasty and superficial when attempted today. There is something spiritually as well as physically hollow about most Postmodern structures. And Deconstructivism gives in too easily to the dehumanizing and alienating forces of the millennium at hand.

On another axis altogether is a third position that breaks this existential bind and "distances itself equally from the Enlightenment Myth of Progress and from a reactionary, unrealistic impulse to return to architectonic forms of the pre-industrial past."[15] This alternative way of looking at things is Critical Regionalism, a term popularized and given gravity by Kenneth Frampton. To further quote his seminal text, Critical Regionalism resists the contemporary practice of architecture that is "increasingly polarized between, on the one hand, a so-called 'high-tech' approach predicated exclusively upon production and, on the other, the provision of a 'compensatory facade' to cover up the harsh realities of this universal system."[16] This resistance to global production and consumerism seems more valid today than two decades ago.

Critical Regionalism is two-handed. On the right hand is the mark of a particular region: each region determining its own architectural fate and shaping its built environment without mimicking other places. On the left hand are characteristics common to regionalist architecture in any region in the country, perhaps the world. These regional characteristics are most easily expressed at the scale of small buildings, especially residential architecture, where designs and



This studio and warehouse building designed (but not built) for Dale Chihuly attempts to be regionalist without resorting to nostalgic local references. For its underbelly of storage rooms, it uses recycled cargo containers, an inexpensive, reused product from Puget Sound's shipping industry. (Doug Kelbaugh with Rick Mohler)

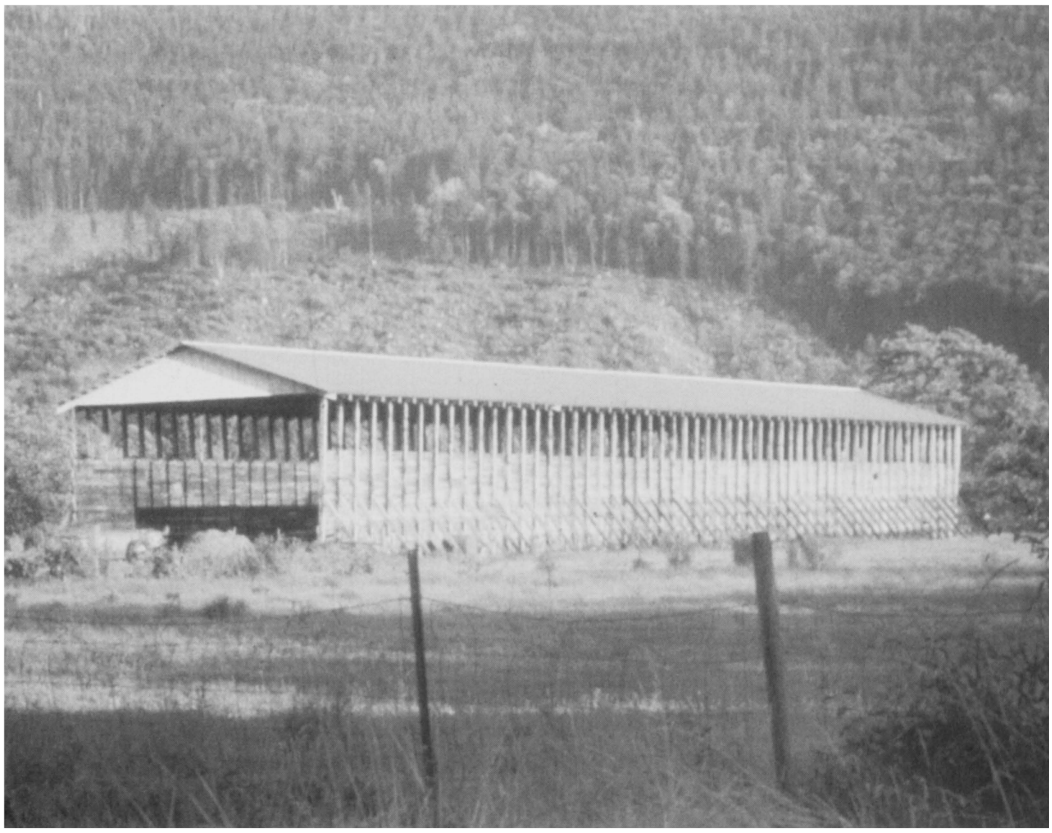
builders are often most sensitive to site, climate, and tradition. Large buildings, particularly high-rise and long-span structures, have design determinants that are more universal, such as gravity, wind, and, to a lesser extent, seismic loads. Climate affects large buildings less because their heating and cooling needs are driven by the internal loads of lights and people rather than ambient solar radiation and temperature. Accordingly, they are less likely to develop regional idiosyncrasies or variations.

Five Points of a Critical Regionalism

These five characteristics or attitudes, originally proposed in 1985, are my attempt to define Critical Regionalism:

1 / Sense of Place

Critical Regionalism first and foremost starts out with a love of place. This topophilia seeks to liberate the genius loci. It is critical of simpleminded or exces-



Vernacular buildings, like this hay barn, can be as beautiful and inspiring as high-style architecture. They are unconscious designs and therefore regional rather than regionalist.

sive importation of culture from other places. It honors local climate, topography, vegetation, building materials, and building practices. It prefers local authenticity to sophisticated imitation. That which makes a place unique is worth celebrating and protecting with architecture. This act of protection is also an act of resistance. Critical Regionalism says no to outside influence and hot new ideas more than it says yes. It must be picky and stubborn in this age of aggressive hype and universal civilization. It realizes that the more well-defined and highly evolved a place is, the less likely it is to be improved by random imports, experimentation, or change for change's sake. It resists the kind of cultural homogenization and commodification that makes the Puget Sound Basin like California's Bay Area, Sydney like Perth, Houston like Atlanta, and that makes one suburb like the next.

Critical Regionalism must, on the other hand, be careful not to be too sensi-

tive or resistive to change, lest it turn into a sour cynicism or saccharin sentimentality. It also has the potential to degenerate into a scared or snobbish xenophobia. It must walk that thin line between conservation and reactionaryism. It can't afford to be bitter about lost battles for former good causes or it will risk becoming too negative about today's challenges. As Jacques Barzun ends *The Columbia History of the World*: "The building or rebuilding of states and cultures, now or at any time, is more becoming to our nature than longings and lamentations."[17]

Critical Regionalism is not provincialism, a myopic cousin of regionalism. Provincials don't know what they don't know. Critical Regionalists know the limits of their world, which can be cosmopolitan without being elitist. Travel can build an understanding of what is worthy of both bringing home and returning home for. Indeed, the revolution during the 1960s in air travel, which made it possible for the middle class to see the world, accelerated the awareness of regional differences. As much as they respect place, Critical Regionalists are not sentimental about it. They resist indulging in nostalgia and literally recapturing how sweet it was in the old days or old country. Critical Regionalism may at times be too self-conscious about what is worth preserving about a place, but cannot be afraid when it is necessary to be bold and visionary about the future.

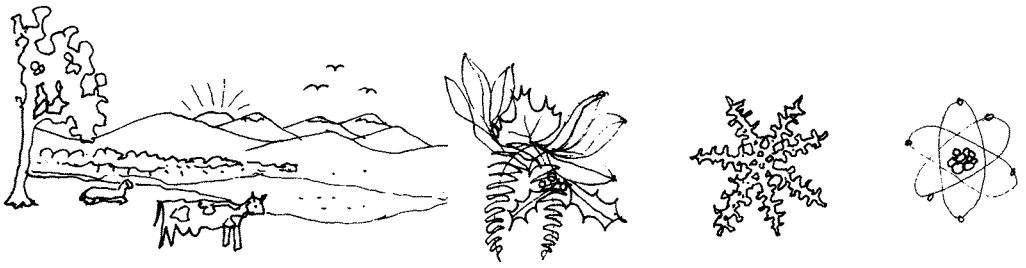
2 / Sense of Nature

Human subtlety will never devise an invention more beautiful, more simple, or more direct than does Nature.

—LEONARDO DA VINCI

Nature is a good model for design because it holds the key to vitality, beauty, and sustainability. Designers can learn from the incredible simplicity and sophistication of biological and ecological systems. Diversity, symbiosis, synergy, balance—these are profound and inspiring messages for all designers. Working together, architects, industrial designers, landscape architects, urban designers, and urban planners can fulfill an ecological role, namely to protect and preserve ecosystems, natural cycles and chains, and the symbiosis between organisms and their environment. Their role, as mentioned in the introduction, is also to reverse entropy, which is done by creating order and meaning. The most meaningful and highly evolved order is to be found in nature.

Nature has inspired designers and artists in different ways. The word "natural" has been used over the years to describe and defend varying positions, such as romantic, picturesque, and organic. Nature per se does not demand any one interpretation. In fact, all phenomena can be called natural in the final analysis.



Romantic Organic Abstract Mechanistic

Nature has been viewed and copied at different scales by different epochs. Critical Regionalists, like environmentalists, particularly admire and are inspired by nature at the organic level. Modernists preferred the abstract mechanics of atomic physics, just as Romanticists took great strength from pastoral landscapes. Deconstructivists have mimicked fractal geometry, which attempts to describe naturally occurring shapes that repeat themselves at any scale. Some contemporary architectural thinkers have been inspired by chaos theory in another attempt to copy nature.

Many positions, some opposing, can be taken from or based on nature and natural phenomena. It depends on the scale at which the artist or architect views nature. It can be called romantic at the landscape scale, humanistic at the anatomical level, organic at the vegetable level, abstract at the microscopic level, and mechanistic at the atomic level. Nature seems most understandable and accessible at the scale of fauna and flora. These scales, although ruled by natural laws that can be expressed as abstract mathematical formulae and Euclidean and fractal geometries, are less abstract to the human eye. The animal and plant kingdoms are full of figural, ornate form.

Nature has provided a bottomless source of forms and images. The Romantic Age looked to nature at the scale of the bucolic landscape. The Art Nouveau period looked to nature at the vegetative scale—the palm frond and sinuous vine—much as the Victorians had admired the giant lily pads they imported into their hothouses from distant continents. The Arts and Crafts movement had its love affair with wisteria, dripping from wooden arbors. Modernist architects and theorists have also extolled the virtues of nature, looking for underlying formal principles there rather than in history or culture. One scale at which nature seemed to inspire them was atomic physics. This sub-visual scale represents nature at its most abstract, which is not a surprising preference given the Modernist mania for abstract form. Natural forms at a visual scale, like the symmetrical snowflake or the nautilus shell that grows in a pure spiral, were also an inspiration to Modernists.

Critical Regionalists and green architects can wax enthusiastic about a water hyacinth or sea manatee, which can cleanse sewage treatment wastes of heavy

metals. They might also be attracted to the fuzziness of chaos theory, which deals with natural phenomenon that are too complex to be described or even understood by linear analysis and conventional geometry. A sense of nature for them is messier, more organic, and not as visual as the precise, dry, Euclidean geometry of Modernism. While Modernism looked to physics and engineering for lessons and inspiration, regionalism looks to the life sciences and ecology, which have enjoyed great attention and breakthroughs in recent decades. Buildings and cities, like plants and animals, can be viewed as vital rather than as inert and denatured. They can be treated as organisms which are conceived, grow, flex, adapt, interact, age, die and decay—always rooted in their habitat. Site-specific design—with its sensitivity to the living environment—is fundamental to a sense of nature.

We must occasionally remind ourselves that human culture and its artifacts are young and immature compared to nature. A trip to the mountains or the forests is a sobering if pleasant reminder of nature's power. Architects who cavalierly dip into the history of architecture for pleasing and familiar forms rather than into nature for enduring patterns and types must beware: history's gene pool is smaller, its process of natural selection far briefer. A Gothic cathedral, as refined as it is, pales before the overwhelming complexity and four-dimensional order of a rain forest or salt marsh, perhaps even a cubic yard of rich topsoil. A modern metropolis might match the complexity of an ecosystem but not its order or sustainability. The history of architecture, replete as it is with impressive and wonderful achievements, is nowhere near as amazing or as sublime as nature.

3 / Sense of History

No one can deny that the best buildings, gardens, and cities of the past are overwhelming in the awe and joy they can elicit. But they yield more than beauty and pleasure. They offer lasting lessons—ones that are more easily applied than the lessons of nature. History should be respectfully studied for design principles rather than used as a grab bag of forms. Time-tested architectural types are more valuable antecedents than specific historical styles, however beautiful they may still appear. An architectural type that has stood the test of time, like the basilica or courtyard house, must be doing something right in terms of responding to climate, social and cultural needs, tradition, and economy. The best buildings from the past—whether vernacular or Architecture with a capital A—continue to set the high standard of excellence for today's designers.

Architectural history is also a deep and rich archive for designers. Whether by a vernacular farmhouse or classical temple, architects have always been inspired by the past. Historical precedents are a good point of departure when designing buildings. Their design vocabulary and syntax can be creatively transformed to express and to accommodate new technical and programmatic forces. Traditional

Basic architectural types—like the basilica, campanile, palazzo, and galleria—were all brought together over a millennium in Piazza San Marco. The world-famous composition was not planned by a single hand but was the result of each Venetian doge and his architect making a careful addition that respected but did not fawn over what came before—a sense of history tempered by a sense of place.

architectural language can evolve, much as spoken language does in multilingual dialects and much as new words are coined to name new scientific and technological developments. This incremental evolution applies to both vernacular and high-style architecture. Conventional architectural language can be converted, subverted, inverted, or perverted. If it evolves too suddenly, it loses its meaning and power. Change is most successful when it is fresh but not too radical or too abrupt, so that it "rhymes" with a familiar imagery. Rhyme—likeness tempered by slight variation—is naturally pleasing to the human eye, as it is to the ear.

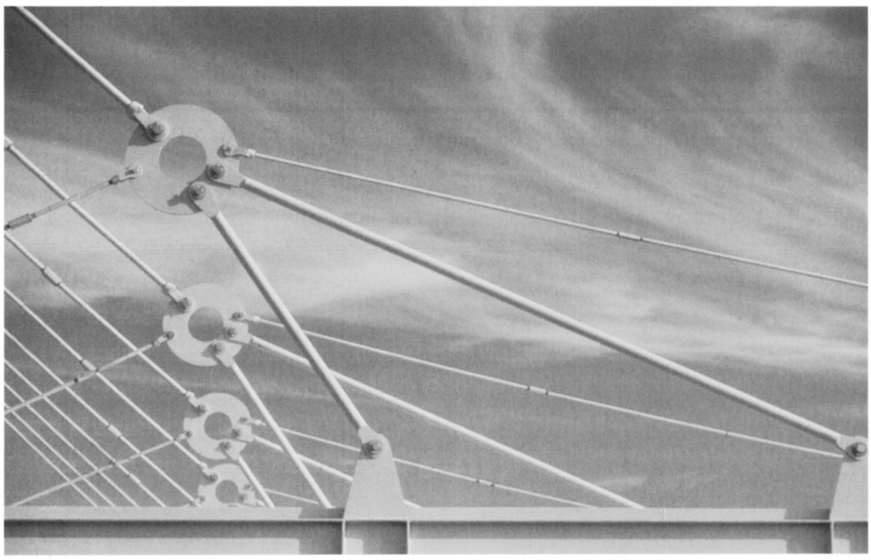
To paraphrase psychologist Nicholas Humphrey, aesthetic pleasure must convey some biological advantage, as nature gives away nothing for free.[18] His thesis shines a different light on the role of history in aesthetics. If aesthetic pleasure, like sexual and appetite gratification, has played an important role in our biological survival and evolution, it is because it provokes and encourages human beings to classify the sensory world visually. Subtle variations on a shape are more visually stimulating than exact repetitions of a shape. Unstimulating patterns are inherently less interesting to the viewer and therefore less likely to be viewed attentively. Sorting out and correctly reading the sensory world were critical to survival and evolution. To put it simply: the more pleasurable the task, the greater the attention, the greater the understanding, and the greater the biological advantage. Humphrey postulates that what is both stimulating and legible is imagery that "rhymes" with other familiar images, whether across space or over time. To "rhyme," images must be neither too similar nor too dissimilar. In the former case, the human tends to lose interest too easily and in the latter case to become confused and discouraged too easily. Thus, the happy medium between these two extremes has over millions of years, Humphrey hypothesizes, come to be seen as beauty. The aesthetic pleasure it affords is functional as much as titillating. When design rhymes across time it demonstrates a sense of history, and when it rhymes across space, it reinforces a sense of place. (For further development of these and other ideas on the origins and role of aesthetic pleasure, see the writings of both Jay Appleton and Grant Hildebrand, especially the latter's latest book, *The Origins of Architectural Pleasure*.)

4 / Sense of Craft

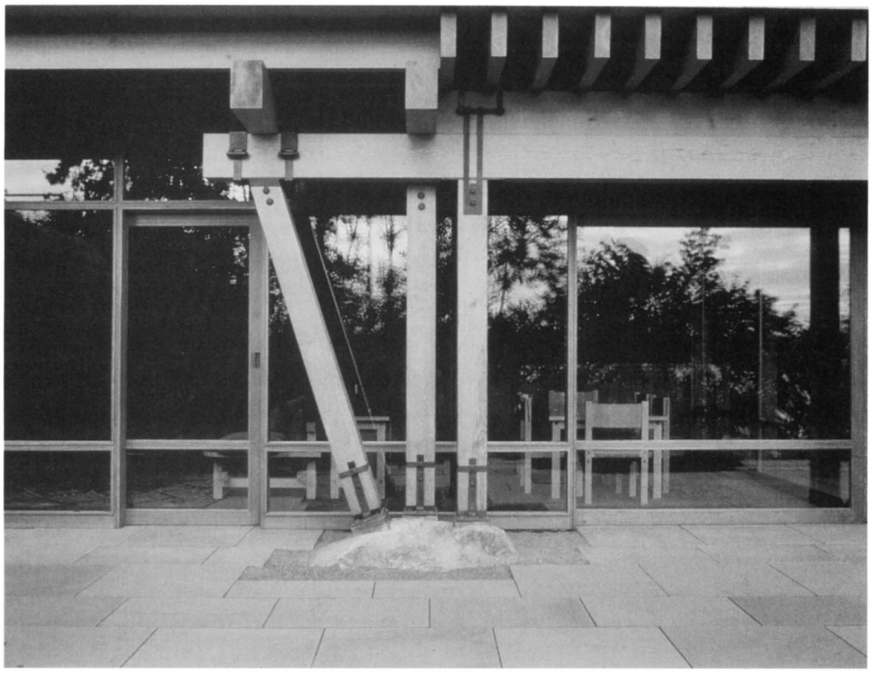
The construction of buildings has become junkier. Stewart Brand, who has studied the evolution of building technology since founding *The Whole Earth Catalogue* a generation ago, agrees. "The trend in construction during this century has been toward ever lighter framing with the result that buildings look and feel increasingly like movie sets: impressive to the eye, flimsy to the touch, and incapable of aging well."[19] They are usually built with less human care and of less natural and less substantial materials. Copper has given way to aluminum,

brass to brass plate, slate to asphalt, marble to plastic laminate, wood to particle board, tongue and groove siding to Texture-One-Eleven plywood, and plaster to Sheetrock. It's the last of these, gypsum drywall, which epitomizes the deterioration of quality in our buildings and the slippage from tectonic toward scenographic design. The Sheetrocking of every new house in America has brought a slow and subtle loss of precision and substantiality in construction. The ubiquitous aluminum sliding glass door has had an equally wide-scale and dumbing effect.

The loss of craft is part of a bigger economic web that is unfortunately beyond the control of the designer, or for that matter, the region. Basically, architectural craft and detail are getting relatively more expensive than manufactured items—especially products that take advantage of miniaturization and mass production. Because the construction of architecture is labor-intensive, it is doomed in the foreseeable future to fall further and further behind more mechanized and industrialized production. Unlike the performing and visual arts, which suffer economically from a similar labor intensity, there is little government subsidy for architecture. For the public's dollars, architecture also has to compete with ever-cheaper consumer items, such as televisions, cars, clothes, and travel—



The love of craft need not be expressed in traditional ways, so long as it respects materials and their joinery. High-tech architecture can be as carefully and elegantly detailed as earlier hand-crafted buildings. (Patscenter, Princeton, N.J., by Richard Rogers Partnership/Kelbaugh & Lee)



Handcraft, however, still survives in contemporary architecture, as exemplified by this Pacific Northwest residence. (James Cutler Architects and Bohlin Cywinski Jackson; photo by Art Grice.)

all of which continue to become cheaper in real dollars. Most Americans will choose—understandably—a $400 CD player over a solid-core oak door. In the meantime, Critical Regionalists keep ripping the fake plastic wood off their dashboards and refrigerator handles.

The ongoing slippage in the quality of construction is exacerbated if not actually caused by the way contemporary real estate development is financed. Investors, developers, and builders are typically blinded by methodologies and mindsets that have become gospel at American business schools. For the past forty years, MBAs have learned "discounted cash flow" as a method to compare alternative investments. Along with "net present value" and "internal rate of return," different projected cash flows can be compared over time to select the alternative with the highest yield.

As Robert Davis, founder/developer of Seaside and former Chair of the Congress for the New Urbanism, has written, this methodology has tended to produce the short-term thinking and investing that is now pervasive in the industry.[20] It is the thinking that makes Wal-Mart willing to build on the outskirts of town a new 60,000–square-foot store that has an expected life span of five years. After the local market has been primed, they build a 110,000–square-foot build-

ing a little further out and abandon the first building, whose cheap roof and mechanical system are beginning to wear out. While Wal-Mart and other big-box discount retailers represent other interesting controversies and dilemmas, as elaborated in chapter 1, there is little disagreement about the low quality of their building construction, which is not surprising given that the building is treated more like an operating expense than an investment. Their real estate development strategy is becoming commonplace, with investors encouraging developers to build retail and office space with the cheapest available systems and materials, not to mention repeatable designs that are often gussied up with signage and entrance marquees to look different from one another and more upscale than they are. There is, of course, nothing new about architecture pretending to be more than it is, but the life expectancy and craftsmanship of buildings in the United States has never been lower, including the wood buildings thrown up in the "wild west." Real estate investment, before discounted cash flow and its short-term returns became widely accepted, used to be built to last.

5 / Sense of Limits

The Modern Movement, especially the International Style, saw space as abstract, neutral, and continuous. It placed objects in a universal Cartesian grid, ignoring circumstance and place. At the regional scale this grid ultimately came to spread itself evenly across the countryside. At the architectural scale, Modernists saw space as flowing freely within open interiors and between the interior and exterior in buildings that were increasingly transparent. With Postmodernism there arose a renewed interest in discrete, static space. Human-scale rooms began to replace free-flowing spaces. The notion of a room before Modernism was positive, figural, contained, often symmetrical, and enclosed by thick walls of real mass. These are the attributes of Postmodern space, although the mass is now more apparent than real. The notion of public space as finite, contained, outdoor rooms, defined by background buildings and punctuated by foreground buildings, was also revived in the 1980s.

The room as a discrete architectural element was respectable again. Also seen as positive were other aspects of finite geometry: the axis, which establishes geometric beginning and terminus; symmetry, which creates a centerline; frontality, which distinguishes front layers from back layers; and fat walls, which rely or pretend to rely more on compression than tension for structural stability. These formal devices all resulted in an architecture and urban design that looked and felt more finite, more massive, and more static.

A sense of limits is about the need for finitude and for physical and temporal boundaries to frame and limit human places and activities. It is about the need for human scale in the built environment. It is also about the need for psy-

Modernist space was conceived of as universal, continuous, and boundless. Form was reduced to abstract rather than recognizable figures or shapes by architects like Mies van der Rohe, who took Modernist reductionism to its greatest level of abstraction. Imitations of these platonic Chicago buildings, which are oblivious to the sun's path, can be found in any orientation in any modern city of any climate.

chological boundaries—ones that make life more understandable and negotiable. As others have pointed out, spatial boundaries demarcate the beginning of the presencing of a place as much as the ending of a place and its power. Boundless architectural and urban space has less nearness, less presence. Limits are what differentiate place from raw space, whether they separate sacred from profane space or one secular space from another. The German language has the word "raum" to describe a finite place or room. The Japanese use "ma" to denote a bounded space, although it literally translates as "interval." English is less precise about place.

The appreciation of natural resources as limited was parallel and simultaneous to the renewed perception of architectural space as finite. This sense of limits is one position on which passive solar architecture, Critical Regionalism, and Postmodernism all converged in the early 1980s. Typology, which is covered in great detail in chapter 3, is another idea on which architectural and urban theory converged during that period. All these ideas are now worth reconsideration a generation later.

Critical Regionalism Criticized

There have been some negative responses to Critical Regionalism. One has been that it is inherently elitist because of the low regard in which it sometimes holds popular taste. This disdain, architects like Dan Solomon claim, is as non-conducive to the making of everyday neighborhoods and cities as is the Modernist preoccupation with individual buildings. This is a fair comment, as many of the architects (Utzon, Ando, Botta, Wolfe) cited in Kenneth Frampton's essays on Critical Regionalism are striving for a profound architecture. This aspiration is not particularly amenable to doing quiet background buildings or to sublimating the designer's ego to the court of community opinion. This is not a problem when designing isolated buildings. But, in the urban context, architectural heroics can be problematic.

The contemporary works of Tadao Ando, Toyo Ito, and many of their fellow Japanese architects are examples of strong and exquisite design. It is an architecture that places a high premium on originality and creativity and that thumbs its nose at its urban context, which has lost much of its coherence since World War II. It may be an inevitable and necessary irony in a society so driven by social consensus and conformity that individual clients and architects express themselves so insistently with architectural statements. This single-minded pursuit of architectural originality and integrity is beautifully realized on remote sites. The context-be-damned attitude also produces fine individual buildings in tightly packed cities but a chaotic urban fabric. A certain urban homogeneity sets in because many buildings are close together, similarly sized, and consistently incon-

sistent. So a rough-cut uniformity ironically emerges from and within the egotistical variety; another kind of conformity and uniformity obtains. Nonetheless, this self-referential work, like its counterparts in Europe and America, is often more interested in finding a place in glossy international journals and the annals of architectural history than in the local neighborhood.

Another criticism has been that Critical Regionalism can be sociopolitically reactionary—a step back into the brutal national and regional ethnocentrism and racism of the past. Alan Balfour, while chair of the AA School of Architecture in London, makes these observations:

> The emergence of a European economic union is coupled, in paradox, by aggressive assertions of nationalism. Consider, for example, what is already underway in those nations lately released from the grip of Russia—Hungary, Poland, and Romania—where architecture is seen as the most potent means of restoring and representing the national identity. Students are encouraged to resurrect ancient mysteries, that is, to imagine objects that may unwittingly reinforce racial and tribal differences. In spite of good intentions, the monsters may return. Critical Regionalism seemed at first a benign proposition but is now proving to have a sinister subtext. Such forms may bring with them all the wrath of unresolved injustices. Architecture must hold its place in this maelstrom of mediated reality that will increasingly try to dislocate the future. It cannot all be left to television. . . . to construct the present only from the past is to condone the death of the future.[21]

This statement has some truth to it. Architectural regionalism and nationalism have been invoked by fascist movements. Critical Regionalism can look darkly conservative. However, it's a question of scale. First, Critical Regionalism is not nationalism. Regions are smaller than most nation-states. The ideal region is arguably the metropolis. Secondly, Modernism, however international or liberal, wasn't able to banish "ancient mysteries" or "racial and tribal differences." It simply repackaged these questions at increasingly larger scales. It has consorted with corporate and governmental giganticism, whether capitalist or socialist, and been party to this century's trade-up from national to global commerce and world war. Multinational and supranational corporations, international finance, continental trading groups, and universal culture can be as brutal as national and regional rivalries—only cooler and more insidious. Wars can now be very impersonal, fought at great physical distance on cool video screens with push buttons and electronic mice—without in-your-face screams and blood.

The "wrath of unresolved injustices" is less sinister and more likely to be understood and resolved at the more personal and humane scale of the city and region than at the numbing scale of the universal civilization to which Modernism tends. To be sure, the bad ghosts and negative karma that haunt local, internecine conflict are hot and ugly. But visceral conflicts are less likely to be fought than

war with distant enemies who are faceless abstractions and objects of manufactured hatred. Balfour is absolutely right, however, about the need for architecture to hold its place in a reality that is more and more electronically mediated. But contemporary reality is least mediated at the regional and local scale that Critical Regionalism attempts to revive. That is precisely where it hopes to establish and find an existential foothold—not against the future but against placeless internationalism.

A third critique has been that regionalism, whether good or bad, no longer makes technological or economic sense. Modern industrial production and transport make regional building practices and materials a romantic anachronism. Regionalism is wishful thinking and indulgent longing for a past that is lost forever. This argument is based on a straight-line projection of technological revolution-without-end. It fails to take into account that the march of technology and mass culture will not continue indefinitely if enough people no longer believe that it is delivering a better life. Progress may not always be measured in economic terms, at least not as we presently understand progress and economics. We need not be slavish technological drones, committed to every new breakthrough. Technology has been so spectacularly successful for so long that we've been blinded by its light and are only now fully realizing the tradeoffs and total cost—whether it be in economic, social, environmental, or moral currency. Just because there is the technological know-how and the money to dress every new Asian hotel lobby and restroom in marble from Italy doesn't mean it's sensible to ship the Carrara Mountains halfway round the planet (a tectonic shift that would make geologists blush). It may appear economical with today's market pricing, but this pricing system must and will change to better reflect the costs. As prices and costs are more accurately aligned (they will never be exactly because external costs are continually being created or discovered), regionalism and localism may be not only more possible but more automatic.

Yet another criticism has been that a singular attitude to architectural design is no longer possible, given the realities of global electronic communication. Peter Eisenman, formerly a zeitgeister, argues that it is now impossible to operate with a single spirit of the times—the unitary organizing world view that animated the work of past eras:

> What characterizes the Rome of Sixtus V, Haussmann's Paris or the work of Le Corbusier . . . is that their plans derived from a singular body politic. Now, ironically, at a time when the entire world can be seen as part of a single operating network, such a singular world view is no longer possible. Today, the world can be explained not by a single zeitgeist, but by two divisions. The first division is a traditional one based on land, industry and people. The other division is based on information, which links technologically and culturally sophisticated world centers. . . . A Berliner of today probably has more in common with a New Yorker

than with a resident of another German city, so similar are Berlin and New York as cultural and information centers. When physical proximity is no longer a part of the zeitgeist of a place, the traditional notions of city and architecture are thrown into question.[22]

These are accurate and perceptive comments on contemporary circumstances. Eisenman acknowledges that places such as Serbia and Slovakia are still brought together primarily by shared characteristics, land, and language. However, places that have shifted from the mechanical to the electronic age are problematic for architecture. They must, he argues, confront the possibility of a placeless, electronic reality. It is a truism that modern telecommunications—infinitely light and almost infinitely fast electrons—are transforming our world. Computers, phone, facsimile, e-mail, internet, video, virtual reality, etc., are subversive of traditional life and culture. They will be superseded by even faster, more powerful and more convenient mediations of reality and modes of communication. But none of these developments makes traditional architecture, urbanism, and regionalism less necessary and meaningful. Indeed, it can and already has been argued that the fleeting world of electronic information increases the human appetite for real, palpable place. This is especially true in residential and neighborhood design. It's one thing for Eisenman to design a de-centered convention center in Columbus, Ohio, or a deconstructed office building in Tokyo; quite another for him to play with a residential quarter. He is mistaken to suggest that electronic media might kill the human need for the physical proximity of the traditional city. Like Marshall McLuhan's prediction in the 1960s that new electronic media would kill the book, and unlike Victor Hugo's prediction that books would supplant the cathedral, his prognostication will prove more wrong than right.

Last, Steven Moore of the University of Texas has argued that Critical Regionalism, as espoused by Frampton anyway,

relies upon philosophical assumptions drawn from opposing camps. Critical regionalism proposes to retain its hope in technology and simultaneously wants to revalue nature and place as positive forces in history . . . In other words, to construct a hypothesis that relies alternately upon opposing assumptions of critical theory and those of Martin Heidegger leads to philosophical confusion. What is needed . . . is not more hybridization of disparate forces, but a single set of philosophical assumptions that will lead to a coherent position.[23]

His position assumes that the Modernist preoccupation with technology is completely contrary to the Postmodernist interest in place, that the two are polar opposites. Although they tend to be polarizing forces, they need not be. Technology can be related to, if not rooted in, place, especially with computerized industrial production capable of customizing individualized units. As for conflict-

ing philosophical bases, reality is full of contradictions and antinomies. Indeed, this internal contradiction gives Critical Regionalism vitality, just as I will soon suggest that its external polarity with typology gives it other energies.

The human desire and need for the commodity, firmness, and delight, as well as the meaning that architecture can provide will not be erased by information technology. Architecture *is* information. Moreover, it embodies knowledge. Architecture is a unique and irreplaceable way of knowing the world—its own epistemology. Looking at a monitor or talking into a telephone all day makes face-to-face human interaction in well-designed buildings and outdoor spaces all the more necessary, satisfying, and worthwhile. Regional differences are relished and appreciated all the more. Authenticity and materiality command a higher, not a lower, premium in this increasingly mediated world. In the end, architecture is not words, metaphors, or paper, but buildings. "Formidable or modest, they occupy a place, they transform a landscape, they loom in front of our eyes, they can be inhabited. They are the stage of power, commerce, worship, toil, love, life. . . . This is the art that does not represent and does not signify but is."[24]

If a region keeps seriously at it, with enough thoughtful designing and building, something critically regionalist will emerge. This is especially true for small-scale residential and institutional construction, which is most subject to local climate and building practices as well as local tradition and tastes. Careful and critical work can develop regional integrity and character any time or any place, urban or rural. It is not a question of size or wealth or age. Charleston, Savannah, and Siena achieve their greatness despite their small size; Istanbul, Bombay, and Palermo despite their poverty; Sydney, Seattle, and Vancouver despite their newness. It is a question of cultural confidence and fortitude, as well as critical intelligence, discrimination, and sensitivity. In the end, respect for place, nature, history, craft, and limits will precipitate a Critical Regionalism. These five tenets contribute to an architecture of place—not an abstract and cerebral architecture but a real, palpable one. However, for all its power to satisfy the basic human need for particular place and for home, Critical Regionalism gives us little help in connecting to universal meaning in the built environment or in our lives. For that equally basic human need we turn to typology.

3 TYPOLOGY

AN ARCHITECTURE OF LIMITS

"I would have no problem with modernist architecture were it not for its appalling win-loss ratio. I am not prepared to tolerate the thirty million modernist buildings that have destroyed the cities of the world in exchange for the three thousand (or is it three hundred?) undeniable masterpieces of modernism."

—ANDRES DUANY

"What I wanted to do was stand the New York architectural world on its head."

—IAN SCHRAGER

"Don't get it original—get it right. . . . what serves the user is conventionality."

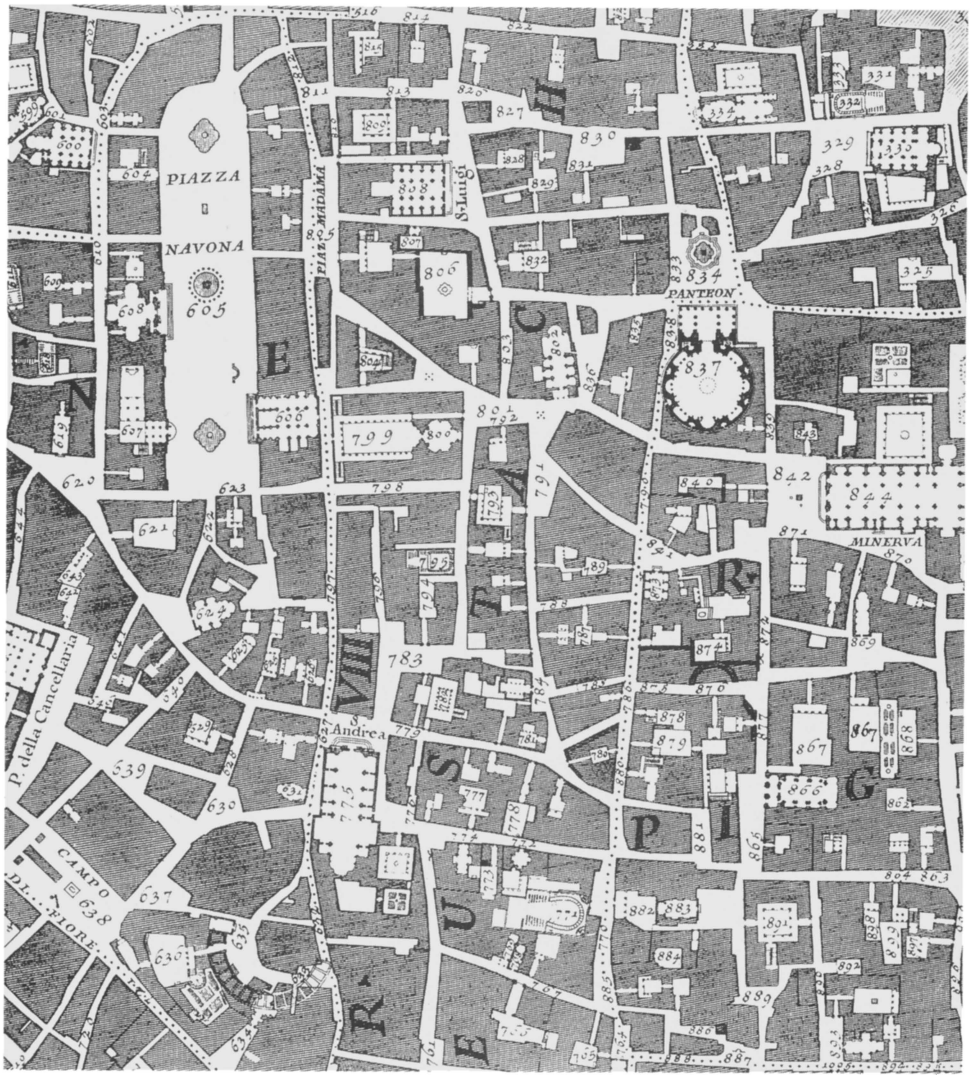
—EDWARD TUFTE

LIMITS ARE ESSENTIAL TO FREEDOM. PHYSICAL LIMITS can liberate and constrain us at the same time: traveling on skis or bicycle frees us to move with much greater speed than on foot, but it severely limits the ability to turn sharply, not to mention the ability to operate, say, a lawn mower. Other examples are not so obvious: being trapped in a snowbound airport may at first seem imprisoning. If there is the slightest hope of flying, the situation can be one of high anxiety. But if there is absolutely no chance of flying, there can be a reassuring calm as social barriers fall and a free camaraderie settles in—a rare moment of freedom, community, and equality. This irony also applies to mental activities, especially cognitive ones such as sorting sensory data and classifying information. Epistemological limits, i.e., ones that limit our ways of knowing the world, are essential. Likewise, site and programmatic constraints actually make the design process easier. Unconstrained freedom is anathema to designers, who need limits as much as civilization itself needs rules, traditions, and conventions. A blank piece of paper may be welcome to an artist, but it can be intimidating to a designer.

The deeper question is whether these limits are primarily intellectual fences that we erect as boundaries to make cognition of, and in, a complex world manageable. Do limits simply act as navigational devices as we negotiate and construct reality? Or do limits in themselves embody essential truths about the world? Although the point may be unprovable, this chapter contends that limits are more than a pragmatic necessity and do embody basic truths about life, as well as offer lasting insights into the world. They are fundamental to the human condition in general and to design in particular. The categories vary from time to time and culture to culture, but limits per se seem to be more than transitory and superficial constructs. Like the sensory screens and mental templates through which our world rushes in every day, they help make the complex data and stimuli of life understandable.

Limits are part of a classical, zero-sum conception of reality. This is a world view in which we can't have it all, in which there is tragedy as well as happiness, in which there are finite resources and a limited number of times to get it right. It acknowledges that we all have within us the capacity to be cruel, perverse, and stupid, as well as kind, generous, and wise. This limited view of the human condition, with its full recognition of the dark as well as the bright side of human nature, is fundamentally different from the progressive and open-ended optimism of Modernism (which to a large extent grew out of logical positivism). The classical point of view emphasizes harmony and balance, rather than originality and freedom. Convention takes on as much or more importance as invention. Tradition is valued as much or more than innovation.

Classicism, which has seen balance and harmony as an ideal since early Antiquity, recognizes that it is possible to take an idea too far. It would argue that



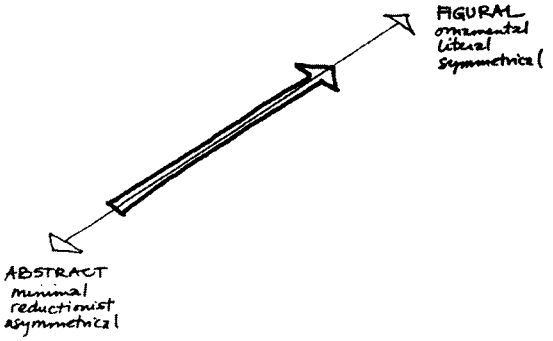
Rome—the classical city as a hierarchy and collage of outdoor rooms that are figural or at least particular, finite, and contained. Amidst this oft-cited fabric of irregular blocks are the many local symmetries and micro-axes of civic buildings, churches, and palazzi. The balance of figure and field, formality and happenstance, monumental and vernacular architecture, solid and void, private and public is a rich and accommodating urbanism.

many Modernist buildings are too single-minded, that they sometimes pursue a single concept to exhaustion in the name of internal consistency and purity. High-tech architects, for example, are driven to make structures ever more lightweight and articulated. They can lose their sense of balance in their drive to defy physical forces and achieve elegance. It is a matter of time before one of their tensile roofs, trussed walls, or delicate handrails dramatically fails, just as Beauvais Cathedral collapsed when its late medieval builders pushed its nave too high. The failure will not come as a result of misunderstanding gravity, wind, or seismic forces. It will come as a result of the relentless competitive push to perfect one idea or aesthetic sensibility at the expense of all others. If catastrophic, such a failure could represent the same kind of culmination and gamble as Beauvais and would serve as a reminder to us about the dangers of single-minded architectural excess and the importance of balance.

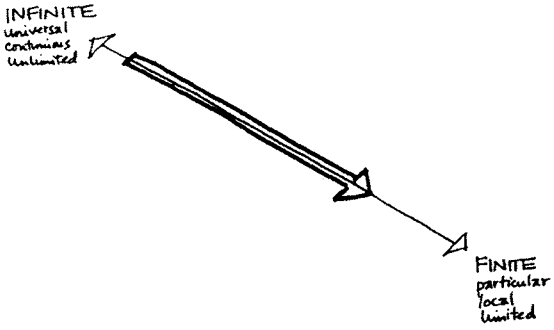
Every life (or design) experience is not a growth experience, as some contemporary pundits would have it. Nor is life foolproof, fail-safe, or no-fault. Without wisdom and discipline, we make mistakes, some of which are irrevocable, even fatal. This is not to say there is no room in the classical view for optimism and growth. Classicism is not so much pessimistic about human nature and perfectibility as it is realistic. It acknowledges and tries to reconcile the conflicted, dualistic nature of the human condition, something with which contemporary American culture has trouble dealing. As the late humanist Allan Bloom pointed out: "The images cast helter-skelter on the wall of our cave . . . present high and low, serious and frivolous, without distinction or concern for harmonizing contrary charms."[1]

Limited Space, Limited Form

There was a noticeable shift in the 1970s and 1980s from treating both architectural space and natural resources as unlimited and open-ended to treating them as finite and bounded. As mentioned at the end of the last chapter, a sense of finitude was perhaps the one and only convergence of environmentalist, regionalist, and Postmodernist design—a happy and significant conjunction given the divergence and pluralism of contemporary architectural thought. The Modernist conception of architectural space—Cartesian, universal, and continuous—gave way during those two decades to a static and finite conception, which was sometimes also specific to site and region. This non-Modernist or Postmodernist (even anti-Modernist) conception was a more hierarchical and classical representation of the world. Despite its tectonic and social shortcomings outlined in chapter 2, it was more than a knee-jerk reaction to Modernism and was based on a more realistic and balanced understanding of human and ecological forces. Balance and harmony may be values that are too bland for today's media, but they have

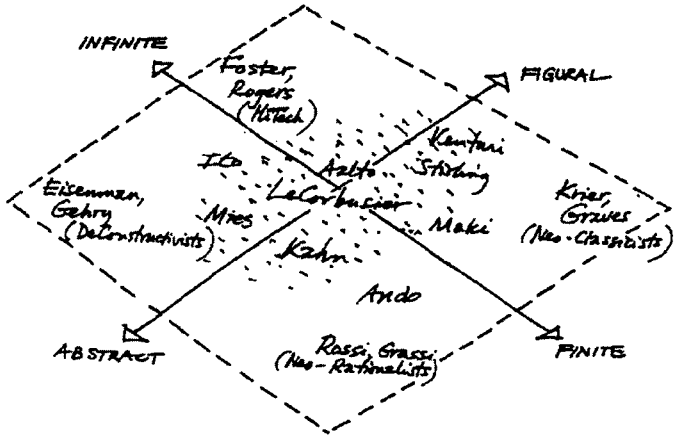


Postmodern architectural expression revived premodern modes of symmetry and ornament in the 1980s.



The attitude toward both architectural space and natural resources shifted dramatically during Post-modernism from unlimited to limited.

By crossing these two axes, a map of architects is created. The twentieth-century "Masters" tend to the center, where complex balance is required, as opposed to tending to the periphery, where exceptionalism and excitement attract media attention. Modern orthodoxy was scattered into Postmodern pluralism in the last quarter of the century. The pendulum had swung the other way earlier in the century. This oscillation sometimes seems generational, other times epochal.



been of vital importance to Postmodernists, as well as environmentalists, Neo-Traditionalists, and New Urbanists.

During this same period, there was also a shift from treating architectural form and space as abstract and asymmetrical toward treating them as figural and symmetrical. Figural forms are finite by definition, and natural forms are often symmetrical. The residual space often left over around Modernist "object" buildings has been rejected in favor of background buildings that enclose positive outdoor space. This figure/ground reversal represents a profound paradigm shift in urban design—perhaps the most important overt formal difference between Modernism and what preceded and has followed it. The outdoor "rooms" of urban streets and squares have become more valued than freestanding buildings surrounded by either the empty windswept plazas around downtown office towers or the grass perimeters and parking lots of suburban office parks.

Background or collateral buildings gain their strength from the public space they define. They also get strength from figural composition and detailing of the facades rather than from the bold footprints, gymnastic sections, and minimalist elevations that often characterize Modernist buildings. The quintessential Modernist building was like a prismatic Modernist sculpture—a freestanding, abstract, minimalist object in unbounded universal space. The stand-alone building has given way to the infill building, where more design attention is lavished by the architect on the composition of facade than on the logic of the plan or the bravado of the section.

Like avant-garde artists, both contemporary star and yeoman (yeowomen less so) architects are not above indulging in original forms simply for their shock value. There's a sort of "originality syndrome" which, like some sort of neurological disorder, forces repetitive self-expression and egotistical showmanship. As Jacques Barzun has pointed out: "The cult of originality, the growing need of artists to singularize themselves within the growing mass of the talented, has encouraged the strong and the arrogant to administer ever more brutal shock treatments to the public."[2] Aesthetic surprise and even brutality are the chronic problems with avant-gardism and compulsive originality: the shock must be continually increased in dosage to keep up with inflated expectation and higher threshold of aesthetic stimulation. Media coverage exacerbates the problem by fanning the flames of expectation and excitement even higher. At its worst, the media have turned art and architecture into a thrill ride . . . down another dead end, this time quite possibly a literal dead end.

By opposing the two axes on which there have been these diametric shifts, a map is created on which the work of influential twentieth-century architects can be plotted. The contemporary celebrities have staked out extremist positions, which get media attention. The "Modern Masters" who have stood the test of

time occupied a more balanced, centrist position. Le Corbusier, Mies, Aalto, and Louis Kahn seemed to be driven more by philosophical, social, technological, and formal ideas and values that were bigger than themselves. Or so it seems after the passage of time, which has exalted their position in history but also covered up or at least dimmed some of their architectural sins.

No one working today in any architectural mode—whether it be Postmodernist, Regionalist, New Urbanist, Deconstructivist, or Neo-Modernist—seems to have yet achieved a comparable maturity, mastery, and wholeness, with the possible exception of some high-tech firms. Today's stars seem mainly interested in aesthetic ideas and formal expression, as well as promotion of themselves, rather than ideas and ideals bigger than themselves. Even their interest in theory seems strategic and self-serving, consorting with academic theorists and critics who propound and/or interpret theory that gives their work license and legitimacy. The academy has validated and encouraged extremist, self-referential architecture with theory that has been too quick to drop longstanding institutional and cultural values. The media merry-go-round pushes star architects to the edge, while slowly and surely eroding the general credibility and relevance of the profession, especially its more responsible practitioners who have resisted this centrifugal force.

Was there also a change in design methods that corresponded to the shift on these two axes? Or was this shift simply a measure of changing style and sensibilities? Although methodological changes are less heralded than stylistic ones, this chapter argues that there has been an equally dramatic and important change in design methods. One of the most notable methodological changes has been the decline of functionalism and the rise of interest in precedent, context, and typology.

Functionalism

Functionalism, in this context, means a design mode that not only strives rationally to accommodate the programmatic needs and aspirations of a building's users, but also to express and embody those needs and aspirations architecturally. It has been one of the hallmarks of modernity and the most recent step in the philosophical march that started in the late seventeenth century with the Enlightenment and continued into this century as Logical Positivism, which sought to eliminate subjectivity in its quest for the precision and predictability of science. This philosophical tradition has given little credence to anything that cannot be measured. Metaphysics has little if any place in functionalism. "No doubt the Logical Positivists had sought to show that the classical metaphysical problem had either to be dismissed entirely, since no solution to it could be verifiable, or else transposed it into problems in the logic of science."[3] After this

close embrace of metrics, the spiritual and cultural sterility of functionalist buildings is not surprising.

For the functionalist, the design process starts with analysis of the problem at hand—looking inside it, as discussed in chapter 2. Before attempting any synthesis, the designer must first dissect and analyze the user, the user's program, the building systems and technics, the climate, and the site. Functionalist architects start with an empty piece of paper—literally, a carte blanche—and license to do just about anything formally. They commence with diagrams of uses and their adjacencies. If they are true to the tenets of the Modern Movement, they only look forward, never back to historical examples—free of any preconceptions about how a building might be configured or what it might look like. No books on architectural history would be found on the drafting table, unless it was a monograph of a hallowed architect, perhaps Le Corbusier's *Oeuvre Complet*. The functionalist ideal would have the program and technology design the building by themselves, driven by their own transparent logic. Each building program is addressed as unique, requiring fresh learning and a new start. "Following their functionalist theory, they believe[d] every new design problem to consist of unprecedented requirements of various kinds, including a unique site, a unique set of functional demands, and a unique architectural form which would precisely solve this set of requirements and no others."[4]

Since functional requirements change quickly in modern society, buildings are often designed to be adaptable over the years and flexible during the daily or weekly cycle. Therefore, functionalists argue that architectural composition should visually express as well as physically accommodate these temporal changes. Thus, buildings should be designed not only to anticipate change, but to read as incomplete or adaptable when first built. Building additions have always occurred incrementally, but the additions, like the host buildings, were usually treated before the Modern Movement as discrete compositions; additions were used to further unify or reinforce an already complete composition or start a new one. Think of the myriad wings of the Louvre or the many additions to the United States Capitol. Buildings tried to be compositionally complete at all times—before and after the intervention. Modernists, however, would sometimes intentionally leave a building's composition open-ended, almost as if construction had been interrupted and was waiting expectantly for the next phase to relieve the tension. The Pompidou Center in Paris is an example of a building that is intended to feel unfinished. Because these open-ended and adaptable buildings or complexes are not fully able to anticipate the future, they often end up being developed in unpredictable ways. The typical hospital complex suffers from such disjointed development. As Stewart Brand says in *How Buildings Learn*, "All buildings are predictions. All predictions are wrong."[5]

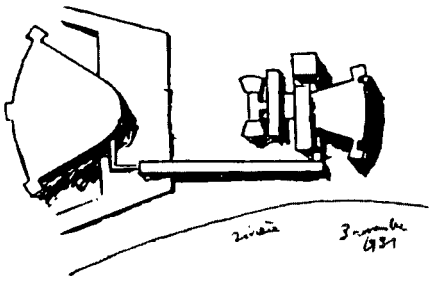
This orientation to the future rather than the past seemed particularly acute

among institutions that were experiencing rapid growth after World War II, such as colleges and universities. What American campus was not seriously marred by brutal, functionalist buildings in the 1950s and 1960s? Not only did Modernist architecture ruthlessly and blindly ignore the vocabulary and syntax of previous buildings, new academic units and complexes were started in a way that made completing them awkward in anything but the same idiom. Modernism jumped so far out of the stream of architectural history, it made it difficult for future generations to jump back in.

After more than a half-century of Modernism, its buildings are standing all over the globe and can be and have been broadly and fairly judged. As individual buildings the best ones are, to be sure, magnificent and powerful, some of the most creative and stunning designs of all time. One has only to visit the better works of Wright, Le Corbusier, Aalto, Mies, Kahn, and Eero Saarinen and many of their disciples to realize the strengths of Modernism. Almost every American skyline is a robust testimony to both the masculine strength and pervasiveness of Modernism. But Andres Duany effectively if cavalierly nails Modernist architecture when he points out its appalling win-loss ratio, i.e., thirty million Modernist buildings that have destroyed the cities of the world versus the three thousand, at best, that are masterpieces.

Although Modernism produced some of the greatest individual buildings of all time, it failed outright to produce good streets or good cities. Its buildings, because of their obligatory originality and direct expression of the interior, weren't likely to speak the language of neighboring buildings, especially traditional ones. If not by demolition, they related to their context by contrast and counterpoint—often a simplistic formal strategy used by Modernists that became a blanket defense for ignoring abutting buildings. Along with the upheaval of neighborhoods and cities by urban renewal, the automobile, and zoning, the Modern Movement produced buildings that ignored each other and their older neighbors. To be fair to American Modernists, American cities are by no means the least unified. They are not as chaotic or fragmented as Pacific Rim cities such as Tokyo or Seoul, where every commercial owner and architect tries to outdo the neighbors with an architectural statement. Nonetheless, American cities have too many self-centered buildings.

Functionalism sought to be internally consistent and coherent. Concerned with the unity and integrity of the individual building, which it saw as the inalienable building block of the city, Modernism's primary canon was to express clearly and honestly the internal logic of the building's program, as well as its materials and structural systems. Style, per se, was forbidden—whether invented or copied. (Ultimately, it proved inescapable even to the most die-hard Modernists.) Functionalism reserved new forms to express new technical or programmatic developments and did not permit willful and arbitrary formalism. But even its best examples had trouble relating to the surrounding fabric of the city, not only in its historic



Modernism celebrated buildings as freestanding objects. These sculptures were often wonderfully composed, with the abutting urban fabric acting as a backdrop off which they were set as new and clean interventions. However, when the same principles of composition were applied to large areas of old cities, they proved problematic, as illustrated in this early Modernist proposal by Le Corbusier. And when applied to whole new towns, where there was no traditional urban fabric to act as a foil, these principles of composition were even more unsuccessful. In short, Modernist architecture and urbanism worked better as the exception than the rule. Its open plan, so successful at the architectural scale, failed to work at the urban scale.

districts but also in new districts. In the latter cases, the problem was uniformity and scalelessness rather than discord with the context, because there was no traditional urban fabric with which to contrast. This inability to achieve consistency or even sympathy with neighbors was perhaps Modernism's biggest shortcoming.

As functionalism strove to be a "styleless" aesthetic, it did not typically produce buildings of a scale and richness around which popular affection and mem-

ories could easily develop. Instead it often produced cold and faceless buildings. As a consequence, our cities lost much of their ability to nurture and transmit values of place, nature, history, and craft. In the hands of genius, it could reach the sublime, but in the hands of everyday practitioners Modernism fell short of what everyday architects have done in other periods. "For modernism had not produced a style which could simply be drawn upon by lesser practitioners, as had classical or Gothic architecture. Instead it had produced too much freedom—almost anything could be attempted. . . . Such freedom could constitute a breathtaking release in the hands of the masters—in the hands of followers it could easily become a new imprisonment."[6]

The average building was more urbanistically responsive and responsible in the nineteenth century, when architecture was more normative. Modernism's best solo buildings may be more virtuoso performances, but the typical fabric and its overall orchestration were better in previous eras. This past harmony was to a large extent the result of designers and builders being guided by a tacit understanding of convention and precedent. Among the most important conventions was architectural typology.

AIA Gold Medalist Cesar Pelli has this to say about the breakdown of contemporary rules and expectations, many of them born of functionalism:

> In trying to understand our art we may keep in mind that not only buildings that flaunt their aesthetic intentions are artistically valuable; so are many modest structures that have been designed with love and care. . . . The contemporary rules for designing and judging architecture put such a premium on original talent that only a handful of architects have been able to master them. Examples from the past demonstrate that when rules and expectations are reasonable, most architects can design good buildings. Any society should expect that architects' rules will produce good buildings most of the time. This is what a healthy architecture does. The evidence of the majority of our buildings suggests that there is something wrong with today's rules. They do not suit our cities and need to be reconsidered. The final result of our work is making cities. It is our greatest responsibility. If we do not make beautiful, enjoyable, and workable cities, we are not going to be worth much in that history that we all prize, no matter how brilliant our individual efforts may be.[7]

In the functionalist paradigm, there are other dogs who no longer hunt that are beyond the scope of this book. Specialization of labor is one—the splitting of the act of design from the act of construction in the Renaissance, and later the division of architecture into separate professions (engineers, planners, landscape architects, interior designers, industrial designers, and urban designers, in approximately that order). Although construction was divorced from design well before the rise of functionalism, the rise of construction management has widened the gap. And

now there is the division of labor between celebrity "lead" architects and "production" architectural firms that prepare, even specialize in, working drawings and construction site inspections for buildings primarily if not exclusively designed by the lead firm. In a sense, some architects have become specialists in design aesthetics, while others specialize in production. The proliferation of design professions, subprofessions, and design specialists, as well as the corresponding fragmentation of architecture schools into colleges with multiple departments, has happened in the second half of this century (with the exception of civil engineering, which has been separate from architecture for centuries). This multiplication of professions and specialized expertise has diluted the power of all the design professions to know and represent or re-present the world as holistic.

Typology?

Typology is an idea that the Modern Movement intentionally abandoned. As Rafael Moneo wrote while chair of Harvard's architecture program:

> When, at the beginning of the twentieth century, a new sensibility sought the renovation of architecture, its first point of attack was the academic theory of architecture established in the nineteenth century. The theoreticians of the Modern Movement rejected the idea of type as it had been understood in the nineteenth century, for to them it meant immobility, a set of restrictions imposed on the creator who must, they posited, be able to act with complete freedom on the object. Thus when Gropius dispensed with history, claiming that it was possible to undertake both the process of design and positive construction without reference to prior examples, he was standing against an architecture structured on typology. The nature of the architectural object thus changed once again. Architects now looked to the example of scientists in their attempt to describe the world in a new way. A new architecture must offer a new language, they believed, a new description of the physical space in which man lives. In this new field the concept of type was something quite alien and unessential.[8]

Typology—the study and theory of architectural types—revived a traditional way of looking at function in the 1970s and 1980s. Theorists asserted that it was a better point of departure than Modernist functionalism when designing a building. Typologists like Leon Krier argued that almost any spatial problem at hand has been solved in the past. They defended enduring and commonplace architectural types that have evolved over time rather than following the mandate of the Modern Movement to discover new forms latent in program, site, or technology. In architectural education, typology brought academics to see their discipline more and more as a traditional language and not as an artistic and

technical field in which invention is valued more than convention. Although the center of gravity of architectural theory later moved on to Deconstructivism and to social and environmental concerns, the idea of type remains alive as a result of Postmodernism.

Designers who utilize a typological approach may admit that a design problem can present unprecedented social issues and new technical opportunities, but they also know that human nature, human needs, and the human body haven't changed; nor has climate (yet) or geography (much). They also believe that cultural continuity is more desirable than constant change. Because archetypes represent origins, a return to typology is an attempt to recover purity and continuance, privileging tradition over endless progress.

Typologists look at how the design problem at hand has been solved in the past, especially in similar physical and cultural milieus. They visit built examples in the field. They visit the library, unashamed of learning from the history books that were not allowed any influence in the functionalist's office. They ask if there is a normative or standard architectural type that has evolved over time to solve the problem. If, for instance, the problem is a house, there are many types to draw on. Some types are ancient: the country villa and the atrium house. Some are high architecture: the palazzo and the Palladian villa. Some are low: the sharecroppers' cabin and the garage apartment. Some are prehistoric and universal: yurt, thatched hut, house on stilts, and tree house. Some are national: center-hall colonial, Cape Cod cottage, ranch house, split-level, and bi-level. Some are regional and colloquial: New England "salt box," Charleston "single," New Orleans "shotgun," Philadelphia "trinity," Seattle "box," Florida "cracker," Baltimore "stoop," and so on. Some are from other countries: Dublin "Georgian," Sydney "terrace," Bengalese "bungalow," New Zealand "villa," and Russian "dacha," to name a few.

Type

An architectural type is not an easy thing to explain. It is like a three-dimensional template that is copied over and over in endless variations. It is a norm, an abstraction, not an actual building. It is not usually the kind of abstraction that is ordained from on high or that springs whole from a single designer or builder. Rather a type is rooted in the commonplace, the unselfconscious, even the unconscious. It is idealized in its archetype, which is its purest or most exemplary expression. A type devolves as a characteristic and typical representation of the archetype. It can be vernacular or high-style architecture. Even in the latter case, its origin cannot usually be traced to a single architect.

An architectural type is morphological, although it can also be characterized by specific materials (e.g., a Georgian townhouse is brick). It must be dis-

tinguished from building type, which refers to function rather than form. The distinction between architectural types and building types is as important as it is confusing. The word "type" is sometimes employed loosely to refer to a functional building type with no standard morphology or configuration, such as an office building or apartment house. Other times it is used to refer to an architectural type with a standard morphology, such as the Italian palazzo, an example that may help explain this commonly misunderstood difference.

In its ideal or archetypal configuration, the palazzo is a four-sided, three-story urban domicile with other buildings abutting on either side and with a squarish courtyard, which is reached through a front portal and which provides light and air to a rusticated ground floor, a piano nobile (second floor), top floor, and possible attic. There are many inflections, distortions, and variations: the footprint might be rectangular or trapezoidal, the courtyard circular, skewed, or multiple, the site might be a corner or midblock, and the piano nobile may be repeated on the third floor. More to the point, the function can change and has changed over time. This basic configuration has been adapted or built anew to house offices, institutions, or apartments, among other things. Functional flexibility—the fact that different uses can be poured into its immutable form—is what makes the palazzo an architectural type rather than a building type.

Another example of an enduring type is the ancient Greek temple, a configuration that has since been built for purposes that were originally unintended, from churches to banks to state capitols to picnic shelters. A third enduring example is the Georgian townhouse, variations of which are still being adapted or built today to house a myriad of residential, commercial, and institutional functions, all quite easily and successfully.

An example of a modern architectural type is the American gas station, with its cantilevered canopy, pump islands, cashier room, and service bays. Although it has increasingly been adapted to fruit stand, video store, or adult bookstore, it is not a type likely to be built anew to house these or other new functions. This is because its archetype is a very specific configuration designed for the all-weather vending of fuel and the indoor servicing of automobiles. Form and function are not so loosely matched as in the palazzo, temple, or townhouse, which have proven such versatile and lasting types. At the rate at which gas stations are changing to convenience stores—vending sugar as well as gasoline and without maintenance or repair services—the classic version may soon be on the historic register. The motel, the airport terminal, the multi-level stadium with cantilevered tiers of seating (especially ones with an operable roof), and the parking garage are other modern architectural types. Also highly specific in configuration, they will not be easily adapted to or reincarnated for new uses.

When a type is realized as individual built form, it is often referred to as a model. A model has inflections and idiosyncrasies that accommodate and express its particular site and crafting. It is not a clone, which has no individuality and

Many American cities have distinctive residential architectural types, like this "Seattle Box" and "Charleston Single" with predictable floor plans and massing but an unpredictable and rich run of details. Because they were built one or two at a time by different builders who brought different details, they usually form streetscapes that are coherent but not boring.

is the mechanical product of a prototype. Prototypes are part of an industrial paradigm, wherein standardized design and mass production crank out clones that are exactly identical or in which the differences are too random, too superficial, or too small to constitute true models. In speculative housing, changing the color of the cladding or brick, flipping the garage from one side to the other, or adding shutters to the front facade are usually too artificial to make a type into a model. The model is a thoughtful accommodation of a building type to a specific site and a personal expression of its designer, builder, or owner—not just a marketing ploy.

A good illustration of both architectural type and model is the bungalow. The bungalow was originally a horizontal, one-story, detached house in seventeenth-century India, particularly Bengal. The type was adapted by the British, North Americans, Australians, and South Africans in the early twentieth century for the early suburbanization of their cities. In the many parts of America where bungalows were built in the Craftsman style, it was widely and effectively adapted by a generation of builders to fit different sites and household sizes. In other regions of the United States, it took on other architectural styles, including Spanish Colonial and American Colonial. It proved to be an extremely successful type. Among other virtues, bungalows were often within the financial reach of the carpenters who built them. It was the first housing type to intentionally accommodate the family automobile, usually with a porte-cochere and/or purpose-built, one-car garage. It was also one of the first types to have a relatively spacious living area and efficiently designed kitchen.

The bungalow is a good example of typology, but it is not a good example of Critical Regionalism. Although its origins in rural Hindu culture are genuinely regionalist, it could be considered one of the first and most widespread examples of the global system of industrial production and consumption as well as suburbanization. Anthony King's thoroughgoing book *The Bungalow* unpacks some of the more negative aspects of this picturesque, innocent-looking domicile.[9] For such a lovable little house type, it turns out that the bungalow has an ironic and not so lovely pedigree of mass production, mass consumption, and urban sprawl. Its Craftsman-style (or "Arts and Crafts") manifestations, with dark wood paneling, rustic stone fireplaces, and masculine Stickley or Stickleyesque oak furniture, have also been criticized for perpetuating male-dominated sensibilities and taste.[10]

If architectural types keep working well, they remain alive and are reproduced in new models and are filled and refilled with new and different uses. But if no longer functional or meaningful, they lose their vitality and degenerate into hollow or sentimental stereotypes. This has been the fate, for example, of the contemporary ranch house or split-level, which is now built with superficial variations all over the country in countless suburban subdivisions. Although the bungalow was also built around the country, there were more genuine differences

Typical Craftsman Style bungalow, consistent in massing and floor plan, modest in size, but dignified in presence. The builder probably took the plan from Bungalow *magazine and added or subtracted a few details. Built two or three houses at a time, the increments added up to a neighborhood with more architectural interest than the contemporary subdivision, which may consist of scores or hundreds of houses constructed by one builder with fewer and more artificial variations.*

from region to region. At least it seems that way today. Perhaps their differences now seem more genuine (and appealing, like many historic buildings) simply because of their better craftsmanship and materials, as well as heavier, more substantial construction. Their variations were also greater because homebuilders back then built two or three houses at a time, rather than two or three hundred, as they often do now. They didn't all suffer, for instance, standard contemporary aluminum windows with snap-in plastic muntins or sliding glass doors, so oblivious to climate and craft.

Perhaps the most easily understood example of type and model is the human body. The human being is a single biological species with a single physical template (two legs, two arms, one head, etc.), but it keeps reproducing in miraculous morphological variety. There are two sexes, a relatively limited range of skin and hair color, and three basic body types, but no two of today's six billion models of the type are the same. This is not to mention the other billions of humans who have already come and gone. Differences of millimeters in facial structure or half-inches in body height are immediately recognizable; friends can be spotted at once

in a crowd. (Identical twins are harder but still possible to differentiate, although they are genetically more like clones of a prototype than models of a type.)

Not only are subtle differences appreciable, humans do not tire of looking at each other. Indeed, we look at thousands of faces every year and are never bored by the next one that comes into our cone of vision. We are intrigued not just by visual differences and superficial details. We are interested in and drawn to the person behind the face, just as we appreciate authentic differences in a building's facade that promise differences inside. The ability of variations on a single theme to hold our interest is remarkable. Those architects who argue that typology makes architecture inherently less free and creative fail to recognize this immense human capacity to appreciate subtle physical differences and minute details. Indeed, it can be argued that type increases the ability to generate and appreciate difference and therefore actually liberates morphological creativity at the small scale. Later in this chapter, it will be argued that typology is also liberative at the scale of the neighborhood, town, city, and metropolitan region.

The Behaviorist Trap

Typological design, like Critical Regionalism, tends to shy away from the term "methodology" and its shoptalk that were popular in the 1960s. At the architecture schools on such campuses as Berkeley, Wisconsin-Milwaukee, MIT, and the University of Washington, it was thought that the process of design could be linearly analyzed and demystified. Some proponents felt the act of design could actually be codified. Environmental psychology or person-environment relations, based on the detached observation and study of human behavior in the built environment, borrowed heavily from psychology and sociology. This design methodology illuminated some valuable insights into human factors as design determinants but failed to come up with a body of knowledge or information that could be easily applied by designers. Although it has uncovered unquestionable truths about human interaction within and with the built environment, applying the scientific method in general and behavioral science in particular to design has often produced a low yield for the time and effort expended.

Design methodologists pursued a scientific approach in order to predict human behavior and thereby accommodate it in the design of buildings and communities. However, precise prediction of human behavior is impossible, because the human being is a self-defining animal and because society and its physical props are continually changing. Attempts to quantify and predict psychological and social phenomena are usually doomed to chase but never catch up with what they are attempting to measure—like a dog chasing its tail. Or like a physicist measuring subatomic particles that are forever too small and too fast to track

both weight and location simultaneously. Psychosocial issues may be subject to a sort of Heisenberg Principle of their own. They may be too slippery to be quantified in a timely enough, frequent enough, economical enough, and useful enough way to be readily applied by designers.

The Limits Of Originality

Although Modernists eschewed the concept and tradition of typology, they would acknowledge the importance of prototype and stereotype and might also admit to three morphological types: centroidal, linear, and field or scattered. These basic categories are objective and abstract diagrams, as inevitable as they are devoid of function or history. (Steven Holl, in the Walker Art Center's *Design Quarterly 139*, illustrates a more elaborate chart of eleven primary morphological relationships and twenty-four combinations of these relationships. Despite how clear and helpful these architectural calisthenics are, his taxonomy is one of objective geometric possibilities rather than cultural values or historical tendencies.)

Modernists would also admit to functional types, such as office building or apartment house, but not in a way that prefigures a building's form. They tended to invent new architecture types with every new program. Indeed, Modernist architectural education taught an architecture of ideas, self-discovery, and self-expression, rather than one of learning from and building on exemplary precedent. (I can remember starting with "bubble diagrams" or paper cutouts of functional areas as a method of rationally arranging adjacent parts of a floor plan.) In the 1960s, studying a magazine article or book about a relevant architect or architectural type would have been looked at askance—a prohibition so well understood and inculcated that there would not have been the need for the instructor to announce it. It was also understood that the inventive use of both functionalist architectural language and technology was far more valued than adapting or transforming an existing architectural type.

As a result of this forced functional and formal creativity, a generation of architects lost the decorum and discipline to do straightforward, non-heroic buildings when the program was ordinary and modest. (As an architecture student and young practitioner, I was looking to design architecture that was good but also attention-getting as opposed to simply good. Only later, with the insights of Critical Regionalism and New Urbanism, did I realize that the personal need, even duty, to be *always and forever* inventive and unique made me part of the problem, not the solution, of contemporary American architecture and urbanism.) To refrain from conspicuously creative and original statements when they were not necessary became and continues to be an act of architectural courage in both architecture schools and in our media-saturated society (which is why I admire Andres Duany and Elizabeth Plater-Zyberk's early, unequivocal assertion

while they were still architecture students that the emperor of Modernist architecture was not wearing any clothes. They also asserted that traditional American architecture and urbanism were being foolishly overlooked. These were radical and embarrassing things to say at the time.) The overthrowing of tradition, long the third rail in architectural discourse, became the curse rather than the blessing of Modernism.

The time and the place for idiosyncrasy and originality are when the program or site or both are unusual. Designers need not feel compelled to be constantly innovative with every commission, at least not at the scale of the whole building, on which Modernist invention usually focused. Typology means creativity is more often exercised at a smaller or larger scale than the individual building, such as at the scale of the window or of the neighborhood. It means that all building types are not equally conducive to originality. Housing, because it is a place of rest and retreat, tends to be more conservative and less inventive technologically, structurally, and morphologically than other building types. But its detailing can be personally expressive and idiosyncratic. It also has had a relatively unchanging program. It numerically compromises the bulk of the urban fabric, and consequently best plays a more subdued role in the city.

The types with which to be most architecturally inventive and expressive are places of recreation, entertainment, and work, where people extend themselves. Architects who radically innovate or experiment with private houses, especially when they are second homes, are acting within a long and fertile design tradition, going back in the western world at least to Palladio's villas if not Hadrian's. But those that take similar liberties with multifamily housing for anonymous users or with wild insertions of single-family houses in residential neighborhoods forget that home and community are about haven and familiarity, not stimulation and striving. When a talented architect such as Rem Koolhaas conducts exciting and creative experiments like the Congrexpo at Euralille, it's a reasonable and exciting proposition. But when he experiments in Fukuoka, Japan, with new architectural types for housing that ends up looking like a nightclub from the street, it's not all right. (It is no wonder that this project went begging in the market.) Residential communities are more socially fragile than business centers—or, for that matter, airports, convention centers, entertainment centers, and sports arenas. Architects must know the right type and time and place to thumb their noses at convention. Not all parts of the city are equally appropriate for experimentation. Most neighborhoods are brittle and need stability more than innovation.

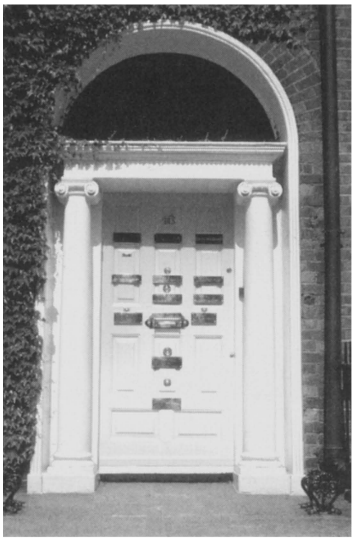
A major contributor to excessive experimentation has been and continues to be schools of architecture. It is important that schools be a progressive and critical force in the discipline and practice of architecture. It is also important that every architecture student be pushed to experiment and speculate. However, it shouldn't be mandatory on, and need not be fundamental to, *every* design exer-

cise and project. Thinking and designing out of the box normally makes more sense in the advanced studios during the later years of the curriculum. To experiment and invent is heady, fun, and positive, but needs to be encouraged at the right time and place. To do it habitually is like eating nothing but dessert—tasty but not very nutritional. Somehow architectural education has come to just that, a hypoglycemic diet of making interesting form. Moreover, the manipulation of form is usually within a predictable "house style" that prevails within the school. Style per se is okay, even beneficial, and ultimately unavoidable. It helps students (or practicing architects) deal with and bring order to the daunting number of variables that they will undoubtedly face. But an architectural style needs to be buildable, adaptable, humane, liberative, and ultimately meaningful. Recent styles, especially those based on fractal and deconstructed geometry, may be dramatic and seductive, but they often are arbitrary and unworkable when they encounter building practice, the human user, and physical context.

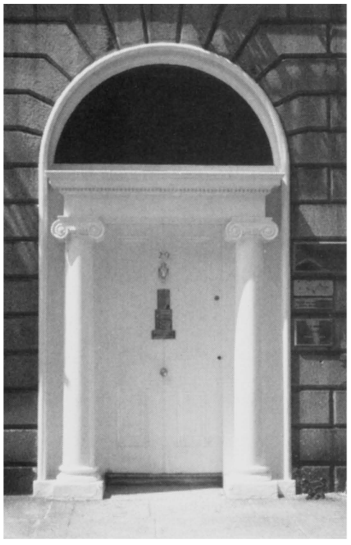
Typology can also be an act of efficiency and economy for the designer. It is considerably easier to start with a time-tested architectural type and modify it into a suitable model than to try to invent a new type (or at least an unrecognizable version of an existing type) with every architectural commission. A typological point of departure is quicker in that it draws on types that are finite in number. It does not start out with the near-infinite architectural possibilities that a functional analysis or "bubble diagram" of the building's program permits. The Modernist insistence on starting from scratch is very expensive. It often overtakes the architectural fee and exhausts the design team and client before the design has climbed very high toward perfection on the curve of diminishing returns, where additional design time and effort result in less improvement. Typological designers can climb higher on that quality curve because they waste less time and fee in discovery at the outset. Economy of means and of time encourages architects to embrace typological design.

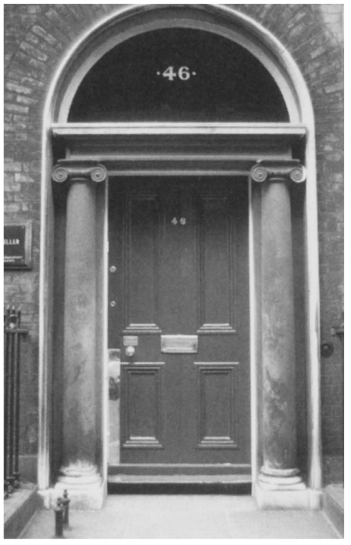
"Form follows function" was the rallying cry of Modernism. Although it may have achieved this correspondence at the building scale, it often ignored the connection between form and function at the urban scale. Because many Modernist buildings are creative translations of one-of-a-kind programs into unforeseen and never-before-seen forms, materials, and structural systems, they are often unrecognizable as urban elements. Most people would not recognize Frank Lloyd Wright's Guggenheim as a museum, for example. Nor would most people recognize Le Corbusier's Ronchamp Chapel as a church.

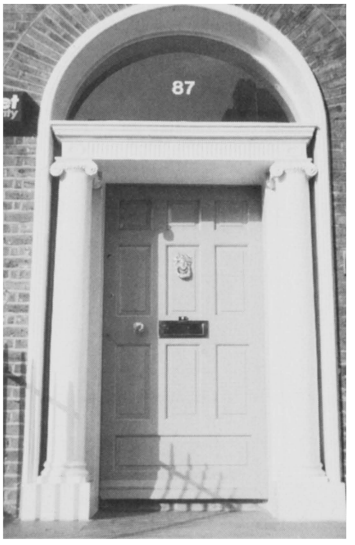
On the other extreme, commercial Modernism has recently put complex or mixed programs under one roof, sometimes in a single large volume. These inexpensive sheds, warehouses, pre-engineered metal buildings, tilt-up boxes, and "big boxes" tend to be so large, unarticulated, and generic as to be mute megaboxes in the cityscape. They lack the tectonic quality of traditional market halls and sheds. These warehouses offer the same potential for adaptability for



Those who think typology and endless variations on a theme are boring should listen to Bach, or take a stroll in Dublin, where the front doors of nearly identical Georgian townhouses are a subtle and rich array of figures and colors. The high quality of design and craftsmanship makes these changes more convincing than the computerized variations found in a contemporary subdivision.







which palazzos and townhouses have been praised, but they are built of much lower quality construction in dumbed-down configurations. Space is not made for particular uses but is simply made available. The huge metal and concrete boxes could house a discount mart, tennis courts, or dairy cows. As pointed out in chapter 1, this reduction in the number of architectural types is more acute in suburbia, where building is even more expedient and repetitive.

Typological design is also less likely to produce visual chaos in the built environment than Modernism. Buildings of the same type naturally tend to rhyme more with each other over time and space. Cities can once again be more legible and therefore more understandable to their inhabitants and guests. They are vital not because they are a breathless collection of novel and exciting buildings, but because they are an understandable hierarchy of buildings that are big and small, important and unimportant, vernacular and monumental, background and foreground. When understandable to their citizens, cities can again help record, legitimize, transmit, and extend the values of culture and community.

Does typology dull architectural creativity? No, but it does put limits on it. Like many ordering systems, it can actually liberate and unleash more coherent creativity. The type offers a known framework in which creative change can take place, either during the initial design process, during construction, or after occupancy. It frees the designer to concentrate on changes that truly make a difference rather than on the superficial or arbitrary invention of form. It limits originality for its own sake—the kind of novelty into which commodification, marketing, and avant-gardism can degenerate. The Modernist imperative to innovate ultimately became just as tyrannical as the former imperative to follow tradition. Typologists can be original and go beyond the ordinary, but only at the appropriate scale and when extraordinary circumstances warrant it. They do not feel that they must be original with every design problem. On the other hand, they must guard against being too slavish or derivative in their replication of a given type.

Typology has a different attitude toward change over time than Modernism. High-style Modernist buildings tend to be unique responses to specific programs for particular users. With the exception of some high-tech and most loft buildings, they usually start out specialized, with interiors and exteriors that are hard to adapt to the subsequent uses that will be invariably asked of the building. Types are not overspecialized and are usually more adaptive. The palazzo, the basilica, the Georgian townhouse, the Cape Cod cottage, and the loft warehouse are examples of versatile architectural types. Not all types are this adaptable, but most buildings based on types are general enough to be customized over time. In a sense, they start out conservative, conventional, and traditional and become radicalized over their life. High-style Modernist buildings, on the other hand, often start out as radical and are made to become more normal over time as they are changed by their users.

The scale at which architectural expression and creativity take place on these two residential streets is radically different. The traditional street consists of similar housing types of consistent bulk and footprint but with great variety in their detailing. The Modernist street has wild variations in bulk and footprint, but standardized windows, trim, and hardware. The former streetscape offers a more coherent and cohesive sense of place than the latter.

A Question of Scale (Toward a Theory of Scale)

Typology has also shifted the scale at which the freedom to invent occurs. Instead of sculpting a figural statement (a "duck" in Robert Venturi and Denise Scott Brown's terms) at the building scale, a hallmark of the Modern Movement, a typological design is often concerned with the room. Rooms with a capital "R" take on the importance that Modernism tended to lavish on the circulation system. (Such elements as stair towers, corridors, and elevator shafts are often externally expressed as bold and conspicuous elements in Modernist buildings.) Related to this re-emerging interest in discrete rooms is a renewed emphasis on architectural elements such as the door, column, and window, which need not be thought of as standardized components.

At the middle scale—that of public space—typology also brings discipline and hierarchy to creativity. Typical alley, street, avenue, and boulevard sections, as well as time-tested block configurations, are deployed in site-specific ways. Spatial variety is possible at the urban scale, because public spaces are treated as particularized outdoor rooms that can also be site-specific. They are not treated as generic streets and plazas. Nor are neighborhoods, districts, cities, and regions seen in standard or universal terms. In a sense, typology trades freedom, uniqueness, and creativity at the scale of the building, neighborhood, street, and block for freedom, uniqueness, and creativity at the scale of the architectural details and of the whole city. It's a trade that makes for more predictable buildings but less predictable cities.

Although Modernist buildings are free, original, and creative at the building scale, their details tend to be standard and generic; their hollow-metal door jambs and steel and aluminum knobs, window jambs and trim, railings, and light fixtures are typically uniform from project to project. Indeed, Modernism actually championed standardized industrial production. Perhaps the pioneers of the Modern Movement instinctively and subconsciously realized that, with the advent of standardized mass production, they had better be creative at a larger scale.

Modernist functional or Euclidean zoning segregated the city into zones of single uses, greatly reducing the number of both building and architectural types with which to shape the city. Urban blocks became superblocks; while curvilinear and cul-de-sac streets made irregular blocks in suburbia. Bulk zoning requirements, especially set-back regulations, resulted in oversized and windswept streets (which encouraged cars to drive too fast) and gigantic plazas (which encouraged pedestrians to walk too fast). These public zones are residual rather than positive space. And they are usually empty of pedestrians. As stated earlier, traditional typology reverses this figure/ground relationship, trading figural object buildings for figural public spaces. And, when regionalist architectural, street, and

block types are respected, neighborhoods, cities, and regions are particular and unique. The reversals are consistent across the board, at four scales:

	Detailing	*Building*	*Street/Block*	*N'Hood/City/Region*
Modernist	STANDARD	UNIQUE	UNIQUE	STANDARD
Typological	UNIQUE	STANDARD	STANDARD	UNIQUE

Although tradition and precedent were ideologically and stylistically eschewed at all scales, the Modern Movement was especially free and creative at the two middle scales, i.e., the building and the street/block. It put its most fertile eggs primarily in one basket, the individual building. Architectural details and components were standard and generic, while building plans and sections were very creative and particular. Modernism also tended to experiment with urban design, often with oversized superblocks, streets, and plazas, which were sometimes raised above or sunken below street level. At the largest scale, suburban and urban neighborhoods and districts are more standardized; indeed, contemporary cities have grown to look and feel more and more alike as they become zoned and themed for tourists and commodified for residents by national and international corporations, retail chains, and banks. Mass tourism, by trying to standardize the experience of travelers, dilutes authentic local urban character.

Conversely, typology breeds more predictable and anonymous design at the middle scales of the individual building and of the street and block, but blossoms at the small and large scales. This predictability at the building and block scale is one of the key architectural phenomena that makes urban design possible. Without it, there is no way for urban designers to make meaningful and effective plans, as discussed in greater detail later in this chapter. It also encourages rich, idiosyncratic architectural detailing. The reason that a typologically driven architect is more creative with the smaller, more private compositions of architecture—the windows, the doors, and the trim—is that they are less prescribed than the overall building configuration is by the architectural type. Precedent, repetition, and predictability are viewed as positive traits and good points of departure at the scale of the building. At the scale of the city, however, the uniformity of zoning yields to mixed-use neighborhoods and districts that can be unpredictable in the composition of the mix. As with architectural details and elements, the city becomes a rich hierarchical array of architectural types, streets, and public spaces, while the individual building becomes better behaved, that is, less autonomous and egotistical. And when the architectural and urban typologies are rooted in the region, the neighborhood, the city, and the metropolitan region are all better able to resist standardization and universalization.

A Question of Hierarchy

If Modernism bleached variety out of architectural detailing and neighborhood, Postmodernism artificially restored it. It started dressing a single architectural type in different garbs, often trying to pump up the importance of a building or trying to be contextual where there was no distinctive context. This dress code often inflated the visual importance of a building beyond its programmatic importance in the city or townscape, adding further confusion to the built environment. Like signing an unimportant document with a grand flourish, it overembellished everyday buildings. Indeed, architects were hired to put their signatures on mundane, commercial buildings. Postmodernism overreacted to functionalism. To quote Leon Krier:

> Whatever the pretensions of its forms, a supermarket is no less or more significant, whether wrapped in architectural, nautical or commercial dressing. Its very typological and social status will forever prevent it from becoming culturally significant. The reverse is also true: however beautiful and dignified an historical city center may be, it cannot survive for long its transformation into a shopping, business or leisure zone. In the same way even the largest housing scheme cannot become a city or public monument. . . . its functional monotony and uniformity simply do not provide the typological materials for significant monumental and urban gestures.[11]

Background and Foreground Buildings

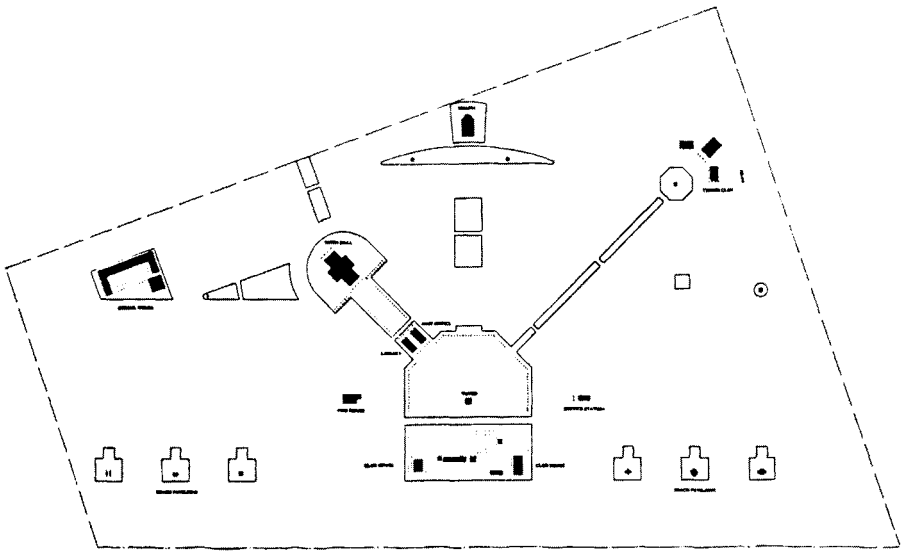
Making the distinction between background and foreground buildings is another way of linking architecture and function. Here function is defined as urban coherence and legibility rather than the accommodation of a building's program. Putting private and commercial functions in foreground, monumental buildings is inappropriate. Putting important public functions in background, vernacular buildings is equally wrong. As stated in chapter 1, the local post office often looks like it could be a warehouse, and conversely the drug store looks like it might be the post office.

Monumental buildings need not be large in size. They need only be civic in presence. Sometimes stature is enhanced by miniaturization, color, or refinement rather than grand size. A figural, low-rise city hall can tame surrounding high-rise buildings into backdrop roles. (High-rise buildings tend to be perceived as background buildings at street level and as foreground buildings when seen against the sky from a distance.) The inner temples at Japan's Ise Shrine are but one famous example of the power of smallness and refinement. Teahouses are another example from that country which so values propriety. In Philadelphia, Independence

Hall makes dwarfs of much larger surrounding buildings, as do gemlike colonial buildings such as the Old State House in downtown Boston and Neo-Gothic churches in the canyons of New York's Wall Street district. Neighborhood libraries and firehouses are small, but they also can command a strong public presence.

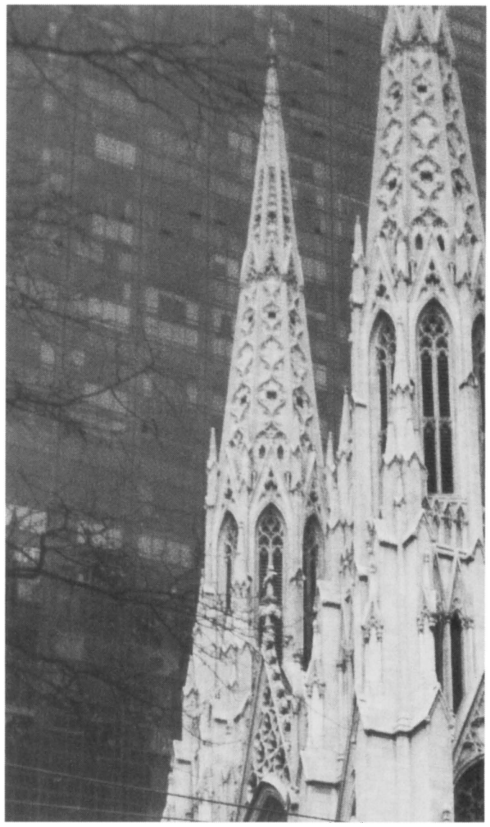
Expression by Type

The appropriate expression of each and every building's importance is a critical part of restoring meaning and clarity to both architecture and the city. The hierarchy of civic importance and the distinction of the public from the private realm have become confused. The revival of mixed-use buildings and mixed-use zones has begun to exacerbate the problem and begs a different kind of urban order. As it jumbles land uses again, the city becomes more typologically chaotic, with residential, institutional, commercial, recreational, and industrial architectural



With a clear distinction between residential and public buildings, Seaside, Florida, is zoned more typologically than functionally. This Neo-Traditional resort community trades uniformity of function within a zone for a variety of architectural types within a neighborhood. A common architectural language is also prescribed in its codes, which reinforce a hierarchy of building and street types. For instance, only public buildings can be white; all houses must be colored, have picket fences, etc. Public buildings are far less constrained by the code. They are treated as figural monuments, with foreground buildings set off against the background residential buildings. (Duany and Plater-Zyberk)

Background or foreground architecture is often a matter of distance. Here the spires of New York's St. Patrick's Cathedral are read as foreground figures against the glass curtain wall of a high-rise office building, which plays a background role when viewed from street level. However, the office tower cuts a figure as part of the skyline when seen from a distance.



types cheek-to-jowl. Bolder architectural figuration, size, and color are needed to stand out from the more variegated cityscape, much like a church or city hall stands out in the mixed-use fabric of an Italian hill town. A raised megastructure or megaform is one strategy to stand out in the sprawling urban/suburban smear, which Kenneth Frampton likens to the natural wilderness that architecture once was expected to tame and civilize.

It is also important to be clear about what functions are foreground and background in individual buildings that mix uses, especially if any of the uses are important public ones. If, for instance, a public conference center or civic hall is embedded in a commercial or residential building, its entrance elevation should be expressed as more important and dignified.

Location by Type

Getting the right architectural type in the right place becomes more critical than getting the right use in the right place. Uses move around, transform, and become

obsolete at a faster rate and in more unpredictable ways than architectural types change. It is clearly good urban practice to mix and remix uses, in both mixed-use buildings and mixed-use zones, but not to mix up architectural types or to confuse their hierarchy of importance. A grand hall or iconic tower should be reserved for important locations in the city as much as for important functions. Big boxes, even if they house institutional uses such as a church, should not be built on honorific sites. The architectural type trumps the building type in the mixed-use, Postmodernist city, unlike in the functionally zoned or Euclidean-zoned Modernist city, where the building type was the increment of planning and development. For instance, the "loft building" becomes more important than the more generic "apartment building" or "office building."

Variety by Type

There has been a decrease in the absolute number of architectural types, especially in suburbia. As a growing range of functions is housed in generic big boxes, tilt-up warehouses, and pre-engineered metal sheds, there are fewer and fewer architectural types with which to shape and articulate the built environment. It could be argued that this dumbing down of the palette while scaling up in size is a straightforward way to deal with increasing programmatic complexity and mixing under one roof. However, a smaller menu for architects, engineers, and urban designers makes for a less informed, less articulate place. Ultimately, it makes for an urban monoculture, however rich or lean the architectural mix inside the big boxes or however much their syncopated facades falsely mimic main street. Genuinely new architectural types that accommodate and express new conditions, sensibilities, and purposes need to emerge, much as the gas station, the motel, the airport terminal, the live-work loft, the storage rental building, and the retractable-roof stadium emerged during the last century.

Construction by Type

When this simplified palette of buildings are not built to last because of the short-term investment strategies discussed in chapter 2, the city soon is as shoddily built as it is architecturally mute or fake. Important and honorific architectural types, because they tend to occupy the most important sites and to outlast specific uses, are usually designed and built with more care and expense. The more dispensable background architectural types, such as big boxes, which typically occupy less privileged locations, can be designed and built more cheaply. Taken together, the strategy of type and of foreground/background buildings offers some hope for reversing the decline in the quality of the built environment.

The American Campus

The American college or university campus is a great exception to this loss of architectural type, hierarchy, palette, and craftsmanship. Indeed, they are a synergistic success story, a contribution to both higher education and urbanism. Most campuses have a multiplicity of architectural types: academic loft buildings, dormitories and dining halls, faculty and student houses and housing, athletic facilities, auxiliary buildings (maintenance sheds, power plants, etc.), and honorific buildings ("Old Main," "Centennial Hall," "Alumni Hall," etc.). These buildings, connected as well as freestanding, are usually placed hierarchically on a well-maintained carpet of grass and trees on greens and in quadrangles and courtyards that are shaped and proportioned to be pedestrian-friendly outdoor rooms. The buildings are often exemplary for their design and construction quality, and the landscaped spaces between them are equally if not better conceived, constructed, and maintained.

As Cesar Pelli, an architect on many campus projects, points out in *Observations for Young Architects*, there are several types of the American campus that have evolved over almost four centuries, but all the successful ones share key characteristics. They are well-landscaped pedestrian communities, well suited to reflection and scholarship. The walls of most buildings define positively shaped outdoor spaces. There is a hierarchy of architectural refinement and craftsmanship, with the best reserved for the most honored functions, which are usually housed in more freestanding buildings located in prominent places. To mention a few in a long list: Thomas Jefferson's Rotunda at the University of Virginia, Nassau Hall at Princeton University, the Cathedral of Learning at the University of Pittsburgh, the Rackham Building at the University of Michigan, and Suzzallo Library at the University of Washington. (Unlike the other examples, which all terminate axes, this last, neogothic hall acts as a knuckle that turns a corner formed at the intersection of several axes.)

Every student and alumnus has their favorite buildings and spaces, no matter how grand or modest the campus, especially if it adheres to these principles. Often these buildings and spaces are designed and landscaped by some of the nation's, or the region's, top design professionals. The best campuses have a coherent mix of foreground and background buildings, often with a preponderance of buildings in one style, usually representative of their era and sometimes of their region. There is much to learn about architecture and urban design, as well as education, from the American campus.

Typology and Tradition

A purely functionalist architecture also makes for historical sterility. The break with tradition that Modernism sponsored, including but not limited to eschew-

The college and university campus is one of American culture's great contributions to both higher education and urbanism. Well-designed and well-constructed buildings—both background loft buildings and foreground honorific buildings—form a hierarchy of well-defined outdoor rooms, lawns, and playing fields connected by axes, corridors, curving paths, and walks. (University of Washington)

The Rackham Building at the University of Michigan terminates a mall with the formal grandness and symmetry typical of honorific campus architecture and planning in America. Its curved backside forms an appropriate rump for both the building and the mall, as well as an edge of the campus. (Front façade photo by Per Kjeldsen)

ing typology, was simply too abrupt. Modernists scoff at the notion of tradition, telling us that traditions are invented, thereby implying they can be as easily replaced as they are discarded. But as Roger Scruton contends, a "real tradition is not an invention; it is the unintended byproduct of invention, which also makes invention possible. Our musical tradition is one outstanding example of this. No single person created it. Each contributor built on previous achievements, discovering problems and solving them through the steady expansion of the common syntax."[12] Architectural types, from the Greek temple to the Charleston "Single" to the Las Vegas casino, offer a parallel tradition in another medium.

By embracing traditional architectural types and inflecting them with new programmatic needs and new materials, designers honor past generations, with whom we partner to make cities. "The dead and the unborn are as much members of society as the living. To dishonor the dead is to reject the relation on which society is built—the relation of obligation between generations. Those who have lost respect for their dead have ceased to be trustees of their inheritance. Inevitably, therefore, they lose the sense of obligation to future generations. The web of obligations sinks to the present tense."[13] The architecture of the "now generation," with its difficulty in deferring gratification and its reluctance to make long-term commitments, has weakened if not broken this chain of caring. By working with inherited architectural types—however freely and imaginatively—the chain is repaired and strengthened. The sudden quantum jumps that chaos theory describes as necessary to evolution may be liberative and necessary from time to time, but most change is incremental and evolutionary, not cataclysmic.

Embracing the benefits of typology does not mean the end of functionalism per se. Obviously, buildings must continue to function operationally and economically. But not at all costs and not at the loss of urban decorum. In recent decades, function as a design methodology and as the sole or primary organizing device for building plans and sections has fortunately given up much of its preeminence to contextualism and typology (and, alas, to formalism). Typology *functions* better in urbanistic terms by better addressing the architectural needs of the mixed-use city and sustaining a degree of continuity and tradition in architecture. It is the link between architecture and urbanism, between the past and the present, that was missing in Modernism.

Architectural types are to urban designers what walls, doors, windows, and columns are to architects. Typology is the vocabulary for the language of urban form. Without a typological language, designing cities in coherent, predictable, and collaborative ways over time becomes impossible. If urban design is too big to be mastered by a single professional and therefore requires teamwork, there needs to be a design language for intra- and inter-professional communication. And if urban design is correctly defined by urbanists Alan Simpson and David Lewis as "three dimensional policy," a common language of form is needed for communication between design professionals on the urban design team and elected

officials, community leaders, citizens, etc. As urbanist Jonathan Barnett points out, without the ability to approximate the footprint, height, and bulk of buildings before they are designed and built by others, the urban designer is rendered helpless and toothless in proposing urban design plans and guidelines. When architects base their work, however loosely, on known architectural types, the urban designer can roughly anticipate how development will take shape, without unduly restricting the design freedom of the architect in shaping individual buildings. Architects, in turn, can more effectively and intelligently interpret urban design plans and guidelines if they speak the same typological language. There is room for invention of new or radically altered types, but when invention of both building and architectural types is rife or the norm, as it has become with some architects, urban design becomes difficult if not futile.

Getting the types right for a given street, neighborhood, or community is usually more important than the architectural brilliance of individual buildings. A collection of beautifully designed buildings does not a city make. Witness a World's Fair with many pavilions designed by their country's star architects. They don't necessarily add up to a sense of place or community. Columbus, Indiana, has individual masterpieces by many of the nation's most distinguished and talented architects. But a trophy collection does not necessarily confer coherence on a town or city (which is why it is good that this enlightened town has more recently commissioned leading architects to do both smaller and more background architectural types and building types). At the moment, most American cities suffer more from typological confusion than architectural mediocrity. However, the right architectural typology alone cannot provide for a good built environment. It takes both good design and the right types to imbue the built environment with the splendid magic and power of which architecture and urbanism are capable.

Is our individualistic architecture beginning to abate in favor of a less atomistic architecture and urbanism? For no other reason than the arithmetic pressure of population growth, has the fulcrum slowly but inexorably begun to shift from rugged individualism to urbanity? The promising return of residents to our downtowns begins to suggest such a shift. In any case, we must reassess the scales at which we should be bold and innovative. We have begun to understand and appreciate that architecture need not re-invent itself every generation and certainly not for every new problem or program it addresses. We have started to downsize our expectations and to realize—as players in a classical play realize—that the physical world is finite and must be fashioned out of limited resources, energy, space, forms, and architectural types in a limited amount of time. There is neither the luxury of endless time nor the bottomless resources to pursue casually, cavalierly or experimentally our architectural and urban agenda.

A New Trojan Horse

If architectural type is helpful to urbanism, urbanism can return the favor. In fact, urbanism can be used to justify and sponsor better architecture. Architecture has always needed powerful and rich sponsors, whether the church, the state, the institution, the corporation, or private patrons to commission and notarize good buildings. While institutions such as museums and universities continue to commission and build good architecture, the church has dropped the ball for the most part. The state, particularly in Europe, continues to build noteworthy architecture. In America, the federal government's GSA has recently been responsible for improving the quality of its architectural and graphic design. (Its new federal courthouses have been especially exemplary.) American corporations seem less inclined to utilize top architects than they used to, when companies like IBM, Weyerhaeuser, John Deere, and more recently Disney hired the best design firms. Increased economic competition, diminished commitment to place, greater emphasis on branding, and the informality and transience of dot.coms have all eroded the corporate use of architecture to provide amenity, identity, and stature. Private patronage, buoyed by the long fin-de-siècle economic boom and bull market, has continued to play its role, through the commissioning of second (and third) homes and philanthropic support of institutional projects.

Without public or private patrons, however, architects continue to struggle with a long list of constraints: low fees and low budgets, clientele with demanding schedules and a reluctance to invest for the long term, hellish regulatory environments, fewer skillful craftspeople, less value engineering and construction management, and other media that get cheaper as construction gets more expensive every year. Good design is an uphill battle that requires clever maneuvering and tactical savvy. Realizing good architectural and urban design has never been easy, as there have always been hurdles erected in the name of frugality, speed, safety, taste, and competing economic priorities. That Americans spend less of their income on building than their grandparents did and build more square feet of residential and commercial space per capita has only made matters worse. The tendency to solve increasingly complex societal problems with increasingly complex rules and regulations has usually hurt architecture. For instance, the Americans with Disabilities Act, while greatly improving access for physically challenged citizens, has placed an architectural as well as an economic cost on society. (Frank Lloyd Wright is but one example of a great designer whose works would have been eviscerated, if not made impossible, by contemporary codes.) And design review boards, especially ones with more lay members than design professionals, often protect community and urban values at the expense of architectural values. For these and other reasons, architects, especially everyday architects—those without rich and powerful patrons—have struggled even harder in recent decades.

As Daniel Solomon eloquently put it in the 2001 National Symposium on New Urbanism at the University of Michigan, there is a tribunal of forces that stands between architects and good design. These adversarial forces and third parties are professionally neutral and/or well intentioned, like fire marshals, cost-estimators, and bankers, but are so specialized that they often subtract more value than they add. Specialists seem particularly prone to the law of unintended consequences. For instance, fire departments, the alpha regulatory agency in most communities, require such wide roads and turning radii at intersections to accommodate their large fire trucks that other vehicles are unintentionally encouraged to drive faster than the posted speed limit. Solomon has found after years of practice that urbanism is the most effective (and responsible) way around this design inquisition. Public officials, city planners, and regulators are increasingly willing to listen to matters of mixed-use, transit, walkability, and increased density. *Urbanism can sponsor and run interference for better architecture as well as better urban design and planning.*

Although too few New Urbanist architecture firms, other than ones like Dan Solomon's and Scott Merrill's, have fully capitalized on this advantage, urbanism is now the most effective Trojan horse for circumventing the tribunal that prevents good architectural design. Leading European architects, such as Renzo Piano, Rafael Moneo, and Richard Rogers, regularly invoke urban arguments in defense of their virtuoso architecture. Extra-architectural defenses and collateral arguments are not new to architectural practice. Modernist masters, such as Le-Corbusier, Mies Van der Rohe, Louis Kahn, and Eero Saarinen, frequently cited engineering principles in their promotion of good architectural design. In the 1960s, socially committed architects and planners invoked advocacy planning and community participation in the cause of good design. In the 1970s, passive solar architects frequently used energy conservation to advocate and justify architectural features. In none of these cases was or is it a question of intentional obfuscation or deceit. Architects sincerely want to improve cities, celebrate the elegance of engineering, and conserve energy, but they also know that clients and users of a building fail to fully appreciate all the merits of good design until it is built. (The ability of trained designers to visualize architectural outcomes better than lay people allows the architect to pull a little wool over the viewer's eye, as this ability no doubt always has. Computer simulation has narrowed this gap but opened up new techniques for architectural eyewash. However, given the array of forces usually lined up against good design, the ability of architects to imaginatively see through and beyond problems is perhaps their greatest service.)

Recently, architectural *theory* has been used by star designers to justify and promote their designs. This theory can be quite obtuse and opaque to all but academic philosophers. Whether fully believed by the architect or not, the invocation of theory can be intimidating to the client or user group—more so than urbanism, social advocacy, engineering, or energy conservation (or the architect's

capacity to visualize three-dimensional space), because it brings into question their general intelligence and education. Architectural theory in the thrall of philosophers such as Derrida or Foucault (or Heidegger in whose thrall is some of the theory espoused in this book) or cutting edge scientific theory can be difficult to understand. This opacity allows architects to posture or hide behind post-structuralist philosophy, fractal geometry, or post-Einsteinian science that may bear little if any relevance to the particular project or to architecture in general. The reference to American pragmatist philosophy in architectural debate has already challenged this Eurocentric esoterica, as have even more accessible and practical issues, such as environmentalism and urbanism. Indeed, urbanism and sustainability may not be so much Trojan horses as ones that the designer can ride openly, often in the same saddle with client, user group, developer, public official, and the public at large.

Typology Versus Critical Regionalism

If Critical Regionalism celebrates and reinforces what is unique and enduring, typology provides us with a connection to something bigger and more universal. It connects our buildings to our city and region as well as to architecture and urbanism around the world. It also provides us with the building blocks—the DNA, if you will—to shape a city that is more than a collection of its pieces. In a secular culture, the city may be the biggest and most long-lived thing to which many people can hope to connect. The city was made for us by people who preceded us, and we make it for people who follow us. It is both unique and great. Both needs—to be unique and to be part of some great idea or large group—seem to be a major part of the modern Western psyche. It could be argued that typology, because it allows regional variation on universal types, answers both of these needs. But it no longer speaks loudly enough about the regional differences, which are quickly becoming extinct around the globe. Regional architectural types are not strong enough alone to withstand mass culture and to resist the commodification of architecture that ignores or erases regional and local differences. For this, we need a rooted and judicious regionalism.

The tension and friction between these two proclivities can be fertile. Because Critical Regionalism is critical, even disdainful, of popular culture, it is not always conducive to city making. More concerned about place than community, it is very compelling at the architectural scale, but its critical stance can be counterproductive when trying to make a street or neighborhood. In making its critiques of popular culture, Critical Regionalism perpetuates an avant-garde attitude toward culture, with its endless overturning of tradition by an artistic elite. In striving to be authentic, pure, and timeless, Critical Regionalism sets itself apart from the norm. This stance may produce good, even profound, architec-

ture, but not necessarily good neighborhoods, towns, or cities. A townsperson knows the importance of a collective framework or covenant that brings people together in less critical and more tolerant ways. This means the city needs many background buildings that behave in predictable, normal ways and that honor their context for every foreground architectural/artistic statement. In short, we must beware of architectural snobbery when designing whole communities and be aware that architectural typology and precedent can help us make our communities more coherent.

Complex, self-defining systems like society, cities, and culture need competing ideas and contradictory forces to invigorate and regulate themselves. Although there must always have been social tension and disharmony, other periods and cultures have inspired and liberated the human spirit to higher civic achievements and fostered a greater sense of a community. (Although this unity may have come at the expense of stigmatizing and warring with an enemy.) Americans seem particularly saddled for better or worse with an equally strong need both to individuate and to be part of a group. Rebelliousness and egotism are joined against connectedness and community, liberty against equality. If we are to design for both the individual and the group, if we are to express what is local and what is universal in our built environment, then regionalism and typology must engage in continuous dialogue.

This chapter and the previous one have focused on the architectural scale. Repairing and sustaining the American metropolis will require an architecture that is both rooted in its region and typologically coherent. It will also require thinking and acting at the metropolitan scale. The final two chapters, like chapter 1, look at the theory, practice, and policy that attach to the second meaning of regionalism—planning at the scale of the metropolis.

4 NEW URBANISM

VERSUS EVERYDAY URBANISM AND POST URBANISM

"The architecture of a democracy has always been, and must continue to be, a shared common language. The elite, abstract language of the avant-garde represents the privileging of the artist. This, while acceptable when confined to the gallery and the salon, tends to become exclusionary when determining the design of the public realm. It is not democratic."

—ANDRES DUANY

"Perhaps architects of the first half of the 20th century, compelled by the prospect of a modern age, too easily shed the conventions of city building. We, who experienced the consequences of this abdication of precedent, have reciprocated: redeploying time-honored civic traditions has become increasingly tempting. Estranged from the new city, we seek comfort in convention. When conventions fail to solve contemporary needs, we place faith once more in radical innovation. The strokes of this pendulum have shortened considerably."

—ALEX KRIEGER

WHAT CAN TRULY AND EFFECTIVELY BE PLANNED and designed? Certainly not civilization, as F. A. Hayek and others have persuasively argued.[1] Nor the economy, as Eastern Europe's failed experiments in centrally planned socialist economies have dramatized. These "extended orders" are too complex to be rationally or scientifically understood, much less planned or designed. Like culture, they must slowly evolve through endless self-correction, inflection, trial, and error. Culture embodies a sort of meta-intelligence which is far greater than individual genius, just as the Gaia Hypothesis contends that our whole planet acts as an organism with a collective intelligence greater than any single species. Human culture allows rationality and intelligence to develop; it is not the other way around. Culture is far too complex to be figured out and orchestrated by human ingenuity, however effective our rationality may be for getting to the moon or however brilliant our imagination may be in the arts. It will never be fully understood.

History has shown, however, that we can make some headway in planning the city. Every continent, save Antarctica (the saving of which is becoming an ecological imperative in and of itself), has successful examples of planned cities. Some are the results of grand plans, others more piecemeal interventions, but the best always have a vision and sense of themselves. They have clear centers and edges, healthy neighborhoods, exciting districts, and strong corridors. Indeed, cities that are not planned in some manner end up as illegible and monotonous and confused as Houston or Tokyo.

This book contends that we can envision and plan the metropolitan region—even though its fringe is increasingly amorphous. It's not that suburbs are without order; in many ways their order is too strong, too indelible. But their whole is a boring, low intensity, and gelatinous sum of the parts. Designing a metropolitan region need not be a single grand plan or vision. It can be a series of interventions in key locations at critical times. These interventions of various scope and intensity at local pressure points are what the charrettes featured in both the longer version of this book and published under separate cover are all about. (See the Bibliography for charrette books and pamphlets published by the Universities of Washington, Michigan, and British Columbia.)

Urban Infill

Before the automobile, streetcar suburbs made eminent sense. At their outset, automobile suburbs made sense too. Living on a shady, quiet lane with a stream out back and a half-empty school bus to pick up the kids was a tempting alternative to noisy, messy, city neighborhoods. These inner-city neighborhoods were beginning to be cut up anyway, as freeways slashed through them on their way

to the suburbs. What ensued is all too familiar: empty downtowns at night; decline of the neighborhood school, church, and store; urban renewal; lots of vacancies and vacant lots; traffic congestion; cul-de-sac subdivisions; wider streets; longer arterial strips and red lights; regional malls and office parks; fewer truck farms; increasing crime; more parking lots and less green space; smog and air pollution; gridlock downtown; big box discount malls, high school violence, gridlock in suburbia . . .

Many suburbanites commute forty-five minutes to work, which adds up to about two-and-a-half years of eight-hour days over the first eighteen years of their children's life. They are unlikely to have kids, however, as couples with children now account for less than one in four of the new households formed in the U.S.A. Most new households are single parents, seniors, and unrelated adults—not exactly the flesh and blood of the original American Dream.

So how have we ended up in this predicament? Contrary to what conspiracy-minded critics would assert, it is not, in my opinion, a particularly conscious or well-orchestrated plot. If anything, it has been a conspiracy of good intentions. Like the rise of urban civilization, the advent of suburban culture and society is far too complicated a phenomenon to mastermind or control. Of course, people and institutions continually try to control the course of events, but no cartel or government has all the cards in its hand. As stated earlier, the oil companies and automobile manufacturers have done their big share in promoting automobile suburbia, as have government highway and sewer programs and tax deductions for home mortgages. The building-products industry, including the timber companies, have certainly known that their bread is buttered on the suburban more than urban side. And environmental laxity has helped underwrite the whole project. But it can't all be blamed on the greed of big business and the power of big government. As individuals we've been covetous consumers, too easily stimulated to artificial consumption by Madison Avenue and Sunset Boulevard. As Wendell Berry has put it:

> However destructive may be the policies of the government and the methods and products of the corporation, the root of the problem is to be found in private life. We must learn to see that every problem that concerns us . . . always leads straight to the question of how we live. The world is being destroyed—no doubt about it—by the greed of the rich and powerful. It is also being destroyed by popular demand. There are not enough rich and powerful people to consume the whole world; for that the rich and powerful need the help of countless everyday people.[2]

We've been quick to exchange the more raw and uncomfortable sidewalk life of the inner city neighborhood for the easy and banal TV life of the suburban family room. We have been too quick to give up the public life that American cities

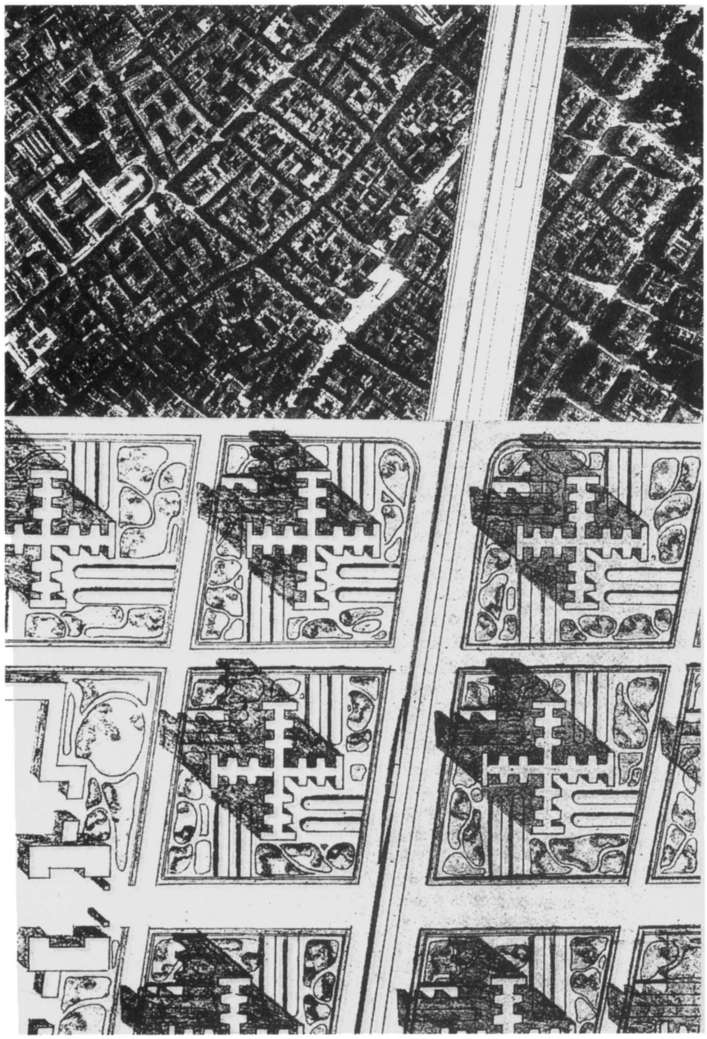
have slowly mustered in spite of a long legacy of Jeffersonian rural yeomanry and anti-urbanism. It has been our good fortune that immigrants from countries with strong public realms (and cities where the wealthy citizens live downtown rather than at the periphery) have imported urban and ethnic values for which we are much the richer. But many European immigrants have wanted to leave the public life behind. Indeed, the pioneers of Modernism in Europe came out against traditional urban streets and the messy complexity they contain. The Athens Charter of C.I.A.M., led by the most mythical of all twentieth-century European architects, Le Corbusier, joined the battle for a more "rational" separation of vehicles and pedestrians in a new urban vision that spread to America.

African Americans—the group brought to America most forcibly and most unfairly—have often maintained a strong and rich street life, as have Latinos. But European Americans have continued to flee the public realm—most recently from public city streets to the gated subdivisions of affluent, second-ring suburbs. They have taken the money with them, and the best schools. Our cities' public parks cannot match the lushness and opulence of suburban golf courses. There is little wonder why people of color have followed whites to these havens when they can afford it. Although I have wondered why wealthy black professional athletes, doctors, lawyers, etc., don't buy and refurbish their city's grand old homes and mansions, which are less costly and so much better built than the new McMansions in predominantly white suburbs. Like most Americans, they are no doubt attracted by the amenities and features of new homes, better schools, and safer streets (which, as pointed out elsewhere, are actually in many cases more dangerous than their former inner city neighborhoods when the higher incidence of automobile accidents is taken into account). If enough of this growing class of important role models re-invested in their city's fine homes and neighborhoods, the amenities and supposed advantages of suburbia would pale before the dignity and elegance of refurbished inner cities, whether predominantly black, white, or mixed.

Now over half of all Americans, including many minorities, live in suburbia, where incomes average 60 percent more than those of city dwellers. The good life is associated with the private rather than the public realm in America. The stock portfolios and bank accounts of the private sector overflow while public treasuries dwindle.

Despite our inevitable inability to micro-manage all the forces that have resulted in sprawl, we can do better at managing some of them. First and foremost, we must eliminate the two principal causes of sprawl: artificially cheap land and artificially cheap energy. Like a supertanker that takes ten miles to stop, the American economy will be slow to change, even if we throw ourselves into reverse immediately. However, if we don't reverse these twin propellers, many of our other urban reforms will be in vain. In the meantime, we must stop smearing a monoculture across the countryside, where the biggest cash crop now is houses sprouting up like so many

Le Corbusier's Plan Voisin (1925) for the demolition of central Paris and the building of a Modernist skyscraper and highway city. He and his CIAM colleagues tried literally to kill the street and the very idea of street life. It is a well-meaning but heroically arrogant example of starting all over again and trying to invent an urbanism whole-cloth, as if the task was like rationally designing a machine. (Le Corbusier, The City of Tomorrow, 1928)



"The width of streets is inadequate. . . . The distances between street intersections are too short. . . . The city block, a direct by-product of the street system . . . has long ceased to correspond to any need. . . . The pedestrian must be able to follow other paths than the automobile network. This would constitute a fundamental reform in the pattern of city traffic. None would be more judicious, and none would open a fresher and more fertile era in urbanism."(The Athens Charter of CIAM, 1933)

acres of wheat. We've traded the growing season for the construction season. The two most far-reaching corrections would be to make gasoline and rural land more expensive, so that their market prices more closely reflect their true cost.

In absolute terms, urban infill is cheaper in both capital and operating costs than low-density development of rural land. The capital costs of sprawl are high: new highways, roads, sewers, utilities, water system; new schools and school bus fleets; new stores and jobs that require the private transit of automobiles with the attendant air pollution, congestion, and lost time. Yet we continue to develop the urban fringe like Topsy despite the high costs of improvement. Why? Because it's so profitable for developers, car manufacturers, oil companies, realtors, retailers, etc. The capital cost of land is still cheap and the burden of infrastructure, despite the trend toward concurrency mentioned in chapter 1, can often still be shifted to the public sector. And subsidized energy masks the high operating costs of suburbia—fueling and maintaining all the cars and yellow school buses, as well as heating and cooling all the freestanding houses.

The capital cost of urban infill development is less, because much of the physical, commercial, and institutional infrastructure is already in place. Operating costs are also less, because urban compactness makes for more energy-efficient buildings and for less transportation. The cost is also easier to bear because it is more incremental than huge new suburban developments. Unfortunately—very unfortunately—the pricing mechanism of our not-so-pure market system puts a much lower price tag on suburban fringe and exurban land than on urban land, at least downtown land. The attempt to shift some of the public sector's costs to the developer, through impact fees and other exactions, and in turn to the homebuyer helps compensate for some of these market oversights. But they do not adequately compensate for all of them: institutional costs, such as zoos, aquariums, city parks, recreational facilities, sports stadia, art museums, arboretums, and symphony halls, continue to be more heavily borne by city taxpayers, with insufficient help from suburban tax revenues. Revenue sharing at the metropolitan scale is as essential as land reform.

Another approach to dealing with the underpricing of rural land and the windfall profits of land speculators would be to let the public sector itself speculate in the market. In this scenario, the local government would buy land on the urban fringe at agricultural prices, rezone it, and then sell it to developers. Impoverished local governments could thereby realize the huge profits that often accrue to the developer. The value added by up-zoning is captured by the public sector, which can then use it for infrastructure development, with a considerable balance left over for other public purposes. Moreover, it can guide, require, and even plat development to conform to a preferred pattern. Quite common in Europe, this idea is not an un-American one; no less a patriot than George Washington did it. As president, he condemned much of the private landholdings in the District

of Columbia and had L'Enfant lay out and plat a beautiful national capital, some of which was sold back to the private sector to be developed.

This scheme has more benefits than concurrency to recommend itself in fiscal terms, especially at a time when American cities are struggling for funds. It also allows for more comprehensive land banking and urban planning. However, this European practice has one large flaw: it puts the government into commercial business. As Jane Jacobs points out brilliantly in *Systems of Survival*, government does not do well when it engages in commerce.[3] Nor does business do well in government. When these two fundamental worlds—commerce and guardianship—get reversed, confusion and problems ensue. In short, government bureaucracies may be too slow, too inefficient, and too mired in the values of guardianship and fairness to do a credible job at buying and selling land and buildings, something at which the commercial marketplace is so adept. Land development may also be too great a temptation for corruption, because the dollar amounts involved in appreciated land values can sometimes be incredibly large. We should approach this option cautiously, but nonetheless test its applicability to the American metropolis.

If artificially low-priced land is the biggest single reason for sprawling development, then cheap gasoline is the next biggest culprit. Gasoline prices have actually dropped in real dollars for decades, hitting an all-time low right at the end of the twentieth century. Pump prices would be a lot higher if we paid the full cost of fossil fuels. As mentioned in chapter 1, the externalities include the environmental costs of drilling deeper in more remote parts of the planet and the clean-up costs of air pollution, oil spills, and greenhouse gases, not to mention again the economic and human costs of keeping foreign oil sources secure by military means. Despite its political unpopularity, we need a heavy gas tax (or carbon tax) a.s.a.p. We would only be doing what Europe and Japan had the good sense to do long ago.

These sorts of sweeping macroeconomic reform are well beyond a state's or region's capacity or jurisdiction. Nonetheless, a metropolitan region can do its local share by reforming its land use, transportation, and taxation policies. To restate a central thesis: there is not enough time or enough resources to solve society's many problems one at a time. We need a comprehensive vision that solves many problems simultaneously. There is a true crisis brewing because so many of our government services and institutions are in trouble—health care, K-12 education, university education, public safety, welfare, public transit, roads and bridges, housing for the homeless and the poor, etc. Because our problems are concentrated in the inner city and our solutions are piecemeal, some American cities are now bankrupt, and some states are in the red. And they are curtailing services and programs or both, even when they're as flush with tax revenues as many of them now are. A highway cloverleaf can equal the cost

of a hospital, and a nuclear power plant can amount to the cost of a college campus.

Zoning Reform

As well as reforming land use and transportation policy, states and regions should rethink zoning and the whole patchwork of land-use laws. For generations, zoning and related laws have tried to protect the health, safety, and welfare of the urban population by segregating uses, or as the key 1927 Supreme Court ruling put it, "keep the pigs out of the parlor." Noxious activities were kept away from less noxious ones, with residential areas treated as a city's most protected use. (Ironically, because they are becoming so scarce, industrial zones are sometimes the most protected now.) Bulk requirements, such as set-backs and height limits, were added to insure the provision of light and air and to promote fire safety. Unfortunately, these regulations have been used more and more to protect property values than to preserve life and health.

The shopping mall, a machine devoted entirely to consumption, is a single-use complex surrounded by a sea of asphalt. It often masquerades as a public realm—with exhibits, play areas, and performers—but is owned by private interests whose bottom line is more about making profits than community.

Although uses are often neatly zoned in American cities, the visual ambiance can be cluttered and incoherent. Modern zoning has tended to create functional uniformity within single zones but visual messiness. This result is not surprising when you consider that zoning was never truly intended to achieve specific architecture or urban design configurations. Written by lawyers, often for lawyers, its language is often quantitatively precise but qualitatively loose. It has produced physically segregated districts and neighborhoods with consistent building uses and maximum heights, footprints, and yards. But these zones often have incompatible architectural types. For instance, a residential street might have, on equally sized lots, a string of houses that includes single-story bungalows, two- and three-story cottages, split-level houses, and ranch houses, plus an odd mix of apartment buildings. Although they all conform to bulk and use regulations, they create an incoherent streetscape. The incoherence is a product of the different architectural types and the different architectural styles and materials characteristic of these types. What is needed is more typological consistency, which, in turn, will bring more architectural consistency.

The most memorable and architecturally successful neighborhoods are usually ones where there are many buildings of a similar architectural type, style, and materials. A modicum of repetition, like a row of townhouses, helps. It is in areas of highly diverse architectural types that urban order breaks down. Although these areas can be redeemed by good architecture and building maintenance, they are successful in spite of rather than because of their varied building stock. On the other hand, too much typological consistency, without variations in detail, can be as negative as too much disorder. Witness the monotonous row houses and tenement houses in Philadelphia, New York, and Baltimore, as well as the repetitive rows of Neocolonial houses or ranch houses in suburban subdivisions. The goal of a good neighborhood design should be a balance between variety on the one hand and order on the other.

As noted in chapter 1, suburban land-use zoning has created large zones of single uses: the housing subdivision, the apartment complex, the shopping mall, the office park, the school, and the recreation area. Each zone is large and separated from the next by open land and excruciatingly wide arterials that defy crossing by foot. Not only are all trips between zones made by auto, many trips within a residential or office park zone are by car. And, of course, carpooling is unpopular because commuters can't walk to a restaurant or dry-cleaners on the days they leave their car at home. The beautiful landscaping and picturesque ponds in office parks may look beautiful, but these horticultural ornaments can mask a social desert. Recent attempts to introduce a gas station, restaurant, and/or convenience store at the entrance are steps in the right direction, albeit feeble ones. Decorating auto-dependent office parks with lush landscaping and handsome signage is the environmental equivalent of sprinkling perfume on a toxic dump. Unless they actually reduce auto dependence and foster community and indi-

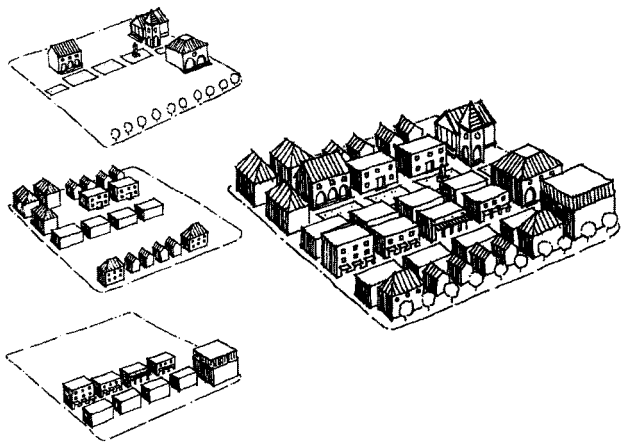
vidual well-being, office parks are part of the problem, however pleasant their grounds or pristine their buildings may appear.

Design Codes and Design Guidelines

There is too much functional clarity in suburban zoning. More functional jumbling is needed, but is difficult with present-day zoning codes. Seldom does the vitality and mixture of an old-fashioned town obtain. In fact, it is against the zoning law in most suburban areas to build a traditional town. But it is possible to triumph over these outdated codes, as seminal projects around the country have shown. Their work has eschewed conventional zoning codes for design guidelines and design codes, often only a few pages long, which should be coordinated with comprehensive and local area or neighborhood plans.

At a time when a municipality's codes are thicker than its phone book and hard for anyone but lawyers to decode, these graphic charts and diagrams are a welcome tonic. Because conventional zoning codes have been written and added to by non-designers over many decades, their physical consequences are hard to visualize. Building and zoning codes are in as much need of simplification as the IRS tax code. Zoning codes come on top of these regulations. They are all well intentioned, but their cumulative effect is staggering. Design guidelines, whether for a private development or a city or county, are drawn up by designers and planners in plain English. They have simple diagrams that developers and lay people can quickly understand.

Design guidelines must prescribe a clear hierarchy of buildings—public and private, vernacular and architect-designed, foreground and background, big and small. Here, three constituent parts of the city—institutions, housing, and commercial buildings—are legible because they are regulated to be true to their architectural typologies. (Calthorpe Associates)



Urban design guidelines represent a typological approach to regulation that is fundamentally different from functional zoning. Zoning codes are technical, verbal, and additive, whereas design guidelines are graphic, illustrative, and integrative. A code of abstractly conceived and neutrally labeled zones is typically more prohibitive, opaque, and conditional than it is illustrative and suggestive. In a sense, modern zoning codes are like a performance specification, that is, they require conformance with certain conditions and criteria, usually quantitative ones. As a result, the codes do not prescribe or prefigure preferred design qualities so much as they allow a range of design possibilities (a notion very consistent with Modernist architecture). This freedom amounts to architectural roulette, especially when coupled with free-form Modernism. The price of uniform land use and consistent building bulk has been visual confusion and architectural disorder—so messy that architectural guidelines have had to be adopted retroactively to compensate for the resulting cacophony. "Design guidelines" are different from "architectural guidelines," which are more concerned with aesthetics and consistency of architectural details, materials, proportions, and color. The latter can be too precious, subjective, and stultifying for a robust urbanism.

As important as urban design guidelines are to fleshing out the Comprehensive Plans now required of municipalities and counties by many states, they are not enough. The third essential element is the Neighborhood Plan, also called the Specific Area Plan or Specific Plan, as profusely illustrated in the original *Common Place* and related charrette booklets. It is as essential to community planning and community building as a third leg is to a stool. If the Comprehensive Plan (coupled with the Urban Growth Boundary in several states) provides an overall framework and vision for a municipality or county, and the urban design guidelines illustrate the character and physical configuration of development, the Neighborhood Plan maps out the future of a particular neighborhood or district. More than a land-use map, it usually is an illustrative master plan that delineates building type as well as use. It can actually plat streets and lots, as the public sector once did in American cities. (Municipalities would benefit from taking back this important function from private developers or at least provide and enforce platting guidelines.) Neighborhood plans also suggest phasing of development and may include three-dimensional drawings and scale models of critical areas. Citizens can and should play an active role in generating these plans, although professional urban designers and planners are more essential than ever.

These plans plot land uses, plat lots and streets, and show illustrative building types. They typically focus on underutilized areas in which there is no existing neighborhood or constituency. Just as important and more difficult in many ways is the development of Neighborhood Plans for existing neighborhoods and districts. Normally, each neighborhood in a region should initiate this process for itself and develop a plan that is consistent not only with the prevailing Comprehensive Plan but also with urban design guidelines adopted by its munic-

ipality or county. Indeed, inspiring and helping such local initiatives is one of the aims of this book and its predecessor, which has many examples of neighborhood plans.

Urban Villages

The Seattle Comprehensive Plan is based heavily on the identification and intensification of urban villages. Other cities have adopted similar redevelopment strategies. They proved to be politically controversial, like most contemporary attempts to increase density. A strong case can be made in their support. For starters, they are fair—in the sense that they are an effective way for the city to take its fair share of regional growth. They also go easy on the city's many existing neighborhoods that don't want increased density. This is an important political advantage that, understandably, is not lost on elected officials.

Second, they are economical, in that much of the physical and institutional infrastructure is already in place. They are more affordable in the absolute sense—that is, their total cost to both society and the individual is less than building a new neighborhood on the urban fringe.

Third, they are walkable, which is even better than being transit-oriented. Because they are small and dense and contain a diverse mix of uses, many household trips can be done on foot—the cheapest, healthiest, most pollution-free, and most enjoyable transportation system of all. Human beings, who may have evolved as nomads, are designed to walk efficiently and comfortably. (Our big toe, for instance, evolved to give us an easy push off in our graceful gait, which is of a speed perfectly attuned to interaction with our social and physical world.) Walking is a permanent solution to chronic transportation problems, as it obviates the need for mechanized transport in the first place. (Goods, on the other hand, often need to be transported by trucks, although hand trucks can probably play a bigger role than they presently do.)

Fourth, they are transit-friendly. Walkable neighborhoods are good origins and destinations for transit trips, as a car is not needed at either end. If they are compact and dense, they aggregate enough riders near a bus, tram, or rail stop to support the investment in a transit system. It is important to note that all public transit systems, the world over, are subsidized to some extent. But highway travel is subsidized too. It should be remembered that both are an investment in more than a transportation system; they form the infrastructure and corridors along and around which towns and cities structure themselves. They are the bones that hold the urban tissue together. But it's hard to build a coherent neighborhood around a highway cloverleaf or at the intersection of six-lane arterials. On the other hand, light-rail transit stops are an excellent way to anchor and center a neighborhood.

Fifth, urban villages are neighborly. They can create coherent neighborhoods where none exists. Recent studies and a millennium of experience show that an area contained within a quarter-square mile with 2,500 to 5,000 residents makes for a good neighborhood—an urban quarter. One quarter can support an elementary school and two can support a supermarket, both of which are necessary and important community anchors.

Sixth, these villages are sustainable, by helping to abate environmental problems such as air pollution, the greenhouse effect, and the depletion of energy sources, natural resources, habitats, agriculture, and open space. They are also socially healthy in that they mix different age groups, socioeconomic classes, ethnicities, and household types, including the single-person and elderly households so poorly served in auto-dependent sprawl. Although this mixing may be less comfortable and genteel than gated subdivisions, social insulation slowly builds the kind of alienation that ultimately erupts in civil violence. As mentioned in chapter 1, it is better to take our legitimate differences and frustrations out on each other in small, everyday doses than in episodic racial and class upheavals. The more personal interaction certainly offers greater hope of understanding of and among human beings. This is not to say racial and ethnic groups should not have their own neighborhoods or blocks if they so desire. It is to say that a social mosaic at the scale of urban villages is better than vast urban ghettos. (A "neighborhood" has a balance of housing, shops, and recreation, whereas a "district" is unbalanced, often intentionally, to specialize in a single use, such as entertainment or industry.) There is at least the possibility that distinctively different neighborhoods can maintain their identity but come together in city parks or commons. The harmonious coexistence of a broad spectrum of ethnic groups often occurs most comfortably at public parks. Ideally, every new city neighborhood would also have its own small park and community center.

Seventh and last is that urban villages are lively and rich environments, full of services and amenities. Suburban life and environments are predictable at best, boring at their worst. With their single-use residential qualities, they are bedroom districts rather than neighborhoods. Moreover, the suburban pattern of development, not just content to devour the countryside, is actually invading the city. Large parking lots in front of one-story buildings now line many inner-city arterials, and cul-de-sac subdivisions have houses that turn their backsides to streets. Eventually these districts will want to be reconfigured into neighborhoods or at least transit-oriented districts.

Urban villages can be diverse, vital, urbane pockets, with housing and offices over retail shops that front onto wide sidewalks with street trees and cafes. Alleys could be mewslike, with small affordable apartments over parking or work spaces. Penthouses and common roof gardens could take advantage of views. Buildings need be no higher than six stories: four or five stories of wood construction over a one-story concrete commercial and parking plinth—an economical architectural

Cities in general and urban villages in particular should not allow infill that is suburban in character. Why, for instance, give automobiles the same r.o.w. in town as they enjoy in the suburbs? This drive-through bank with accompanying surface parking lot undermines walkability, dilutes density, and weakens the workings of a downtown. The suburban sign is equally out of place.

A suburban McMansion invades the city. Its three-car garage fronts a wide urban boulevard otherwise lined with large apartment buildings and shops. The equivalent of turning the metropolis inside out, it totally devalues and deflates urbanism and urbanity. Its hip, gable and garage style has become an American stereotype. Its asphalt shingle roof, as well as wide asphalt driveway and street, adds to environmental costs, whether it happens at the center or periphery of the metropolis.

type that is legal in some cities and has proven to offer many livable design possibilities. This is pre-automobile urban fabric. It is rich in its attention to pedestrian-oriented detail rather than the flashy signage and freestanding buildings designed to be seen through a windshield at high speed.

Residences and retail shops should be background buildings, forming clearly bounded street walls on either side of the street. These street walls should be as continuous as possible, without parking lots and drive-through facilities arbitrarily interrupting them. They are richest when incrementally built (and owned), but with building footprints that always come out to the sidewalk and with cornice lines that are reasonably similar in height. The street walls should be richly detailed and individually crafted for the enjoyment of pedestrians passing by. Blank glass and masonry walls of Modernist banks and office buildings make for urban deserts and pedestrian ennui. Indeed, if architectural detail is essential to pedestrianism, and pedestrianism is essential to urbanism, then architectural detail is essential to urbanism.

The linear space of streets should give way on occasion to public squares and plazas. These pools of space punctuate the public realm and make outdoor rooms for the city. They must be thoughtfully designed because they act as a surrogate for nature left behind in the countryside. The excitement of streets and squares is at a human scale, to be enjoyed on foot—not the abstract high-rise skyline that looks so inspiring from several miles out, but does not make for particularly pleasant streets (unless they have correspondingly large open spaces across the street, like New York City's Central Park).

Lest you think this text is too blithely supportive of urban villages, here are several reservations. One is their potentially negative impact on industry and production. If industrial areas are recycled as primarily residential urban villages, there is a concomitant dislocation or loss of industry. Although it can be argued that industry is moving out of the city and out of the country anyway, a healthy and sustainable city needs diversity. A city needs production and manufacturing as well as the panoply of dwelling, commerce, institutions, and recreation.

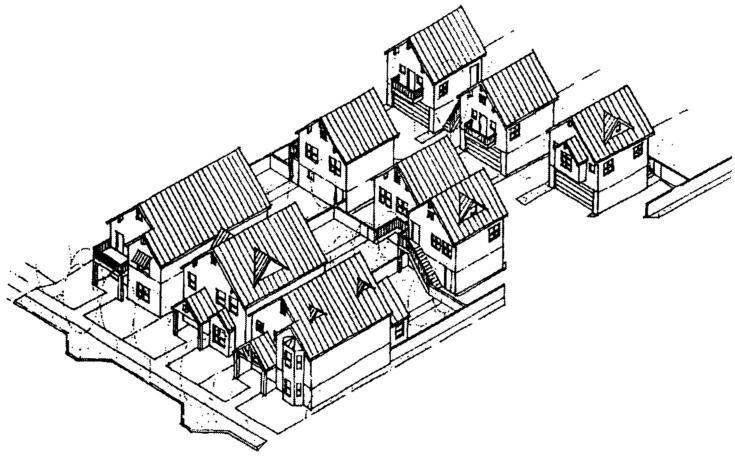
Strictly service cities can slouch into the white-collar monoculture that much of suburbia has already become. Some urban children grow up never observing an airplane built, a ship unloaded, a garment sewn, a newspaper printed; some of their suburban counterparts never see a farmyard animal except at a petting zoo. While it is true that urban villages can accommodate "live-work" housing with production spaces for artisans, artists, and high- or low-tech cottage industry, they cannot as easily handle large-scale, noisy, or hard-core industry. This is, of course, also true of existing residential and mixed-use zones, but some urban villages could have the added handicap of displacing existing heavy industry and jobs from a city which already is losing its capacity for physical production. This trend needs to be arrested and reversed if we want economic and cultural health.

Another way to absorb population growth would be to encourage through incentives existing single-family neighborhoods to accept accessory units. Many existing single-family homes could rent attached units or be subdivided into apartments. While many new houses and apartments were constructed in the last decade within the city limits of Seattle, its population rose to only about 540,000, a number which it exceeded in the 1960s before dropping to 490,000 in the late 1970s and early 1980s. This arithmetic, which applies to many American cities, can only mean that there are many empty or converted bedrooms in the large stock of bigger, older homes. (It more typically means in some cities like Detroit, which has dropped in population from about two million to about one million, that there are many vacant and demolished houses.) It also means that many neighborhoods, including ones that complain loudest about growth, actually have lower densities than they used to. Why not bring more of these bedrooms onto the market as rental units? This would simultaneously provide housing that is more affordable for the renter and make the primary dwelling more affordable to the homeowner. The interior subdivisions of these "stealth units" do not affect the appearance of a neighborhood and, if located near public transit, need not overload on- or off-street parking.

Many of our country's older cities and towns are riddled with alleys. They are a perfect solution to handling garbage, utilities, parking, car washing, children's play, etc. Many are lined with garages and carports. A second floor could be added to many of them to act as a rental unit or granny flat, or home office, studio, workshop, or children's lair. NIMBY fears of renter's transient values and higher crime rates may prove unfounded. Many cities require an additional off-street parking space, a regulation that ought to be waived automatically for all accessory units within a quarter-mile radius of a transit stop.

When alleys were proposed at Laguna West, Sacramento's first Transit-Oriented Development, the police department objected. But when garage units were added, they recanted, predicting that the increased alley surveillance would actually reduce crime. Rental units with resident landlords are usually better maintained with more responsible tenant selection than apartment houses. They also provide a more permanent supply of affordable housing units, because they are not traded up in price like many types of subsidized housing. Accessory units and garage apartments are the housing equivalent of HOV lanes. They clearly provide the biggest return on the investment dollar and should be among the first strategies to be pushed. We should pick the low-hanging fruit first.

There is also the case for some selective up-zoning in existing neighborhoods. Citizen protestations to the contrary, many neighborhood commercial areas can comfortably absorb more housing. This growth could take the form of new apartment houses (built out to the sidewalk with courtyards and parking underneath), as well as infill townhouses, duplexes, and detached homes on smaller lots. Parking is usually cited by neighborhood antibodies as the prohibitive factor. As public



Detached homes with zero-lot lines, alley garage apartments, and home offices can achieve a density suitable for public transit while maintaining the feel, cost, and scale of an affordable single-family neighborhood. (Calthorpe Associates)

A garage with apartment or home office above in a single-family neighborhood. Accessory units above garages—a.k.a. granny flats, mother-in-law apartments, and carriage houses—are particularly efficient and economical ways to increase density. They make housing more affordable for singles or young families by providing starter units, and for large or extended families by providing extra space or extra income as a rental dwelling unit or office.

transit, bicycle commuting, and walking become more feasible, the city can relax parking requirements.

If Seattle and other prosperous cities in very prosperous times fail to follow through on this urban village strategy or some equivalent, we can't expect older cities, which are typically far more burdened with social, environmental, and economic problems, to take the lead. Some East Coast and Midwestern cities have on occasion given up immediate hope, realizing new programs and initiatives alone cannot cope with the massive shifts of wealth to their suburbs and to other parts of the country. It will take a new paradigm and tremendous political will. Urban villages can be a major part of this new model.

Suburban Infill

As important as urban infill is, it is not enough to accommodate the explosive growth of the American metropolis. The population of the United States has grown by over a hundred and twenty million people since 1950, a number that the most aggressive infilling of existing cities could not have absorbed. Much of the growth has and will continue to take place in suburbia. However, it need not all be greenfield development. There are vast opportunities for suburban infill, which will not contribute, to conventional sprawl. In improving suburban infill, there are several issues to consider.

Parking

Parking may seem like an odd place to begin, but it drives suburban design. Parking regulations are so overpowering (code-mandated parking usually takes up more of a given site than the building footprint) that architects often look at them first. Accommodating the requisite number of stalls is often the biggest design challenge, the tail once again wagging the dog.

With public transit and increased pedestrian connections between residential, office, and retail uses, overall parking requirements for commercial and residential uses can be reduced. It is important when mixing retail, office, and residential uses along the same street that the parking for those uses be clearly coordinated, as they have different requirements. Retail and office parking should remain independent of residential parking during working hours in any mixed-use neighborhood, and their entries must be obvious from a high-volume thoroughfare. And office parking should be trumped by van and car pools by better location and cheaper pricing. Residential parking should remain separate from retail or commercial uses and have its own private, secured entries from

quieter, less traveled streets. While retail lots must be large and connected to permit continuous searching for spaces by shoppers, residential lots should be small and compartmentalized to create a greater sense of connection among neighbors who share the lot. Parking lots, alas, are often the only place where people interact—a type of public or semi-public space that we need to design better.

Typical solutions to parking and parking access in suburbia should be reconsidered. The typical configuration for parking in retail strips and town centers is in front of the building, i.e., between the building and the street. While this provides a clear and convenient access for the automobile, it severs the important relationship—found in more traditional "Main Streets"—between the sidewalk and the storefront. Frequent curb cuts are hazardous and discourage pedestrian activity. On-street parking is one traditional strategy that should be reconsidered for suburban centers, especially along retail streets. This strategy at once provides visible and easily accessible parking for short-trip automobile shoppers, as well as a physical barrier between automobile traffic and pedestrians.

A traditional urban component that affords parking within the block is the alley. By allowing vehicles to access the interior of the block where parking spaces, carports, and garages can be provided, the alley enhances the street front for the pedestrian and the parking of visitors' cars. As discussed below and elsewhere, the alley also provides opportunities to mediate between different scales of building and to increase residential densities unobtrusively and economically with garage apartments.

Another effective strategy is to park near the center of the block rather than at its perimeter. Residential parking may be located beneath the dwelling units in garages behind storefront uses. Retail parking may be gathered into larger surface lots or multi-level garages behind shops to serve the larger shopping district. This provides a more pedestrian-friendly environment and recognizes the value of street frontage, especially along retail streets. In this case, pedestrian access to retail should not be at the rear of each store but in mid-block pedestrian passages, which periodically connect the parking area to the street. This configuration encourages shoppers to stroll past more shop fronts and enlivens the district as a whole. Parking behind buildings in the center of the block, whether below, on, or above the grade, also hides the parked cars from view and better defines the sidewalk and street space. Coupled with short-term, on-street parking, it is urbanistically preferable to parking lots between the building fronts and the sidewalk.

Last, a word about public parking garages. They have become a sine qua non of contemporary development. With commercial buildings for which zoning codes require more square feet for vehicles than for people, surface parking lots can quickly dilute a city or suburb into unwalkable emptiness. Urbanity is impossible without parking garages. *Municipalities should think of structured parking in the same way as they think of streets and bridges, that is, as an obligatory, and preferably*

Parking garages are as essential to good urbanism as streets and sewers. Without them, surface parking lots make a city empty and unwalkable. If you were to decant public garages onto surface lots, the city would lose its vibrant urbanity. This structure, however, is architecturally overdesigned and typologically confused. Besides the fake brick arches, its lavish detailing and overly-prominent elevator give the impression that it is a foreground rather than a background building, as does its corner location. As important as parking is functionally, it should remain subservient—in terms of architectural expression and urban placement—to the destinations it serves.

free, part of the public infrastructure. Providing for free (in both senses of the word) circulation of vehicles but not for the storage of vehicles is like building a storm drainage system with no retention basins. Communities that have built public garages have been better able to maintain vibrant downtowns. Shopping malls have also benefited from multi-level parking structures by eliminating the ocean of asphalt that makes their perimeters so bleak and ill scaled for pedestrians. Free parking in suburban malls is stiff competition for downtowns, which need parking meters to insure turnover of scarce stalls. Municipalities and/or merchant associations should consider offering free parking for shoppers (but not workers) in their public parking structures.

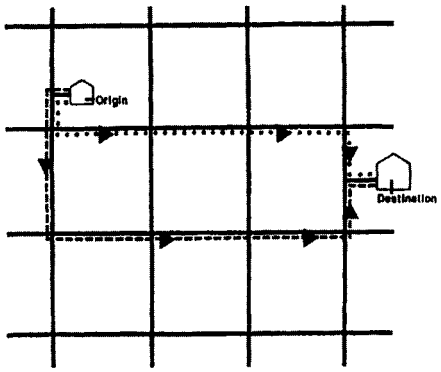
No one understood these parking principles better than J. C. Nichols, who developed in the mid-1920s the country's first automobile-oriented commercial development, Country Club Plaza in Kansas City. He then developed the surrounding Country Club District, which pioneered other progressive ideas. He also helped found the Urban Land Institute, the 14,000–member national real estate development organization that is now returning to many of Nichols' ideas and practices as well as embracing many New Urbanist and Smart Growth principles. Indeed, their recently inaugurated J. C. Nichols Prize for Visionary Development is designed to publicly honor such development principles and practices. The mayor of Charleston, South Carolina, Joseph Riley, the first recipient of the prize, has utilized New Urbanist design principles and designers to bring his small city back to American urbanism at its best.

Circulation

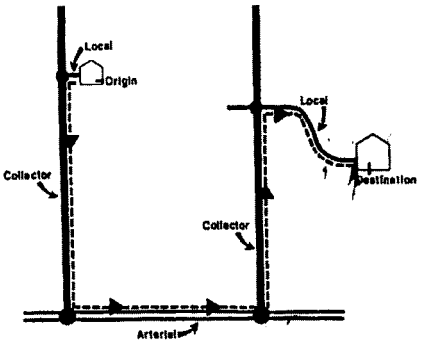
In order to provide a more pleasant environment for the pedestrian and automobile alike, the two need to be more closely integrated. The typical condition of the "superblock," currently found in suburbia, thwarts efforts to provide a workable pedestrian realm. The development of smaller blocks and narrower streets is critical to the creation of a viable pedestrian environment.

In addition, it has been demonstrated that the post-World War II legacy of cul-de-sac, collector road, and arterial not only hampers the pedestrian but also creates more, not less traffic congestion. It also forces unnecessarily long vehicular routes. Smaller, more numerous blocks and narrower streets provide an environment more scaled to the pedestrian. They shorten the actual and perceived travel times for most automobile trips. The shortened travel times are a result of more intersections. The interruptions of left turns are distributed over a large grid rather than concentrated in a few intersections that usually require left-turn signals. The reason for traffic congestion in many suburban communities is as simple as it is maddening: there simply aren't enough places to turn left. (Archaeologists who someday dig up buried suburban civilizations will carefully attribute their demise and extinction to many factors, but even the most astute are unlikely to figure out this critical, obvious, but little-understood fact.) In addition, the grid provides more street frontage for dense, smaller-scaled incremental development.

The retrofitting of streets and alleys in the existing suburban downtown or behind strip commercial developments is an important area of investigation. Whether achieved by easements through new and existing development or by new public rights-of-way through privately held land, establishing a sense of connection and permeability is essential to the development of lively, mixed-use pedestrian environments in suburban downtowns and along arterial strips.



Dense gridded network



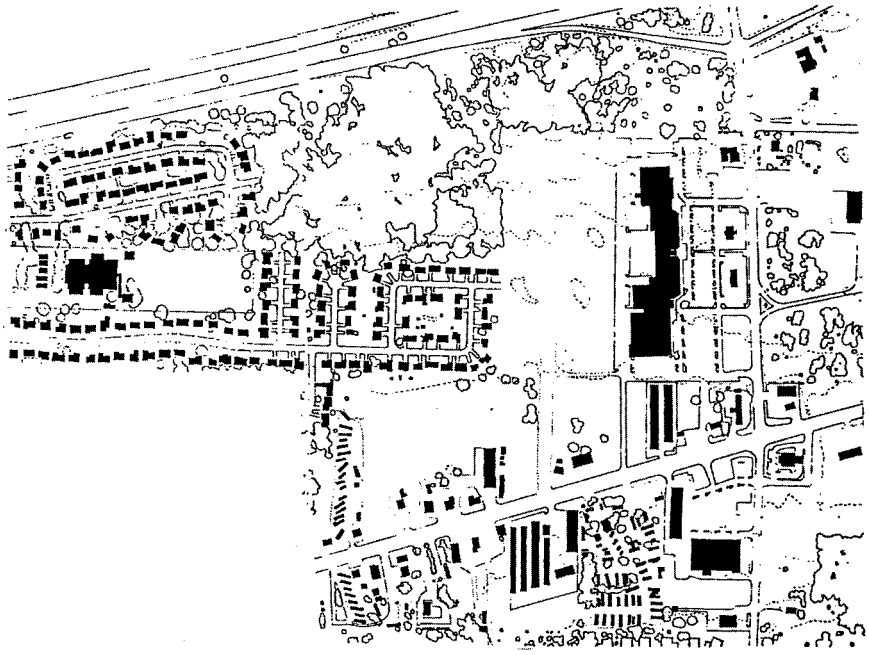
Conventional suburban heirarchy

The traditional street grid provides greater lane capacity than the hierarchy of cul-de-sac, collector street, arterial road, and freeway. In many cases, the grid provides shorter travel times and in all cases provides shorter apparent travel times. These advantages are primarily the result of having more intersections at which to turn left. The traffic lights in suburbia not only seem longer, they are longer because four-phase signals with signalized left-turn lanes are ubiquitous. Suburban gridlock is to a large extent caused by a treelike rather than a latticelike network of roads. This hierarchy forces more vehicles through fewer branches, clogging as they near the trunk arterials, and it allows no vehicular access between one plume of cul-de-sacs and the next.

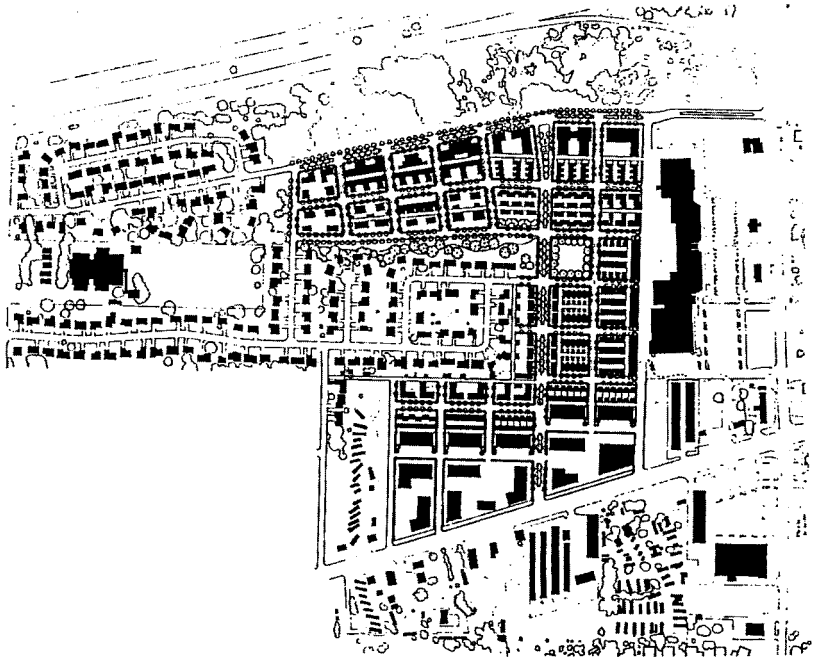
Public Space, Open and Enclosed

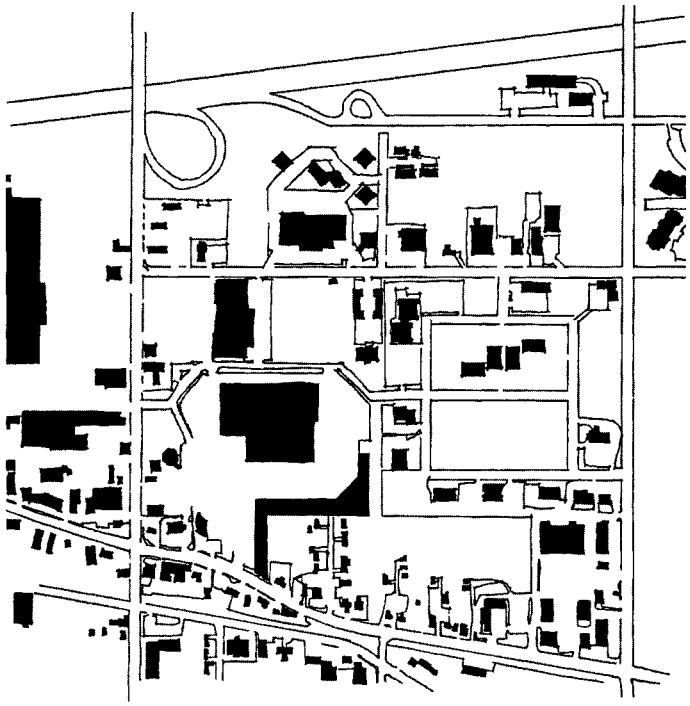
One of the most noticeable elements lacking in many of today's suburban centers and along commercial strips is clearly defined public open space. Parking lots, with all their agoraphobic breadth, are usually the largest, if residual, open spaces and act as a sort of surrogate public realm. Post offices, community libraries, schools, and community centers provide the most common enclosed public spaces. Shared open and enclosed space is a critical element in establishing a sense of community and quality of life for residents; it becomes even more critical as levels of density increase.

Streets constitute the bulk of the public open space in American cities and suburbs. They are almost always too wide for pedestrian comfort, especially in post–WWII cities and suburbs, where planners and traffic engineers were almost exclusively concerned with increasing vehicle capacity, speed, and safety rather than fostering a sense of place. The main commercial/retail streets often require special attention to create a pedestrian-friendly environment. When they are considered as boulevards rather than traffic arterials, they can become amenities rather

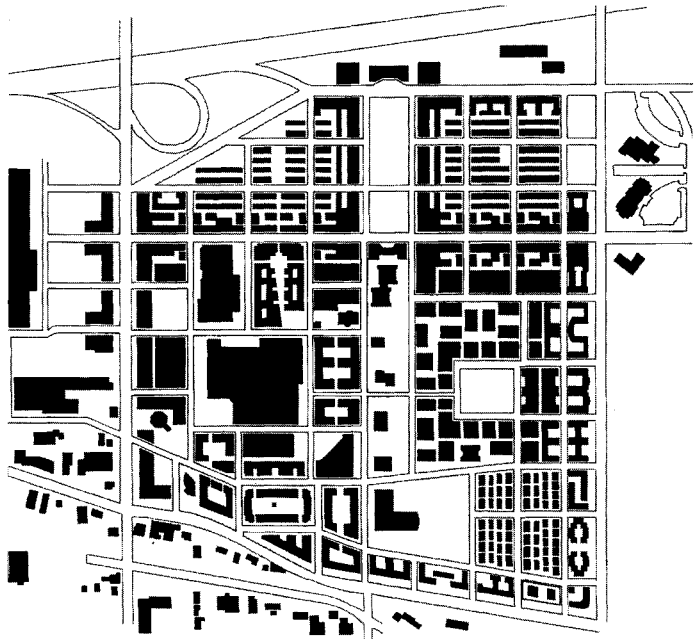


The anonymous, no-persons-land behind a retail mall is connected to a residential neighborhood by infill development that gradually changes from purely commercial to work-live housing to live-work housing to multi-family housing to boulevard duplexes to the existing single-family houses of the subdivision.





Reinvesting in existing cities is a higher priority than green-field development, but post-WWII suburbs need as much or more help as existing downtowns in large cities. This proposal for a centerless suburb with no edges, missing teeth, and large surface parking lots adds a grid of streets to break up existing superblocks, parking areas, and apartment complexes. It flips the overall figure-ground relationship.



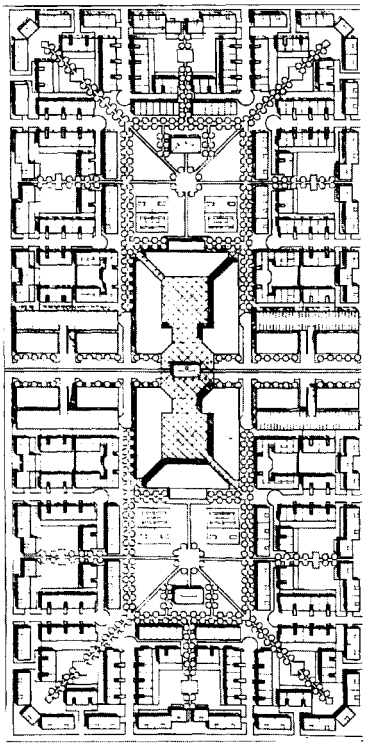
than liabilities. Widened sidewalks, street trees, street furniture, projecting canopies, interesting signage, and generous shop windows are important elements that encourage strolling. Alternative parking strategies have already been discussed. Buildings with ground-floor retail spaces should be pulled forward to wide sidewalks. Generous floor-to-floor heights for retail spaces should be encouraged. Entries to residential uses above the retail should read differently, perhaps by being recessed deeper within the street wall than store entrances or treated with canopies of a different scale and character than those designating retail spaces.

Along with streets, public parks and town squares are very important elements of community life in the traditional town. They help to encourage pedestrian activity, community awareness, and civic pride. They provide a venue for public activities such as fairs, markets, concerts, exhibits, etc. A clearly defined open space at the core of the suburban downtown can also lend a strong and identifiable center often so desperately missing for the town as a whole. Centuries of experience have shown that town squares and streets whose breadth is two to six times as great as the height of the surrounding wall of buildings and/or trees is more pleasant than the greater widths of contemporary plazas and streets. Residential and/or commercial uses should surround the parks or squares so that there is surveillance of the open space, as well as a sense of ownership of the space among the local community.

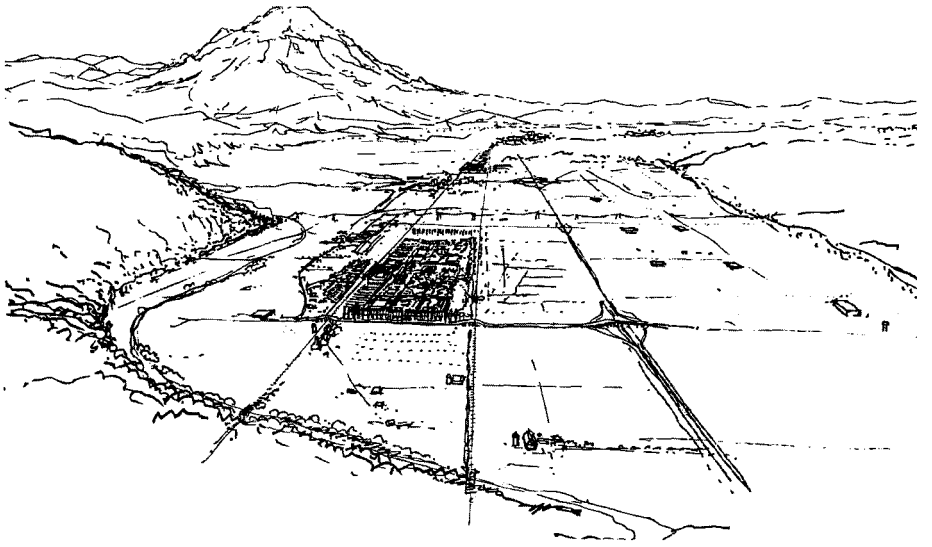
Farmers markets and public markets are a wonderful mix of open and enclosed public space. With both indoor and outdoor stalls, often under high roofs or open canopies, they can be a delightful spatial experience, and a good place to mix with both friends and strangers. They also support local farmers and craftspeople and typically offer local wares and fresh produce unavailable at a shopping mall or chain supermarket. Service is personable, quality is high, prices are often rock bottom, and profits stay in the community—all of which build a sense of community trust and pleasure. Run by a municipal authority or non-profit corporation, public markets are also a genuinely public realm unlike a privately owned mall, where you sometimes check some of your constitutional rights at the door. They even have, so rare these days in America, public toilets.

Pedestrian Pockets, TODS, and TNDS

If urban infill, urban villages, and zoning reform are good strategies for existing cities and suburbs, what strategies are needed for new suburban development? We desperately need to adopt new, compelling models for our suburbs—ones that take the low-density, homogenous net that has been thrown over the outskirts of our cities and gather it into finite knots that are bounded, contained, lively, and walkable communities. The old model of the single-family dwelling, large lawn, garage, swimming pool, curving cul-de-sac, and automobile commute to



The Pedestrian Pocket, shown here as an 160–acre idealized diagram that has not been inflected to a particular site, is bounded by a quarter-mile walking radius, not by walls and gates. Unlike gated subdivisions, it aspires to a broad cross-section of income and age groups as well as diverse building types and architectural types within an area that can be as small as 50 and as large as 350 acres. It is a suburban infill strategy, as shown in the lower sketch and fully documented in The Pedestrian Pocket Book.

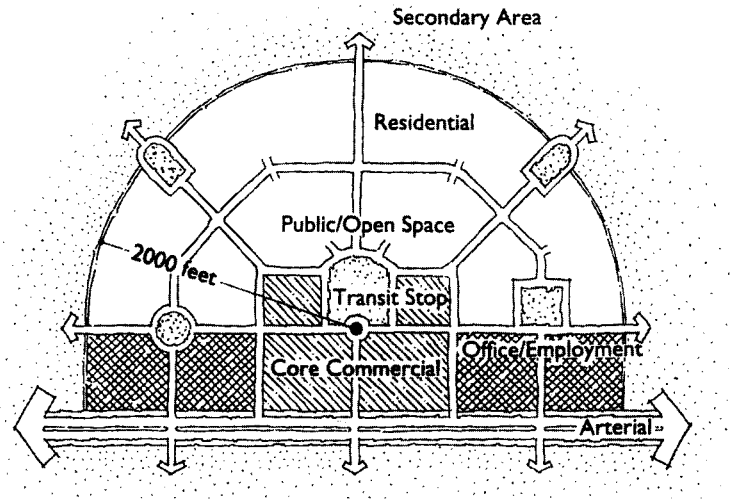


school, office park, shopping center, and recreation still lingers in the minds of many planners, developers, and design professionals. It also holds sway in the dreams of many homebuyers.

One of the new models for suburban development to emerge in the 1980s was the Pedestrian Pocket. The idea was coined and developed by Peter Calthorpe, who came to the concept from an environmental background and ethic. A group of architects in the early 1980s who had been designing passive solar buildings came together with other environmentalists for a design charrette on a ranch in northern California on sustainable cities, which resulted in the book *Sustainable Communities*. Five years later this same group, plus a few others who had also been making contributions to passive solar architecture, co-authored *The Pedestrian Pocket Book* after the University of Washington charrette of the same name in 1988. Calthorpe Associates has since applied its concepts to scores of development projects around the country and in Australia and lectured to numerous conferences here and abroad. This pioneering planning work came to early if halting fruition in such projects as Laguna West in Sacramento, where the county also adopted the principles as design guidelines for Transit-Oriented Development (TOD) in its unincorporated areas and at Northwest Landing outside of Tacoma, Washington.

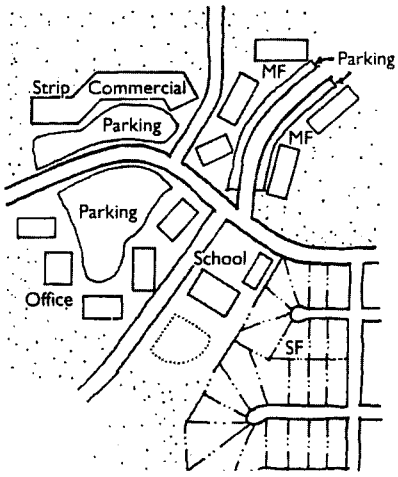
What is a Pedestrian Pocket or TOD? It is a development model for a small, walkable community that mixes low-rise, medium-density housing for a variety of household types, with retail, civic, recreational, and employment centers along a main street—all within about a one-quarter-mile radius of a central transit stop for a bus or rail system. This tight node can be surrounded by a secondary area or belt of more conventional single-family homes, separated by an open buffer but connected by direct pedestrian and vehicular links. Because it is not a stand-alone community, the pocket is connected by automobile, bike, and transit to other pockets and existing towns and cities, as well as to the existing subdivisions, shopping malls, and office parks that it aims to replace. The Pedestrian Pocket is small—thirty to a hundred and fifty acres—and, ideally, bounded by open space which keeps it from sprawling. Sufficient parking is provided for each dwelling unit to accommodate automobile ownership, but the number and length of trips is expected to be greatly reduced, perhaps by as much as one-third. Although the mix of land uses is similar from pocket to pocket, the master plan varies considerably to accept different physical constraints and citizen input, much like architectural types inflect into particular models or variations to recognize differences in local culture, climate, building materials, and practices. None of the Pedestrian Pocket precepts are new or extraordinary; taken singly they are embarrassingly obvious revivals of traditional patterns of settlement, but in concert they form a compelling new vision for urbanizing suburbia.

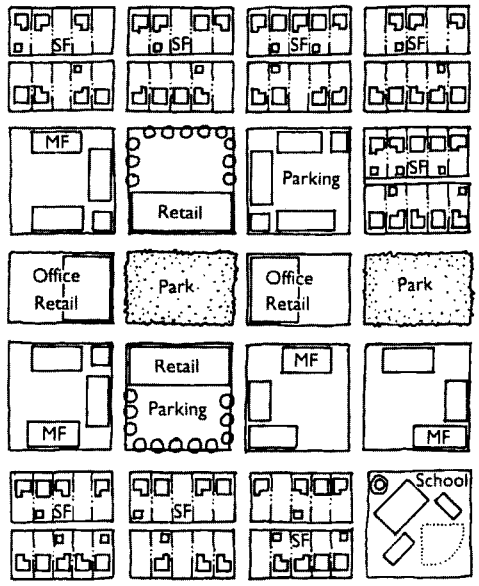
While Pedestrian Pockets and TODs were arising on the West Coast, the Traditional Neighborhood Design, or TND, had already taken root on the East



A TOD diagram. The walking distance from the periphery to the center has been increased from 1/4 mile (1320 feet) to 2000 feet. (Calthorpe Associates)

Conventional suburban development (left) separates land uses into large, single-use zones, with a treelike circulation system that has too few intersections, too few places to turn left, and a commensurate increase in friction. Traditional Neighborhood Design (TND) (right) mixes land uses in a neighborhood with a permeable street grid that provides more lane capacity and intersections for the easy circulation of vehicles and pedestrians.





Coast. Andres Duany and Elizabeth Plater-Zyberk were the pioneering authors of the concept and have continued to develop and apply it around the country and world. It is also referred to as Neo-Traditionalism, a term that embraces architectural as well as town planning precepts. TODs and TNDs hold a great many principles and ideals in common: small scale; a mix of uses, age groups, ethnicities. and socio-economic groups; environmental sensitivity; internally consistent hierarchy of architectural and street types; finite geometry with legible edges and a center; walkability; alleys with accessory units; and reliance on succinct graphic guidelines in lieu of traditional zoning codes. These are happy and significant convergences, especially given the fact that their respective authors come from different backgrounds and political ideologies. Pedestrian Pockets or TODs came from an energy and environmental design ethos. TNDs grew out of a more formal and doctrinaire Euro-American urbanism. Pedestrian Pockets or TODs started with regionalism as a planning and environmental concept. TNDs originated more with traditional notions of city, town, type, and architecture, although they too have a good environmental record. Ideologically, one movement came from the left, one from the right.

While they share a great deal at the scale of the town or neighborhood, they diverge somewhat at other scales. TODs are predicated more on a regional transit and regional open-space systems, while TNDs have tended to be more rigorous and prescriptive about architectural typology, style, and detail. TNDs have architectural as well as urban design guidelines, regulating fence design and the color of architectural trim. Both are committed to establishing a hierarchy of known architectural types, street types, and block types.

TNDs, however, have tended to be more literal—too literal in my opinion—in their architectural interpretation of historical precedent, especially at the scale of building details such as window shutters and muntins. (Snap-in plastic muntins, like fake shutters and white vinyl fences, are over the top for me, a sign that Neo-Traditionalism has pushed too far.) At least that is the case at such Neocolonial towns as the Kentlands in Maryland, Harbor Town in Tennessee, and Celebration and Windsor in Florida, although in the very last case the beautifully composed buildings of architect Scott Merrill are to be applauded. This dominance of historicist architecture may lessen over time, as it has already at Seaside, Florida, the original TND. This historic milestone in American town planning has been built out incrementally by a variety of everyday and acclaimed architects designing in a genuine variety of styles and with less architectural fakery and faux construction. Despite being featured in "The Truman Show," it feels more real and authentic than most conventional developments and many other New Urbanist developments, albeit as a resort community of second homes. It is the incrementalism as much as the higher quality architecture than contributes to this feeling of genuineness.

Despite their differences in origin and methodology, the East and West Coast approaches are remarkably sympathetic and parallel in their results, spectacularly so given the myriad design possibilities for a canvas as blank as suburbia. They are both committed to environmental and social diversity, affordability, and sustainability, as well as to transit and walkability. They both aim to restore a human-scaled, humane, typologically based, and formally coherent sense of public and private place to American neighborhoods, towns, and cities before they dissolve further into endless, stereotypical sprawl and mindless imitations of themselves.

Congress for the New Urbanism

TODs and TNDs are so similar in intent and results that many architects and planners have embraced their principles with great fervor under the name of New Urbanism. In 1993, the first Congress for the New Urbanism (CNU) was convened in Alexandria, Virginia—called by founding members Duany, Plater-Zyberk, Calthorpe, Stefanos Polyzoides, Elizabeth Moule, and Solomon. By 2000, seven more congresses had been hosted in cities around the United States and Canada, in increasing coalition with other organizations and professions, and with increasing attendance (over fifteen hundred) and membership (approximately two thousand dues-paying members in the year 2000). The CNU's creed is indicative of the common polemic and concerns that have subsumed Urban Villages, Pedestrian Pockets, TODs, TNDs, Neo-Traditionalism, Smart Growth, and Livable Communities and welded them into a single movement. (Although these last two movements, which share the same goals, are more about policy incentives and frameworks than the more specific design and planning principles and practices of New Urbanism.) Its values and goals are elaborated in its charter, illustrated in the 1999 book *Charter for the New Urbanism*, in which each of its twenty-six points is explained by a different author.

The preamble to the Charter reveals both the ambitiousness and idealism of the movement:

> The Congress for the New Urbanism
> views disinvestment in central cities, the spread of placeless sprawl,
> increasing separation by race and income, environmental deterioration, loss
> of agricultural lands and wilderness, and the erosion of society's built heritage
> as one interrelated community-building challenge.
>
> We stand
> for the restoration of existing urban centers and towns within coherent
> metropolitan regions, the reconfiguration of sprawling suburbs into communities

of real neighborhoods and diverse districts, the conservation of natural environments, and the preservation of our built legacy.

We recognize
that physical solutions by themselves will not solve social and economic problems, but neither can economic vitality, community stability, and environmental health be sustained without a coherent and supportive physical framework.

We advocate
the restructuring of public policy and development practices to support the following principles: neighborhoods should be diverse in use and population; communities should be designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice.

We represent
a broad-based citizenry, composed of public and private sector leaders, community activists, and multidisciplinary professionals. We are committed to reestablishing the relationship between the art of building and the making of community, through citizen-based participatory planning and design.

We dedicate
ourselves to reclaiming our homes, blocks, streets, parks, neighborhoods, districts, towns, cities, regions, and environment.[4]

New Urbanism Criticized and Defended

As New Urbanists have stuck their chins further and further into the media stream, more and more critics have taken swipes at them. This is both natural and healthy criticism in an open society, although it is unfortunate that much of the discourse is reduced to sound bites and short news pieces.

Urban designer and architect Michael Dennis and others have commented that New Urbanism is neither new nor urban. Its principles and practices, he points out, are old ones. And its primary focus, at least as reported in the press, has been suburban, not urban. The first point is almost undeniable, but not quite. True, New Urbanism revives many ideas about town and city planning that were mainstream before the Modern Movement. It is also true that New Urbanists believe a continued obsession with the "new" will not result in better neighborhoods,

towns, cities, and regions, and that there is nothing ethically or artistically wrong or weak about reviving and championing old, proven ideas. What is new about the New Urbanism is its totality. It attempts to promote a sort of unified design theory for an entire region—from the small scale (building block, street) through the intermediate scale (corridor, neighborhood, district) to the large scale (regional infrastructure and ecology). Although many of its ideas may seem obvious and old hat, the particular combination and orchestration of them are new. Also fresh is the New Urbanist insistence that physical placemaking must be carefully and thoroughly linked to public policy. New Urbanists have already been effective at reforming municipal, state, and federal policies, including such efforts as advising Presidential candidates Bradley, Gore, and Bush in the 2000 election and helping formulate HUD's bold "Hope VI" program.

The second point—that New Urbanism is not truly urban—is mistaken, although understandable given media coverage to date. The projects that have gotten the most attention are the Neo-Traditional towns like Seaside, Laguna West, Kentlands, and Harbor Town, many of which are located on greenfield sites in suburbia. The suburban agenda of the New Urbanists has been the most newsworthy because these new, imageable communities are built and selling well, flying in the face of conventional suburban development formulas. But New Urbanism is a regional strategy, with equally important ideas and proposals for downtown and inner city neighborhoods, as well as an interest in overall regional planning. (Much of the CNU founders' and most of the author's work has been in urban areas.) Some of the confusion about the name "New Urbanism" might be cleared up by reserving the terms "Traditional Neighborhood Design" and "Pedestrian Pocket" for suburban applications, and "New Urbanism" as an umbrella term for comprehensive regional strategy, including urban infill.

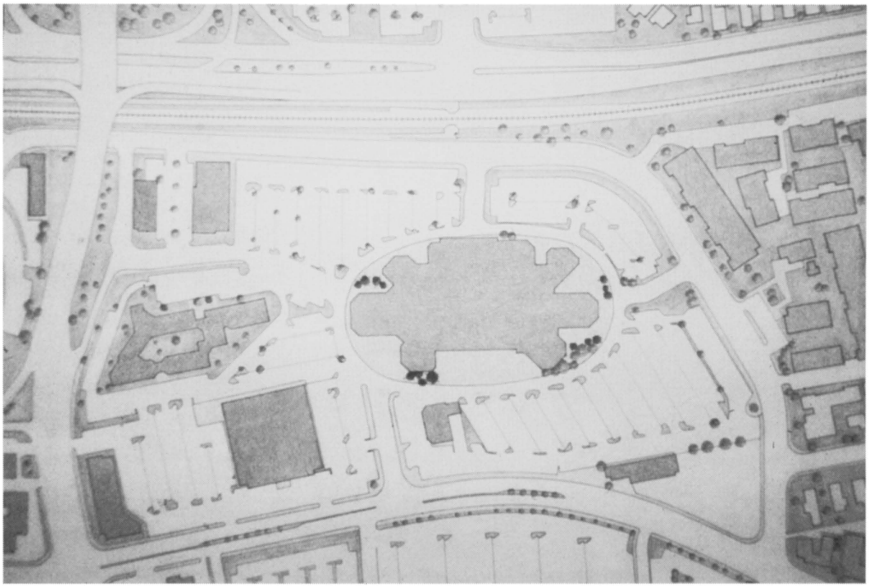
Another complaint has been about elitism within the movement. Specifically, the early Congresses for the New Urbanism were criticized for not being open to the public. This policy could be easily construed as a mark against a movement that is committed to building broad and equitable communities. However, the conveners felt that restricting attendance to invitees was necessary to organize and focus the early events. In a sense, the early Congresses were meant to get ideas and principles on the table clarified, ordered, and chartered before going public. Later conferences were opened up to anyone nominated by any previous attendee and ultimately to any paying registrant. This policy did step on many professional and academic toes and, in retrospect, may have resulted in more damage than strategic advantage.

CNU III in San Francisco in 1994 was a deliberate attempt to broaden the membership and build coalitions with other urban groups and environmental organizations. CNU IV in Charleston in 1996 invited known opponents of New Urbanism to debate openly its principles and practices. There have been critical academic symposia with opposing positions well represented at Seaside, Harvard,

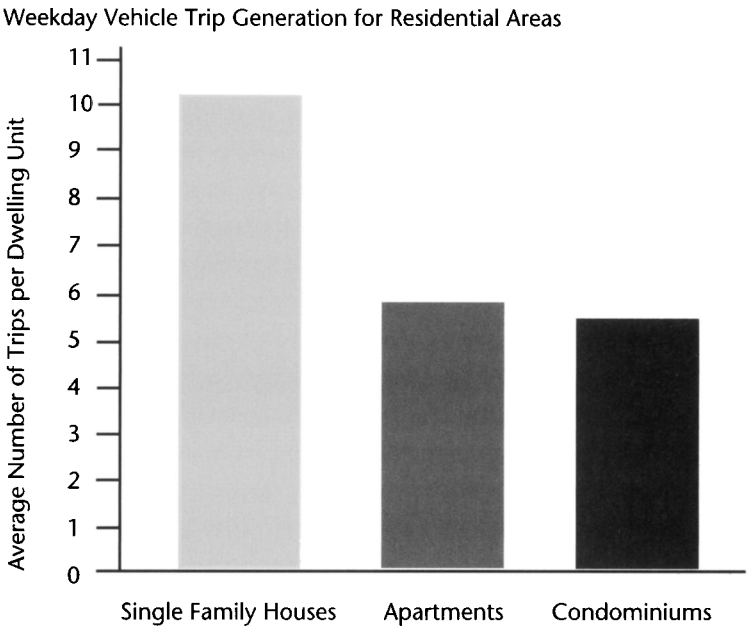
Berkeley, and Michigan. The Seaside Institute regularly hosts seminars and meetings. Every year there are also a myriad of open and independent conferences, institutes, and workshops on different aspects of New Urbanism for different constituencies and geographic areas. The 1999 CNU VII in Milwaukee had well over a thousand attendees from all walks of life, including many elected officials and developers. The Congresses have never intended to be like the contemporary, open-ended conference or symposium, which typically asks more questions than it answers and often ends up in pluralist disagreement if not confusion. To design and build communities takes more than probing questions and an endless quest for all the answers. To act, we must settle on norms, standards, and specific designs, moving ahead even though all questions may not be asked or fully resolved.

Another challenge leveled at New Urbanism is that it is another ideal vision conceived, ordained, and disseminated from above and not rooted in specific places or local cultures. This critique contends that architects and planners have always come up with beautiful, sanitized visions that will save the world and which, although provocative and even brilliant, are too idealized, too closed, too ambitious, or too disconnected from place or reality. To a large extent, that has been true of twentieth-century visions (Sant' Elia, Garnier, Le Corbusier, Wright, Leon Krier). It does apply in some measure to New Urbanism, which, it has been argued, is a "narrow representation or framework that denies the social, physical and economic diversity of the built North American landscape."[5] True, the proposed and built projects do try to apply an ideal diagram or plan. But any development that is faithful to the principles of New Urbanism should recognize and celebrate what is unique about a place's history, cultures, climate, and architecture. It is fair to say that TND and TOD site plans have been too formulaic—a design template from on high, a Neobaroque one at that (with exceptions like Haile Village in Florida). But it takes this sort of single-minded effort and confidence, as well as a simple, clear diagram, to launch a movement. In today's media circus, it takes more chest beating, ego, and bombast than when Frederick Olmsted spawned the profession of landscape architecture or Ebenezer Howard founded the Garden City movement last century.

Related to this concern is the question of whether New Urbanist projects are too stand-alone, i.e., too separate and aloof from their existing physical and social context. This is a vexing issue, because their physical context is often too flawed or frayed to respect. A congested arterial strip with a monstrously wide roadway and a sea of asphalt parking lots ebbing and flowing with a tide of cars in front of low, cheap retail boxes is not a context worth honoring. In suburbia, there is generally not much good built fabric with which or against which a designer can work. In urbanized areas, especially those with substantial building stock, there is a stronger argument for both infill and reuse of existing buildings and infrastructure. In either case, dealing with the existing social fabric is very challenging. It is usually easier for designers and planners to work in an empty greenfield



A California shopping center converted to mixed-use high-density housing next to a new transit center (upper center) and an existing supermarket and office building (lower left). Suburban renewal will become increasingly common as isolated shopping malls (and office parks) are transformed from consumption centers (and employment centers) into more complete community centers. (Calthorpe Associates)



Residents of single-family houses make more auto trips than those in multi-family housing. Transit, walking, and bicycling will never completely replace the private motorized vehicle in America, but this chart shows there is hope for reducing household trips.

site than to knit and nudge new development into an existing neighborhood, where social, economic, and political groups and factions are in place and in many cases entrenched. If New Urbanism is to live up to its charter, it will have to successfully take on more of the messier and compromised work of infill and repair, whether in center city, urban neighborhoods, suburbia, new towns, or small towns.

Another criticism is that, despite all the hoopla, New Urbanist developments are not living up to their transportation promises and expectations. The argument has been made that there is a weakening link between land use and transportation in an increasingly automotive world and that pedestrian-oriented communities have only a marginal effect on household vehicle miles traveled. Pedestrian trips in TNDs and TODs, it is suggested, simply add to automobile trips rather than replace them.[6] While making walking and bicycling safer and more convenient may not be enough by itself to reduce auto dependence, it is an essential ingredient in an overall solution to auto dependency. Also necessary but insufficient is reducing the subsidy, as well as the right-of-way, priority, and authority that automobiles enjoy in our society. And more and better public transit is needed with mixed-use development at every stop, so riders can walk or bike at either end of every trip. True, transit and walking will never displace pri-

vate motorized vehicles, but the New Urbanism can ultimately reduce the number of trips from about ten or eleven per household to maybe seven or eight. Importantly, it will shorten the length of trips, which is of considerable significance in an era of much longer commutes and shopping trips. It is also true that transit will never eliminate traffic congestion, because if and when highways become less crowded, transit riders will tend to drive more. But transit can put a lid on congestion. We must recognize that it will not be easy to change a pattern as deep as auto-dependence. It will take all of the programs, policies, and development strategies outlined in the CNU charter, this book, and other publications on the subject.

Yet another critique is that New Urbanist developments are not a marketing success and that people either are not ready for them or don't like them. It's not too early to measure marketability. There are many examples of homebuyers paying a sizeable premium, as much as 25 percent, to live in New Urbanist communities.[7] As of 1999, there were many thousands of dwelling units built in over two hundred TNDs or TODs across the country. Consumer surveys have produced mixed but generally favorable responses from homebuyers and renters as well as from prospective residents. At least one academic study has shown that a greater sense of community obtains in Neo-Traditional than in conventional subdivisions.[8] Sales have frequently been robust, but until the public has had a better chance to see New Urbanism in fuller build-out and with more mature landscaping, it is too early to pronounce a definitive verdict. And until the economic playing field is more nearly level, biases in pricing will also distort market responses. Also, superficial imitations of TNDs and TODs will inevitably muddy the waters and skew the results. (The same problem plagued the solar movement with many impostors and exaggerated claims.)

Even if unbiased, the market is not always able to quickly or even slowly evaluate properly something as complicated as community. The marketplace does not always opt for what is in buyers' and sellers' best interests, especially long-term interests that are hard to comprehend, such as sustainability and social equity. Sometimes human desires and needs are two different things. Other times, subsidies and penalties have accustomed people to habits they can no longer afford or have led them inadvertently into shortsighted behavior. In any case, the marketplace must eventually accept New Urbanism if it is to succeed and endure. But only the test of elapsed time with market prices that reflect true costs will determine its true value and validity.

Perhaps the most frequent allegation is that New Urbanism is reactionary. Is it, as John Summerson stated in 1947, one of "those aging ideas that get encrusted around past creative achievements and clog the proper working of the imagination in changing times"? At the 1999 Harvard Design School conference, "Exploring (New) Urbanism," urban historian Robert Fishman delivered a quiet

but stinging response to the charge that New Urbanism is essentially an exercise in nostalgia:

I want to comment on and to complicate this issue of old urbanism/new urbanism by turning to a seemingly remote source, a story by the great Argentinean writer Jorge Luis Borges entitled "Pierre Menard, Author of the Quixote."

This story or fable deals with a 20th-century Parisian intellectual, Pierre Menard, who has set himself the task of writing Don Quixote. He is not copying Cervantes' novel, still less does he pretend to be Cervantes living in the 17th century; nevertheless, he is writing Don Quixote.

After a lifetime of effort, he succeeds in producing a few precious pages that are word-for-word identical to the Cervantes novel. In the story, Borges (or rather the narrator) compares Menard's Don Quixote with Cervantes'. The narrator asserts that, even though the words on the page are word-for-word identical, the two works are in reality completely different.

When, for example, Cervantes writes, "truth, whose mother is history, rival of time, witness of the past . . . ," etc., he is merely repeating conventional seventeenth century wisdom. But when Menard, a 20th-century intellectual living in an age of skepticism and relativism, writes "truth, whose mother is history, rival of time, witness of the past . . ." this is astonishingly radical, a revelatory break with Menard's time.

I will now attempt to make the connection to the New Urbanism. For example, where Borges wrote "Pierre Menard, Author of Don Quixote," we now have "Duany/Plater-Zyberk, Authors of the Urban Grid." That is, when 19th-century urbanists planned a walkable urban grid, it was conventional development, inevitable and expected. But when in the age of the beltway and overpass, Duany/Plater-Zyberk plan a walkable urban grid, this is astonishingly radical. Even if their grid is, in fact, identical to the 19th-century grid.

Similarly, we now have in New Urbanism such figures as "Peter Calthorpe, Author of the Streetcar Suburb," or "Ray Gindroz, Author of the Urban Neighborhood," or "Moule and Polyzoides, Authors of the Law of the Indies." In each case, what had once been conventional is now a dramatic assertion of difference and innovation.

Equally important, these projects imply a refutation of what Dan Solomon has called "the zeitgeisters," the people who believe that history is a single track that moves in one direction only; and that only "contemporary" design has honesty and validity.

In response, New Urbanism asserts not only a pluralism of form but a pluralism of time. This pluralism, moreover, is especially important today when globalism and the global economy threaten to submerge all difference in a single undifferentiated "world architecture." Previously new forms came principally

from a future-oriented avant-garde. But, as Rem Koolhaas perhaps inadvertently showed earlier in the conference, this avant-garde is now virtually paralyzed by the rapidity and complexity of the change it once celebrated. It is also paralyzed by the memory of the failures earlier in this century of utopian, future-oriented avant-garde planning.

In this context, the past becomes not "nostalgia" but astonishingly radical. The past paradoxically becomes our best source of the innovation and difference we so desperately need.[9]

Three Paradigms: New Urbanism, Everyday Urbanism, Post Urbanism

Although New Urbanism has enjoyed meteoric success in the American media, it is far from the centerline of either the academic or the real estate development world. Although it shows promise of becoming the norm for greenfield development in North America, conventional suburban development continues to envelop the American metropolis. Meanwhile, conventional urban development and redevelopment are fast changing our downtowns into giant entertainment/tourist/convention/sports/office centers. These developments are happening piecemeal, driven by the market, without much input from New Urbanists or urban designers and planners in general. In academia, New Urbanism enjoys little and often begrudging respect, especially in schools of architecture, where poststructuralist and avant-garde theory continue to dominate.

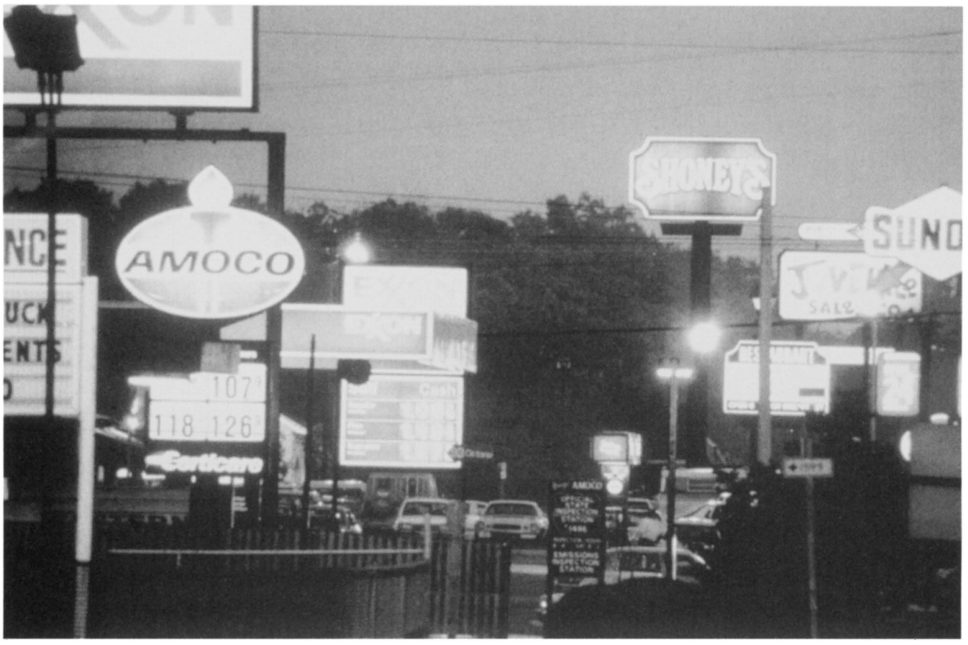
Beyond the unself-conscious "market urbanism" that is willy-nilly changing the face of American downtowns and suburbs, there are at least three self-conscious schools of urbanism: New Urbanism, Everyday Urbanism, and what I call Post Urbanism. They run parallel to contemporary architectural paradigms, although there are additional schools of architectural thought defined by tectonics, environmentalism, regionalism, historicism, etc. There are other urbanisms—such as an environmentally inspired one (which is here subsumed under New Urbanism) and Infrastructure Urbanism, Landscape Urbanism, and Interior Urbanism (which is here subsumed under Post Urbanism)—but these three cover most of the cutting edge of theoretical and professional activity. All three are inevitable and necessary developments in and of the contemporary human condition. A brief synopsis of the three paradigms follows.

New Urbanism is utopian (or at least idealistic) in concept, civic in style and structuralist in conception. It is utopian because it aspires to a social ethic that builds new or repairs old communities in ways that equitably mix people of different income, ethnicity, race, and age, and because it promotes a civic ideal that coherently mixes land of different uses and buildings of different architectural

types. It is civic because it sponsors public architecture and public space that attempts to inspire citizens to feel they are part, even proud, of both a culture that is more significant than their individual, private worlds and of an ecology that is connected to the natural loops, cycles, and chains of life. New Urbanism eschews the physical fragmentation and functional compartmentalization of modern life and tries "to make a link between knowledge and feeling, between what people believe and do in public and what obsesses them in private."[10] It is structuralist (or at least determinist) in the sense that it maintains that there is a direct, structural relationship between social behavior and physical form. It is normative in that it posits that good design can have a measurably positive effect on sense of place and community, which it holds are essential to a healthy, sustainable society. The physical model is a compact, walkable city with a hierarchy of private and public architecture and spaces that are conducive to face-to-face social interaction, including background housing and private yards as well as foreground civic and institutional buildings, squares, and parks. The street, with its vibrant and often messy mix of pedestrian life and vehicular activity, is seen as a sine qua non.

Everyday Urbanism is non-utopian, informal, and non-structuralist. It is non-utopian because it celebrates and builds on everyday, ordinary life and reality, with little pretense about the possibility of a perfectible, tidy, or ideal built environment. Indeed, as John Kaliski, Margaret Crawford, and others in *Everyday Urbanism* point out, the city and its designers must be open to and incorporate "the elements that remain elusive: ephemerality, cacophony, multiplicity and simultaneity."[11] This openness to populist informality makes Everyday Urbanism informal and conversational, as opposed to civic and inspirational. Unlike New Urbanism, it is non-structuralist because it downplays the direct relationship between physical design and social behavior. It, for instance, delights in the way indigenous and migrant groups informally respond in resourceful and imaginative ways to their ad hoc conditions and marginal spaces. Appropriating space for commerce in parking and vacant lots, as well as private driveways and yards for garage sales, is urbanism more by default than by design. Form and function are seen to be structurally connected in an open-ended way that highlights culture more than design as a determinant of behavior. Vernacular and street architecture ("quotidian bricolage" by one account in *Everyday Urbanism*) in vibrant, ethnic neighborhoods, with public markets rather than chain stores, and street murals rather than civic art, are held up as a model. Everyday Urbanism could be easily confused with conventional real estate development, but it is more ideological than the generic "product" that mainstream bankers, developers, and builders supply to an anonymous public.

Post Urbanism is heterotopian, sensational, and poststructuralist. Rem Koolhaas's Generic City projects, for instance, welcome disconnected, hypermodern buildings and shopping-mall urbanism. They are also heterotopic



Everyday Urbanists are in debt to Robert Venturi and Denise Scott Brown's claim that the ordinary streetscape or stripscape is "almost right" and a worthy point of departure for contemporary design. However, everyday urbanists tend to favor the indigenous mural over the commercial billboard and to champion local culture.

because they discount shared values or meta-narratives as no longer possible in a fragmenting world composed of isolated zones of the "other" (e.g., the homeless, the poor, gays, communes, militia, prisoners, racial and ethnic minorities, etc.) as well as mainstream zones of atomistic consumers and free-range tourists. Outside the usual ordering systems, these liminal zones of taboo and fantasy and these commercial zones of consumption are viewed as liberating because they allow "for new forms of knowledge, new hybrid possibilities, new unpredictable forms of freedom. It is precisely this distrust of 'ordering' that makes the poststructuralists so against conventional architecture and urbanism."[12] Traditional and New Urbanist communities based on physical place and propinquity are claimed to be stultifying, repressive, and no longer relevant in light of modern technology and telecommunications.

As Andres Duany has pointed out, there is a widespread tendency within the architectural avant-garde to equate order with repression and, by extension, disorder with democracy. However, the modern conception of democracy, as set out by western philosophers such as John Locke, has been about civic responsibility as well as personal rights and freedoms. Only this century in America have individual freedom and license trumped civic responsibility and duty. Private rights now overwhelm group rights, at great cost to community. This trend has helped jump-start counter movements such as communitarianism and New Urbanism.

Post Urbanism is stylistically sensational because it attempts to wow an increasingly sophisticated consumer in and of the built environment with ever-wilder and more provocative architecture and urbanism (e.g., Gehry's Guggenheim Museums in Bilbao and New York). Like Modernism, its architectural language is usually very abstract, with little reference to surrounding physical or historical context. It also continues the Modernist project of avant-garde shock tactics, no matter how modest the building site or program. It is sometimes hard to know if it employs shock for its own sake or whether the principal motive is to inspire genuine belief in the possibility of changing the status quo and of resisting controls and limits that are thought to be too predictable, even tyrannical. Koolhaas, Eisenman, Hadid, Libeskind, Gehry, and Tschumi are poststructuralists, some of them in the thrall, or once in the thrall, of Jacques Derrida and Deconstructionist literary philosophy. Gehry describes his exuberant insertions into the city as examples of open, democratic urbanism, despite the fact they usually ignore and overpower any local discourse. As stated in chapter 2, Deconstructivist projects are usually self-contained and microcosmic, with little faith in the work of others to complete the urban fabric, even the dynamic fragmented one which they champion. Post Urbanist work embodies and expresses a more dynamic, destabilized, and less predictable architecture and urbanism. The personal design portfolio of signature buildings and a sprawling, auto-centric city like Atlanta are held up as the professional and physical model, although the very idea of type or model might be rejected outright by Post Urbanists.

Three Sensibilities, Methodologies, and Outcomes

As practiced, the differences in these three urbanisms and their architectures run consistent and deep. The divergence probably starts with the designer's aesthetic sensibilities, which are arguably more basic than his or her design values. Sensibilities often come down to early experiences and memories, such as toilet training and childhood play. They are less conscious and harder to change than acquired knowledge and learned values. How messy and complex a world a designer can tolerate is probably harder wiring than how much injustice she can tolerate or how many problems he can justify passing on to the "seventh generation." Where designers fit on the spectrum of these three paradigms may ultimately have to do with whether they prefer in the gut to spend time, for example, in Paris around the grand monuments and boulevards of the nineteenth-century, in the medieval streets and cafes of its Marais district, or in the free-standing, high-rise complex of La Defense, the twentieth-century office complex. (They may, in fact, enjoy hanging out in any one of these places, depending on mood, time of day, etc., but a single designer's portfolio rarely if ever spans this range.) Theoretical discourse and ethical values of course temper these gut feelings. For instance, the very different political regimes and philosophical systems that gave rise to each of these Parisian urbanisms might color their visceral sensibilities, in addition to shaping their design values, which are more learned and cerebral.

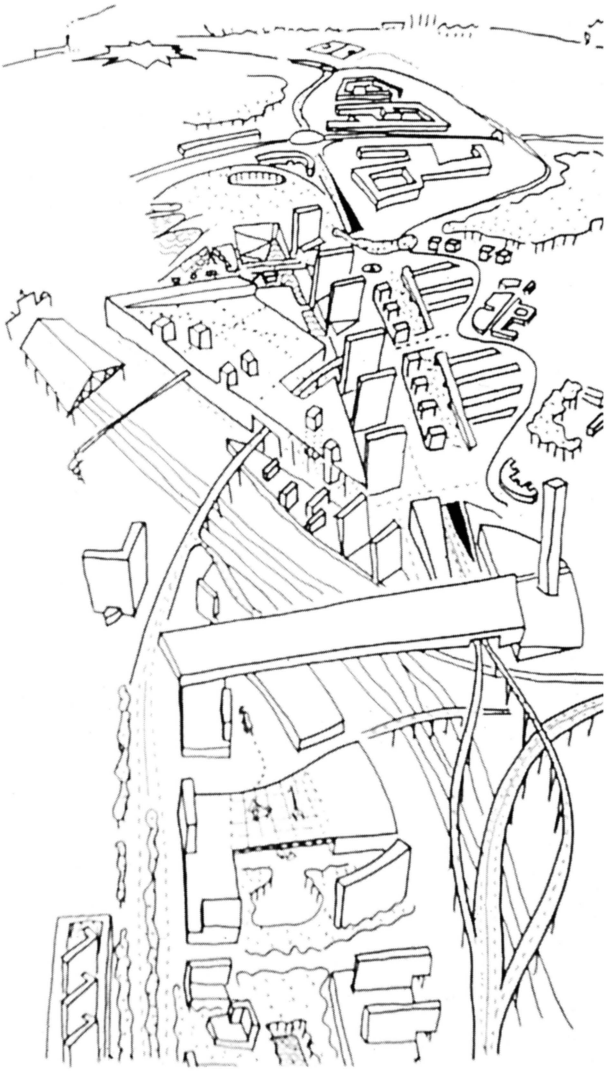
In addition to having varying sensibilities, designers utilize different methodologies. New Urbanism is the most precedent-based of the three. It tries to learn and extrapolate from enduring architectural types as well as from robust historical examples and traditions as they intersect contemporary practice. It is also the most normative, often adopting prescriptive codes rather than proscriptive zoning. Overall coherence, legibility, and human scale are highly valued. New Urbanists see themselves as urban design "experts" who lead the public debate and try to democratically shape the dialogue (often through community design charrettes) into holistic design and planning.

Everyday Urbanism is the most populist, with the designer seen as an empirical student of the common and popular rather than the ideal and pure. The design professional is more of a co-equal participant in the public dialogue, which can be very open-ended and democratic. It is less normative and doctrinaire than New Urbanism, because it is more about reassembling and intensifying existing, everyday conditions than overturning them and starting over with a different model. It is the most modest and compassionate of the three paradigms. If the New Urbanist romanticizes a mythic past, the Everyday Urbanist overestimates the mythic aspect of the ordinary and ugly, much as Robert Venturi and Denise Scott Brown, in my opinion, have tended to overpraise the arterial strip and entertainment districts in places like Las Vegas.

Post Urbanism claims to accept and express the techno-flow of a global world, both real and virtual. It is explorative and speculative rather than normative and conventional. It likes to subvert codes and convention. Perhaps Post Urbanists don't engage the public as directly in open dialogue because they feel the traditional "polis" is obsolete and its civic institutions too calcified to promote liberating possibilities. They tend rather to operate as "lone geniuses" contributing a monologue—often an urbanistically selfish one—to the media marketplace. Koolhaas claims there is no longer any hope of achieving urban coherence or unity and likes to extol the virtues of sprawling Atlanta. His own architecture, like Libeskind's, Hadid's, Eisenman's and others, is internally consistent—elegantly so in most cases—but demonstrates little interest in weaving or reweaving a consistent or continuous urban or ecologic fabric over space and time. Projects often have labyrinthian interior space and have been referred to as Interior Urbanism. Buildings tend to be Large or X-Large, denatured, bold, and overwhelming to their contexts. They also tend to slacken their fit with function, especially the more horizontal architectural types, like malls, airports, and casinos. If the New Urbanist tends to hold too high the best practices of the past and the Everyday Urbanist overrates a prosaic present, the Post Urbanist is too enthralled by an endlessly exciting and needlessly audacious future.

The three paradigms lead to very different physical outcomes. These outcomes vary with whether the client is public or private, but remarkably little. The New Urbanism, with its Latinate clarity and order, achieves the most aesthetic unity and social community as it mixes different uses at a human scale in familiar architectural types and styles. Its connective grids of pedestrian-friendly streets look better from the ground than from the air, from which they can sometimes look formulaic, Neobaroque, and overly symmetrical. Everyday Urbanism, which is the least driven by aesthetics, has trouble achieving beauty or coherence, day or night, micro or macro, but is egalitarian and lively on the street. Post Urbanist site plans always look the most exciting, with their laser-like vectors, acute geometries, sweeping arcs, and dynamic circulatory systems. However, they are too often overscaled and empty for pedestrians. Tourists in rental cars experiencing the architecture and urbanism through their windshields are a better-served audience than residents for whom there is little human-scale nuance and architectural detail to reveal itself over the years. Perhaps local citizens are meant to become tourists in their own city, just as tourists are now, conversely, becoming citizens of the world.

The three fundamental values described in the introduction as underlying this book—community, sustainable order, and human spirit—can be loosely assigned to these three paradigms. New Urbanism, with its emphasis on environmental values and ecological design, most fully embraces sustainable order. Everyday Urbanism is most aligned with community, and Post Urbanism with the human spirit, especially freedom. Everyday Urbanism is more driven by the



Post Urbanists propose to celebrate the speed and flow of a dynamic city. A Rem Koolhaas sketch for a European project mimics and exaggerates the American edge city in many ways.

compassion of agape, and Post Urbanism by the freedom of arete, while New Urbanism seeks to balance these two basic human values. All three paradigms have intrinsic worth, and their virtues may be necessary and even liberative at the right time and place.

Everyday Urbanism may make sense in developing countries where global cities are mushrooming with informal squatter settlements that defy government control and planning, and where underserved populations simply want a stake in the economic system and the city. But it doesn't make sense in the cities of Europe, where a wealthy citizenry has the luxury of fine-tuning mature urban fabric and freely punctuating it with Post Urbanist buildings as vivid counterpoint. In American cities, which lack the continuous fabric of European cities and are empty and underprogrammed, New Urbanism often makes sense. In the ecology of cities, informal urban development in the developing world might be compared to early successional growth in a forest. Redevelopment of emptied-out inner cities in the United States and the attempt by middle-aged American cities, like Houston and Seattle, to thicken their density is equivalent to mid-successional growth. European cities are more like climax or late-successional forests, where there is little room for growth except in clearings within its thick canopy.

Everyday Urbanism is too often an urbanism of design default, and Post Urbanism is too often an urbanism of sensational, trophy buildings in an atrophied public realm. We can and must build a more sustainably ordered and emancipatory commons than the latter two models promise. Although Europe may hanker for Post Urbanism and the developing world may embrace Everyday Urbanism, the typical American metropolis needs and would most benefit from New Urbanism at this point in its evolution. It may not be an absolute or ultimate fix (indeed, it will eventually ossify and lose its meaning and value like all movements as it degenerates in the usual historical course from archetype to type to stereotype), but it is far superior to what passes for new brownfield, grayfield, and greenfield communities in America today.

Despite its comparative advantages over Everyday Urbanism and Post Urbanism, New Urbanism has some inevitable, structural limitations. Some people want to cherry-pick what they feel to be the positive parts and reject the objectionable parts. Accept the walkability but reject the narrow lots; mix uses but mix them gently and upscale (a mix no messier than a "Benetton and a multiplex theater," Michael Sorkin has quipped); keep the overall coherence but dilute the symmetry in town plans; include the single-family dwelling but reduce social elitism; keep it urban but make it greener and more pastoral; build rapid transit but don't take away the second car; and so on. Unfortunately, communities come in packages. They cannot be ordered up à la carte. Community design consists of many complex and mutually exclusive tradeoffs, with a limited number of win-win solutions. For the most part it is slow, arduous, iterative, and con-

tested work, relieved by creative breakthroughs from time to time. It is not exact. Community design is an approximation, community development a compromise. But that is not to say that it is casual or provisional. Once adopted—however imperfect—comprehensive plans, neighborhood plans, and design guidelines need to be implemented with consistency and conviction. (Leon Krier has suggested that violations should be treated as a criminal offense.)

If New Urbanism's biggest challenge is how to deliver an urbanism that is more open to change and flux, its immediate problem is how to embrace contemporary architectural languages and tectonics, including the commissioning of "star" architects. Some New Urbanists, including myself, are willing and eager to include, at the right time and place, foreground civic and institutional buildings by Modernist, Neo-Modernist, or high-tech "stars." But most New Urbanist designers and planners seem either unwilling or unable to convince their public and private clients to commission such designers. Why not a Norman Foster post office, a Rafael Moneo city hall, a Cesar Pelli office building, a Richard Rogers courthouse, a Herzog and deMeuron museum, a Williams/Tsien library, a Glenn Murcutt public market, or a Renzo Piano airport?

Even though there is *no* room for New Urbanism in most "star" architect's portfolios, there *is* room for their foreground signature buildings in New Urbanism, assuming they'd be willing to sincerely work within an urban design code (which can, however, be more lax for the honorific buildings they would be commissioned to do). An Everyday Urbanist library by Robert Venturi and Denise Scott Brown, a Postmodernist Michael Graves school, or a Koolhaas Post Urbanist convention center or entertainment complex would be welcome. There's even a place for a Gehry concert hall, if there was plenty of elbow room for something "that looks like a drunken barn dance as it might be represented in a Disney cartoon," as critic Robert Campbell described his design for a new MIT building.[13] Some of these architects, especially the Americans, have trouble doing urbanistically responsible designs, especially housing, or any building type for that matter, in a residential neighborhood. Accordingly, I would vote to see most of them commissioned in the town center, out on the highway, or at the airport . . . and not too many of them in one town, as in Celebration, Florida, or Columbus, Indiana.

Equally important, there is the related problem of integrating contemporary building materials and practices into Neo-Traditional architecture, whether foreground or background. Notwithstanding the Krier brothers' seductive argument for reviving traditional building craft, it is very unlikely that our industrial economy will bring back cut-stone and handcrafted wood buildings in the literal sense they propose—even if natural capitalism manages to tame our technological economy into more benign and efficient habits. Nor would such a revival, for all its architectural presence and tectonic integrity, necessarily be a net improvement. The revival of a cut-stone architecture might require, as Cesar Pelli has pointed

Seaside, Florida, New Urbanism's first built community, has been criticized because it is only a resort town of second homes, and lampooned because it was the set for The Truman Show. But it is remarkably praiseworthy in many ways: it challenges the American model of high rises on the beach and our endless obsession with view; it is finite, legible, hierarchical, and walkable on the ground; it has buildings by "star" architects in the town center within a fabric that is primarily of anonymous but careful design; its houses are regionalist, thoroughly designed, and well-constructed; and, perhaps its most important and most overlooked virtue is that it has been designed and built-out incrementally by many designers and builders in a way that feels much more authentic than most New Urbanist developments. Last, a small house in Seaside a quarter mile from the water sells for twice the price of a twice-as-large oceanfront lot in a nearby subdivision. All these kudos are a tribute to both the vision and patience of its architect-planners Duany, Plater-Zyberk and its founder/developer Robert Davis.

out, the return to, among other anachronisms, an indentured class of workers. When designed and executed with skill, contemporary construction, especially high-tech, can be beautifully composed and handsomely crafted. Somehow, New Urbanism must find a way to not only utilize the latter-day marvels of industrial production, new materials, and green building practices but also to architecturally express them. Otherwise, too much human talent, technical prowess, and scientific breakthrough is being overlooked or denied. Although the Modernist architectural language was not conceived for traditional infill urbanism, its vocabulary is versatile and can work successfully and sensitively in this modality, as it does in Holland and Scandinavia for infill buildings and social housing. There is no reason that talented designers cannot put this language to use in New Urbanist town and city developments.

"Why build new suburbs at all?" some die-hard urbanists ask. We have no choice, because all American suburbanites and their offspring are not going to return to the urban or rural communities from which they migrated. Nor would they fit. There simply isn't enough room even in the vast, underprogrammed, and sometimes empty American city. Although urban infill should be our highest priority, we also need New Urbanist developments on the periphery of our cities. Imperfect as it is, New Urbanism is substantially and, in many cases, spectacularly better than conventional suburbs. Its TODs and TNDs are far superior in economic, social, environmental, and urban design terms to the prevailing models of American development, especially in the suburbs and exurbs. In so many ways New Urbanism is a win-win proposition. Sound design and community planning, healthy and sustainable ecology, economic and social diversity, and good governance can all fit into the New Urbanist canon. Rarely do so many ethical, environmental, social, and economic entries fall on the positive side of the ledger.

5 PUBLIC POLICY

WHAT WE SHOULD DO A.S.A.P.

"Where we have . . . distinctions between cities and suburbs, we have the last intact Medieval English system of government and taxation anywhere in the world. . . . We need to look at these metropolitan regions as units."

—ROBERT YARO

THE PREVIOUS CHAPTERS HAVE EXAMINED THE COMplex knot of problems and opportunities facing American metropolitan regions. They presented the case for, respectively, how high the costs of sprawl are; how the forces of homogenization, commodification, and banalization can be resisted with Critical Regionalism; how important architectural typology is to coherent urbanism; how these issues are being addressed by New Urbanist architecture and planning models; and how these models differ from other contemporary urbanisms. The vision implicit in this theory is not without its ambitions and conceits, but it is a far cry from, for example, the grand 1909 plan for Chicago by Daniel Burnham with its monumental axes and golden skies. And, it isn't the brave new world that Le Corbusier proposed in the 1920s for Paris, or the Broadacre City that Frank Lloyd Wright envisioned for America in the 1930s. Nor does it bear any resemblance to the futurism of either Archigram

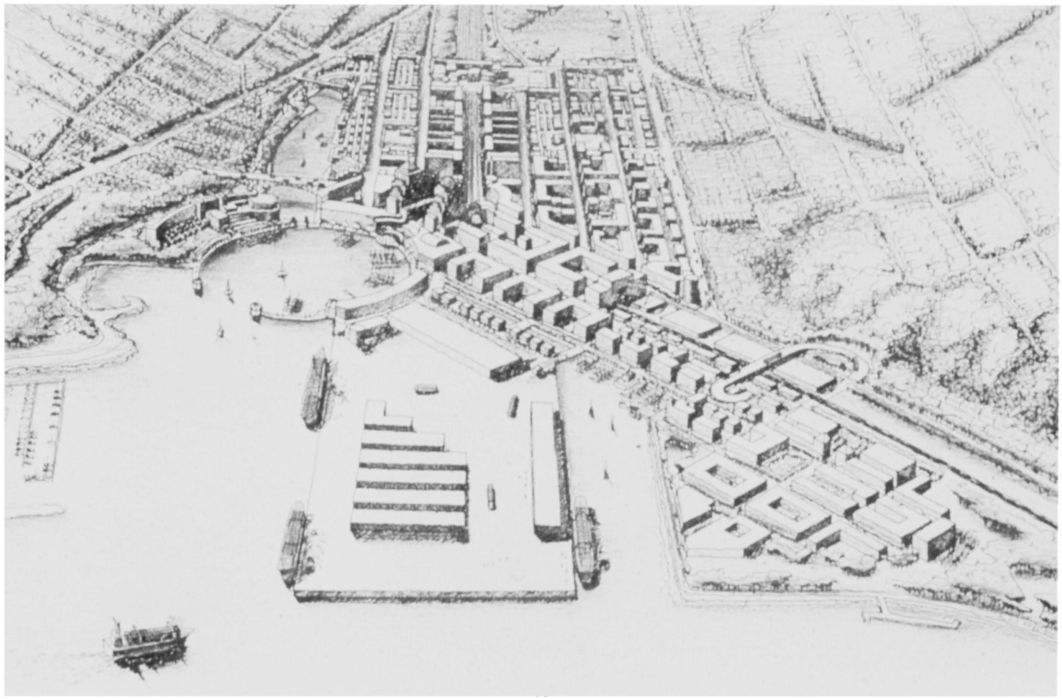
or Disney's Tomorrowland a generation later. Neither does the vision resemble the slum clearance and huge housing projects of 1950s and 1960s urban renewal. Nor does it accept the deconstructed and decentered architecture of Post Urbanism. In short, *Repairing the American Metropolis* does not represent grandiose design theory and policy for a new millennium, but rather an architectural and urban manual for the beginning of a century.

It will take scores of enlightened development projects to accommodate the growth expected in most metropolitan regions. The ways and means of originating such projects are many and complex. In the tradition on American pragmatism, a philosophy based on testing hypotheses and sharing the results, design charrettes can test new ideas in and for community before they are built. As Landscape Architecture Professor Patrick Condon has said in *Common Place*, the charrette is "the best way to get the most creative proposals for addressing the most difficult problems from the most accomplished designers in the most compressed period of time." The best practice of neighborhood and regional design requires such public process, as well as the design theory and practice advanced in the first four chapters of this book and in other writings listed in the bibliography.

Equally important is the need for new and reformulated public policy, the focus of this final chapter. From the welter of ideas in this book, there are seven policy initiatives worth singling out for immediate action in America:

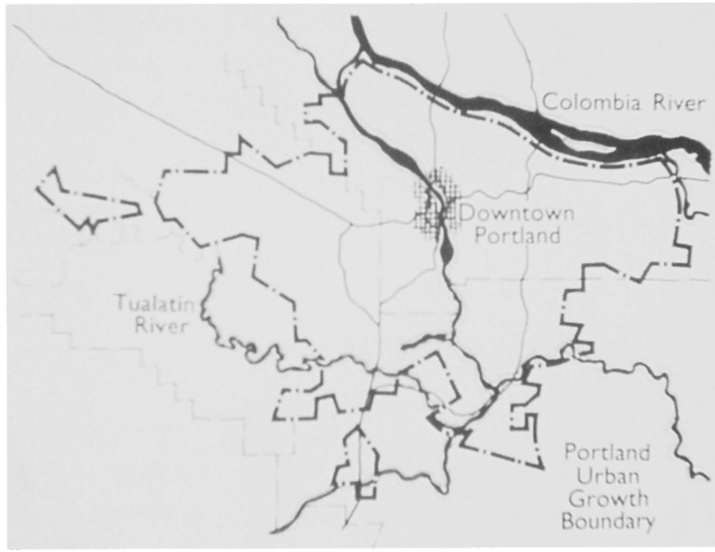
1. Get development priorities right. Make infill and redevelopment of existing urban centers and towns a higher priority than new suburban development. Investment in suburbia has often meant a disinvestment in cities. To retain, reuse, and revitalize existing towns and cities should be a top local, state, and national priority. Existing communities, because their social, physical, and institutional infrastructures are already in place, should be given higher priority than building new communities. Although beyond the scope of this book, high quality K-12 public school systems in existing communities are on the centerline of good neighborhood and regional design and planning.

Urban Growth Boundaries around towns and cities are an effective way to encourage infill and redevelopment of existing areas and preserve the hinterland. Ample open space, agricultural land, and interconnected riparian and wildlife corridors should be protected in perpetuity as greenway and nature preserves, on both sides of the urban growth boundaries that all metropolitan areas should draw. A network of pedestrian and bike paths should link existing population centers as much as possible. Urban villages, Pedestrian Pockets, TODs, and TNDs should normally be developed within existing urbanized areas, but new development can be justified outside the urban growth boundary if it is compact, balanced, self-contained, and stand-alone. Inside the growth boundary, development can be intensified by infill strategies like turf that is thickened



Make infill and redevelopment a higher priority than suburban greenfield development. This brownfield proposal for Seattle retains existing maritime industry while creating a mixed-use, transit-oriented New-Town-in-Town. With some 20,000 jobs and 20,000 residents, it is ten times as compact as typical suburban sprawl.

Urban Growth Boundaries, pioneered in Oregon and now also adopted in Washington State, have proven successful at containing sprawl. Portland, the UGB poster child, has not experienced exponential growth in land area, unlike most American metropolitan areas, where the increase in geographic area has grown two to ten times as fast as population.



by annual seeding. Outside the boundary, properly designed communities can occasionally be laid down like already-thickened sod grass.

Experience with design charrettes and studios has shown that it is easier to reach consensus for new development and growth located in underutilized parts of towns and cities than in mature neighborhoods. Accordingly, the least utilized sites should be designed and developed first, reducing the political turmoil and complexity of inserting new development into established neighborhoods.

2. Get automobiles under control. Stop subsidizing the automobile. Adopt new and more robust taxes and regulations that will make market prices more commensurate with true and total costs. "Mobility is a means; it deserves no subsidy. Taxpayers have bankrolled the car and sprawl for decades, with money thrown in for transit as a palliative; the only thing worth subsidizing now is the city."[1] It is society's ends—such as education, the arts, parks, housing—not its means that deserve tax dollars. Pocketbook issues are often the most critical ones in a secular, consumerist society, where it has repeatedly been shown that even widely accepted social or environmental imperatives will not change behavior without economic incentives or penalties. Being ethically right is not enough.

The most effective economic policy to reduce vehicle miles traveled, or VMT, would be a much higher gas tax. Despite its political unpopularity in America, no single legislative stroke would do more to reduce sprawl, fuel consumption, traffic congestion, and air pollution. There are secondary economic measures, such as congestion pricing and pay-as-you-drive auto insurance, which would reward vehicle owners who drive less. Also, there are location-efficient home mortgages that would provide homebuyers with credits for low auto ownership and usage. Lenders need to recognize that households in certain neighborhoods tend to depend less on automobiles and, accordingly, have greater discretionary income to devote to mortgages. The policy could be administered by statistically rating neighborhoods according to transit availability and proximity to workplaces. This policy should also extend to discounts for energy-efficient housing and for home offices, both of which can significantly reduce household operating expenses and free up money for other purposes.

In addition to these economic policies, there are several regulatory policies that will help. Adopt low and zero-emission vehicle requirements for a percentage of the automobile fleet in the region and state. Increase fuel efficiency standards and deregulate shuttle vans and taxis. Give incentives for the use of hybrid and electric vehicles, especially ones charged by solar voltaics and their own braking. (Electric vehicles that plug into the grid simply shift the energy production and air pollution to the electric power plant.)

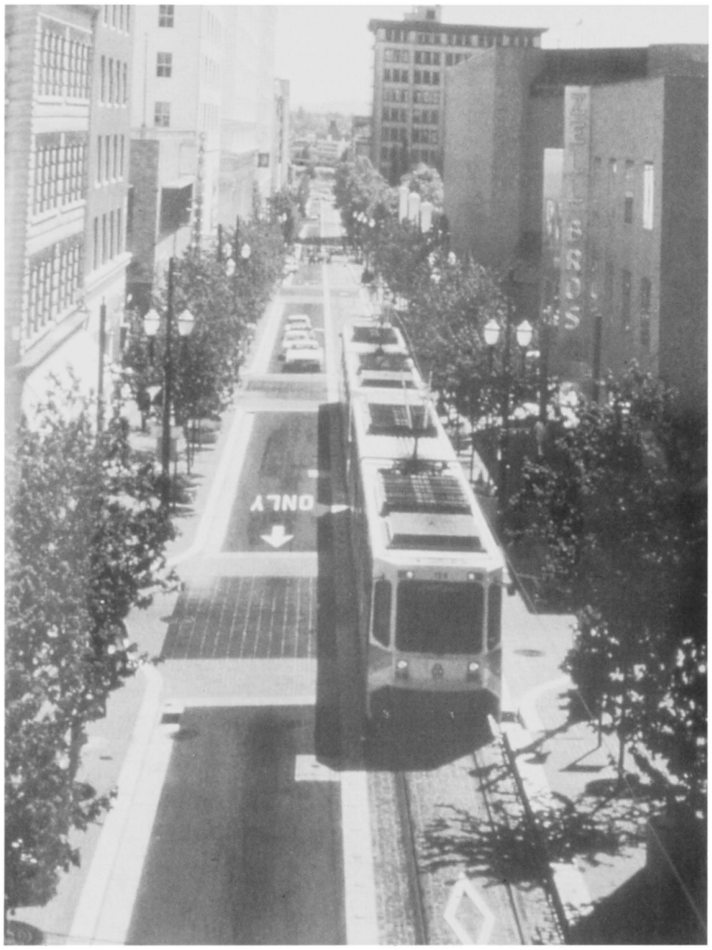
Lastly, there are technological policies that would encourage the development of hypercars, station cars, automated highway tolls, and niche vehicles,

such as bicycles, golf carts, and vans. Hypercars, long championed by ecologist and author Amory Lovins, are ultra-light, high-performance, electric-drive vehicles that can theoretically get up to three hundred miles per gallon. Station cars are small electric rental cars made available at transit stations for transit riders to drive to their homes, to work, to shops, and to run errands. Automated highway tolls are a type of congestion pricing (a.k.a. value pricing) that electronically records and charges drivers according to time and distance of travel. Niche vehicles are smaller, cleaner, cheaper, and more efficient vehicles that can be substituted for the conventional automobile, which is oversized and way overpowered for most household trips. Because niche vehicles may increase VMT by satisfying pent-up or latent demand, and because station cars (like park 'n' ride lots) extend the radius of sprawl, all three should be used cautiously and as temporary solutions until land use and transportation are better integrated.

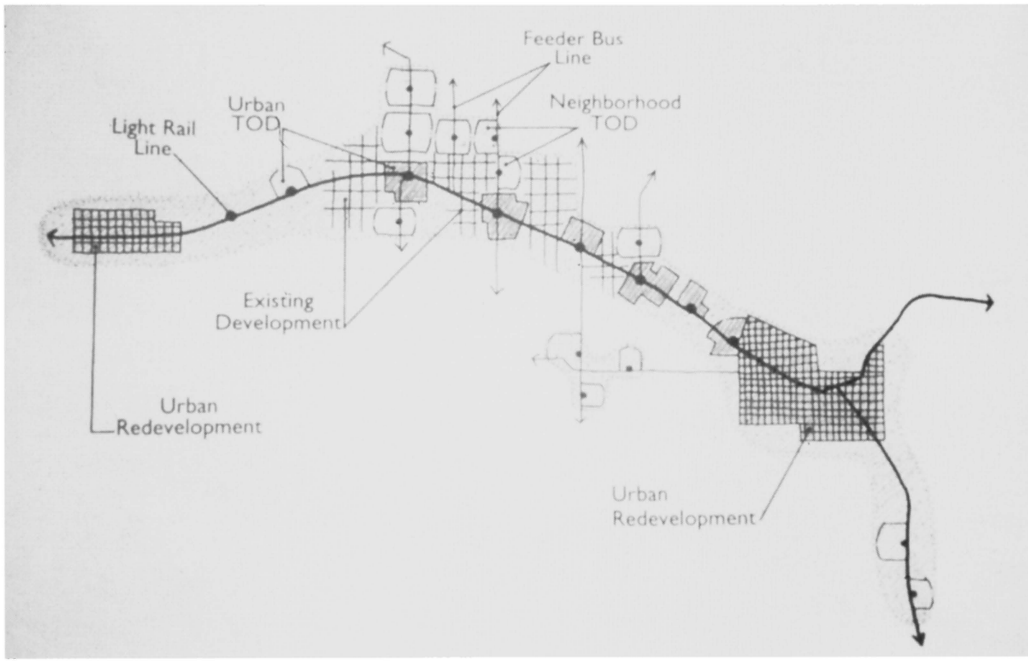
3. Get transit on track. Reform federal, state, and local transportation policy to support public mobility, access, and walkability, not just public roads and private cars and trucks. Comprehensive regional transit systems are badly needed. Most metropolitan areas need all the help they can get: wider sidewalks, bike lanes, van pools, jitney taxis, local buses, express buses, bus ways, trolleys, light rail, commuter rail, high-speed intercity rail, and passenger ferries in port cities. Studies suggest that if plans link land use and transportation as well as cluster housing and jobs together, every person-mile of mass transit, whether bus or light rail, will displace the need for four to eight person-miles of car travel.[2]

A light-rail system is often the best way to transport the largest number of people during the busiest hours in the most crowded corridors. It will also encourage more walkable densities and mixes of use at the stops. Buses, especially ones with direct access ramps to HOV lanes, may work better in lower-density metropolitan areas. The price of building a rail transit system is high, but the cost of not acting is often higher. When evaluating the costs, we must remember how high the average true cost of the automobile is—about $600 per month to buy, maintain, park, insure, and operate one, plus the societal costs of right-of-way land, roads, bridges, police, gasoline subsidies, congestion, noise, pollution, and highway injuries and deaths. As already noted, many households spend 25 percent or more of their income on cars, as much or more than they spend on shelter. Communities with compact, mixed-use patterns of development that allow families to downsize from two to one automobile free up enough money to support another $60,000 of mortgage or college loans.

Estimates for all monetary and nonmonetary costs both to the driver and to society run as high as $1.05 per mile.[3] Other studies, which make more conservative assumptions and do not quantify as many of the nonmonetary costs, estimate approximately half this cost. In a metropolitan region of, for example,



Light-rail transit, such as Portland's MAX system, is more than a transportation system. It encourages compact, walkable land use around each stop and a variety of permanent hamlets, villages, towns, and urban centers along its alignments and connected by feeder buses.

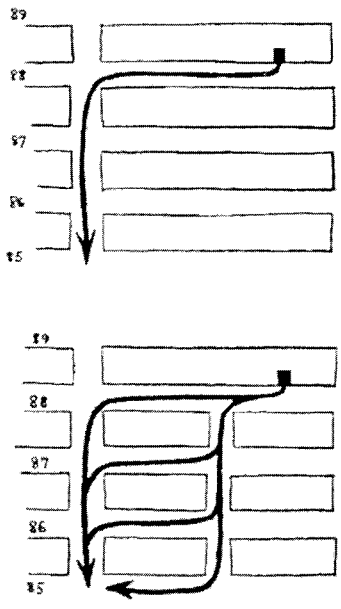


Seattle's size (3.3 million population, 23 billion VMT), this mounts to an annual cost of $15 to $25 billion, a staggering $5,000 to $8,000 per person.[4] In either case, automobile dependency is a large and growing tumor in most regional economies that makes transit costs suddenly look economical.

We must also remember that when a region invests in rail transit it is buying more than a transportation system. It is buying a permanent land use pattern that will structure the region in more predictable, sustainable ways and that will impart a greater regional consciousness and common identity in a way that asphalt and rubber tires never will. Rail is the skeletal system of a region. Bus lines and HOV lanes are the sinew and neighborhoods, and districts are the flesh and muscle. TEA-21, the historic $200 billion federal transportation funding program that is the biggest single public works bill ever passed, has set aside some $40 billion for transit. In the best of all worlds we wouldn't have to subsidize transit, but as long as the deck is so heavily stacked in favor of the automobile, we must spend extra tax dollars on bus and rail to keep their ticket prices competitive.

Lastly, don't forget walking. It begins and ends every transit trip and is the cheapest, healthiest, cleanest, and often the most enjoyable way to move around. It was once the most common way to commute to work. (During the last decade of the nineteenth century, roughly 60 percent of the workers in Britain walked to work; the percentage of people who take the bus to work doubled over the last century, and the percentage of British automobile commuters more than doubled from 16 percent to 36 percent in the single decade of the 1950s.[5]) Walkability

This simple diagram by Jane Jacobs, to whom this book and New Urbanism owe much, illustrates the embarrassingly obvious but long overlooked fact that smaller blocks make for better walkability (and driveability) in the city.



may be the single best test and pedestrian activity the best measure of a healthy, functional city. When people are walking, it means many other things are right under heaven. It takes four ingredients to get people walking: (a) compact development, so there is a sufficient number of people living, working, shopping, and recreating within a walkable radius; (b) a rich, interesting, and convenient mix of uses, so there are destinations worth walking to; (c) a capacious network of pedestrian space that is safe from crime and dangerous automobile traffic; and (d) a regional transit system, so that the pedestrian can get around the entire metropolis. Three out of four of these prerequisites will not provide true walkability. (A shopping mall, for instance, satisfies the first three criteria, but essentially nobody walks to or from it and few people take transit; it is therefore auto-dependent.) And don't forget a richly designed and detailed pedestrian environment. If architectural detail is essential to pedestrianism, and pedestrianism is essential to urbanism, then architectural detail is essential to urbanism.

4. Get planning. There needs to be a regional plan for the metropolitan region and a planning body with the authority to take a synoptic view of the metropolitan region, no matter how many municipalities or counties. If artificially cheap gasoline and land are the twin propellers driving the huge American tanker aground, the engine turning those propellers is the metropolitan economy, not the national economy. But at the regional scale, there is no one captain at the helm, no regional rudder. This regional authority can adopt a Comprehensive Plan and "Smart Growth" and "Livable Communities" policies for infrastructure, parks, housing, transit, etc. They must be able to require municipalities and counties to establish a vision for regional growth and improvements across jurisdictional boundaries.

Develop Urban Design Guidelines for different parts of the region—ones that codify in clear and simple ways design principles espoused here and generated in the community. They should succinctly prescribe and graphically illustrate desired architectural and urban outcomes, promoting regional architectural types, language, and materials. They can bring together typology and critical regionalism. Municipalities should also adopt Neighborhood Plans, also known as Specific Area Plans or Sub Area Plans, as an overlay to zoning ordinances and comprehensive plans. Together with the Comprehensive Plans, often required by the state or regional authority, urban design guidelines and neighborhood plans form a stable base for good development. Design charrettes are especially powerful in developing Neighborhood Plans.

Citizens should always be encouraged and given the chance to play an active role in generating and adopting these guidelines and plans. Citizen participation is a matter of common decency and democracy as much as a practical matter of dealing with obstructionists (not only NIMBYs but BANANAs, the "Build Absolutely Nothing Anywhere Near Anybody" folks) and developing strong ideas

Community design charrettes, or workshops, are illustrated brainstorms in which teams of local and out-of-town design professionals, university faculty and students, and community representatives all work to a deadline and then present their ideas, visions, and drawings in a public meeting. These three-to-five day events are an effective and intense way to get the community, other stakeholders, and experts involved in neighborhood design and planning.

and shared ownership. The best and most potent ideas often come from citizens in both community meetings and design charrettes. (*Planning to Stay*, by William Morrish and Catherine Brown, is a particularly good guide on involving residents in planning and designing their neighborhoods.)

Similar guidelines and plans should be developed for exurban and rural areas beyond the urban growth boundary to help ensure that low density development is also environmentally, socially, and economically sound and sustainable. Randall Arendt and Robert Yaro have both written on best practices in rural development. (Arendt's *Crossroads, Hamlet, Village, Town* examines and illustrates a century of rural and suburban design practice and principles in Britain and America.)

5. Get more granny flats and live-work units. This may seem like a secondary issue, but it's such a win-win-win scenario that it should be first-order business. Like walkability, accessory dwelling units and live-work units are a good measure of the social health of a city. (As described in chapter 4, an accessory unit is part of, attached to, or adjacent to the primary dwelling unit that can be rented out. A live-work unit is one where the living quarters are attached to, typically above, a workspace that can be used by the resident[s] or rented out. Accessory units are usually rented, while live-work units are typically purchased.) Some American cities have an ordinance that empowers owners of single-family homes to add an accessory apartment within or attached to their home, or to open an office on the ground floor of their house. Some allow detached or garage units. Live-work units are the single most effective way to eliminate the commute trip, and accessory units may be the single most cost effective and quickest way to provide affordable rental housing units. A metropolis needs thousands of both. Indeed, for many decades, living above the shop and renting accessory units was a common source of both low-cost housing and workplaces—one that a whole generation of lower-income Americans has been denied.

Most cities have a large stock of big, old homes built when family households were larger. The owners now should not only be allowed but also encouraged to convert spare rooms into accessory units, home offices, or even rental offices. Often, there are also many detached garages in older neighborhoods on top of or in which accessory apartments could be built. These garage apartments, offices, granny flats, studios, and teen lairs can be surprisingly spacious, with high ceilings and up to six hundred square feet of floor space over a three-car garage (even more if a second floor, mezzanine, or loft level is allowed). It is also possible for the resident(s) of a garage apartment to work in the garage below, with activities spilling out into the alley in good weather. This arrangement can work well for artists, artisans, cottage industrialists, shop owners, etc. Garage units also provide crime surveillance along the many alleys with which many cities are blessed. In most cases, the additional income stream makes the primary dwelling more affordable, because accessory units have a relatively low cost per square

Live-work units, with an apartment above a work-space/garage/studio, make for a zero commute and provide an excellent buffer between commercial and residential areas. If situated on an alley, the work can spill into the public right-of-way.

foot. Banks would be smart to recognize this additional income in their mortgage underwriting.

6. Get funding and taxing right. Tie the allocation of federal, state, county, and municipal government funds for transportation, energy, clean air, clean water, housing, neighborhoods, and public works to local land use and transportation that nurtures compact, affordable, coherent, and more pedestrian-, bicycle-, and transit-oriented communities. Funding should be contingent on completion of regional and neighborhood plans, preferably with urban design guidelines. Provide tax incentives to invest, renovate, and build in historic areas and central cities, as well as to make mixed-use neighborhoods. State and federal funds should not be used to support development outside of urban growth boundaries, except for exemplary projects. Matching funds for roads, sewers, storm drainage, and water service should be earmarked to take advantage of existing infrastructure. They should also be used to enforce criteria that require localities to achieve a more balanced transportation-mode split, i.e., use of more transit, bicycling, walking, and car-pooling to reduce VMT. Energy and clean air regulations should also encourage this type of transportation and land use plan-

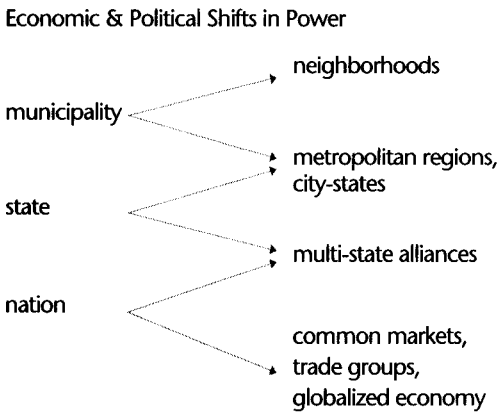
ning. Policies should lead metropolitan regions to strengthen their transit-rich cores and corridors to reduce air pollution. Provide funding for model and pilot projects. Also, provide fast-track processing, with required turn-around times, for development projects that comply with these principles and policies.

The differential in tax base across the American metropolis can be shocking. Everything from public education to sidewalk width is affected by tax base and its corresponding tax revenue. (For instance, among the 244 school districts in the Chicago region, the tax base disparity is 28 to 1, with a resulting difference in spending per pupil of 3 to 1.)[6] Myron Orfield in *Metropolitics* makes a compelling case that regional revenue sharing is essential to the solvency of problem-ridden inner cities, decaying first-ring suburbs, and infrastructure-poor, new outer suburbs. If the poor center cities, first-ring suburbs, and outer third-ring suburbs gang up on the large and rich second-ring suburbs in their state legislature, they will have a parliamentary majority. Only with that sort of legislative clout are they likely to get an equitable distribution of resources, one that is commensurate with their problems and census figures.

7. Get governance right. Reconfigure government to empower to a greater extent both the region and the neighborhood. Most of America has antiquated government at the regional scale. Robert Yaro has pointed out that because of the strong political distinctions between city and suburbs, "We have the last intact medieval system of government and taxation anywhere in the world. The Blair government is now carrying out the third complete restructuring of local government in the U.K. since the Second World War. They realized 50 years ago that medieval government didn't fit the needs of the times. They're now restructuring metropolitan governance, creating a new government for Greater London."[7]

These are more appropriate and effective scales of governance than the municipality, which is an increasingly arbitrary and awkward unit for planning and operations. It would be beneficial to shift more power down to the neighborhood. More cities should be divided into boroughs, which, in turn, should be divided into official neighborhoods of, if numerically possible, five to ten thousand people. With its dwellings, school, stores, community center, library, firehouse, church, synagogue, mosque, or temple, the neighborhood is the optimum and natural social and physical unit for building community.

At the same time, shift more power up to a regional council or new unit of government. The economies of metropolitan regions have increasingly become the engines of prosperity in a global economy. Metropolitan New York has a bigger economy than Mexico; Chicago's metropolitan product is bigger than Sweden's gross national product; Hong Kong's economy is as big as Indonesia's (the world's fourth most populous country); and Detroit has more economic output than Poland.[8] Regional governance makes more and more sense. As does regional tax-revenue sharing, which brings greater economic and social equity across a region



Economic and ultimately political power is shifting more and more to metropolitan regions, which behave more and more like city-states. As municipalities give up clout to regional units of government, the neighborhood takes on more of its traditional importance as the smallest unit of governance.

and reduces competition among municipalities for new tax base and jobs. This zero-sum competition requires tax-needy and job-hungry towns and cities to give excessive tax breaks to businesses, who can play one municipality off against another to an extent that the whole regional economy is hurt.

Although regional coordination of real-estate taxation will ease intra-region competition, it will not reduce inter-regional or national competition for new tax base and jobs. There will always be a role for Chamber-of-Commerce-type promotion and competitive tax rates and incentives, but these efforts can be all the more competitive if they are regionally conceived and coordinated. To compete nationally and internationally, metro regions need to attract and retain a well-educated, talented, and productive workforce. To be attractive to such a workforce, the region must be livable and affordable, as well as offer good schools, cultural assets, cultural events, strong neighborhoods, good health care, recreational amenities, historic districts, sports teams, museums, zoos and aquariums, etc., for all its citizens, not just the advantaged. All of these endeavors become easier to preserve and enhance with regional government.

Not only can regional government bring greater economic and social equity across the metropolis and dampen intra-regional competition that is unproductive and even counterproductive, it can address racial inequality and segregation that is damning. Poor people of color, who tend to be concentrated in the urban core in racially segregated census tracts, have been physically and psychologically separated from new opportunities and resources on the metropolitan periphery (or the re-emerging ones downtown, for that matter). Although they have begun to move to the suburbs, too, it is usually to inner-ring suburbs that are often as economically stressed as the inner city. For instance, over recent decades the population of the city of Detroit, once the nation's fourth largest city, has fallen from just under two million to just under one million. Most of the remaining people are low-income African-Americans. In the meantime, the metropolitan population has grown moderately but increased in area twelvefold.[9]

Myriads of separate municipalities have been created that not only vie for tax base and jobs, but usually try to keep out the needy poor who are often racial and ethnic minorities. Racial and economic fragmentation usually goes hand in hand with sprawl. Indeed, John Powell, a leading American intellectual on race issues, has taken the stance that "bringing racial awareness to regionalism is the single most important civil rights task facing us today."[10]

Shifting power up to the county level is not optimum or even necessarily an improvement because counties usually have outdated and arbitrary boundaries like municipalities. Also, counties in some states act sometimes as competitor and sometimes as referee to municipalities on matters such as planning, sewage, and transportation (when an unincorporated area competes with an incorporated area). A truly regional government that corresponds to the region's urbanized area, transit system, water system, public school districts, or urban growth boundary is needed. Representation on a regional council should reflect the fact that the older, central city(ies) of a region usually plays a greater psychological, cultural, institutional, and commercial role than its residential population count might suggest. Retain the boundaries and names of existing cities and towns, but slowly and deliberately shift appropriate decision-making from the increasingly obsolete mosaic of municipalities up to the regional entity and down to neighborhoods.

At the federal level, change the Department of Housing and Urban Development to the Department of Neighborhood, Town and City, to reflect a more holistic approach to urbanism. Make parallel changes in the corresponding state agencies and departments. Federal and state programs could be orchestrated to focus on particular places and neighborhoods rather than remain a shotgun of separate programs, which now number in the hundreds. Require the General Services Administration, the federal agency that is the largest landlord in the country, to locate new and leased buildings within the centers of towns and cities. Site state and federal facilities in central business districts. The Post Office Community Partnership Act is a good example of this kind of mandate. Federal facilities should no longer be exempt from local land-use laws, including design guidelines that encourage compatibility with local architecture and urbanism. As noted earlier in chapter 1, it would behoove us to make good communities a central national, state, regional, and local goal and collective project. Within this mega-initiative other issues facing society can be simultaneously addressed: health care, education, transportation, employment, crime, energy, pollution, growth management, affordable housing, etc. Many problems can be more effectively solved in concert. America needs comprehensive, place-specific solutions for chronic and interdependent problems. This strategy addresses problems by "co-locating" resources and services in one place rather than relying on agencies and initiatives that address a single problem throughout a city, region, state, or country. Co-ordinate local, state, and federal housing, health, social welfare,

education, law enforcement, and environmental and energy conservation programs—both with each other and to physical infrastructure and place.

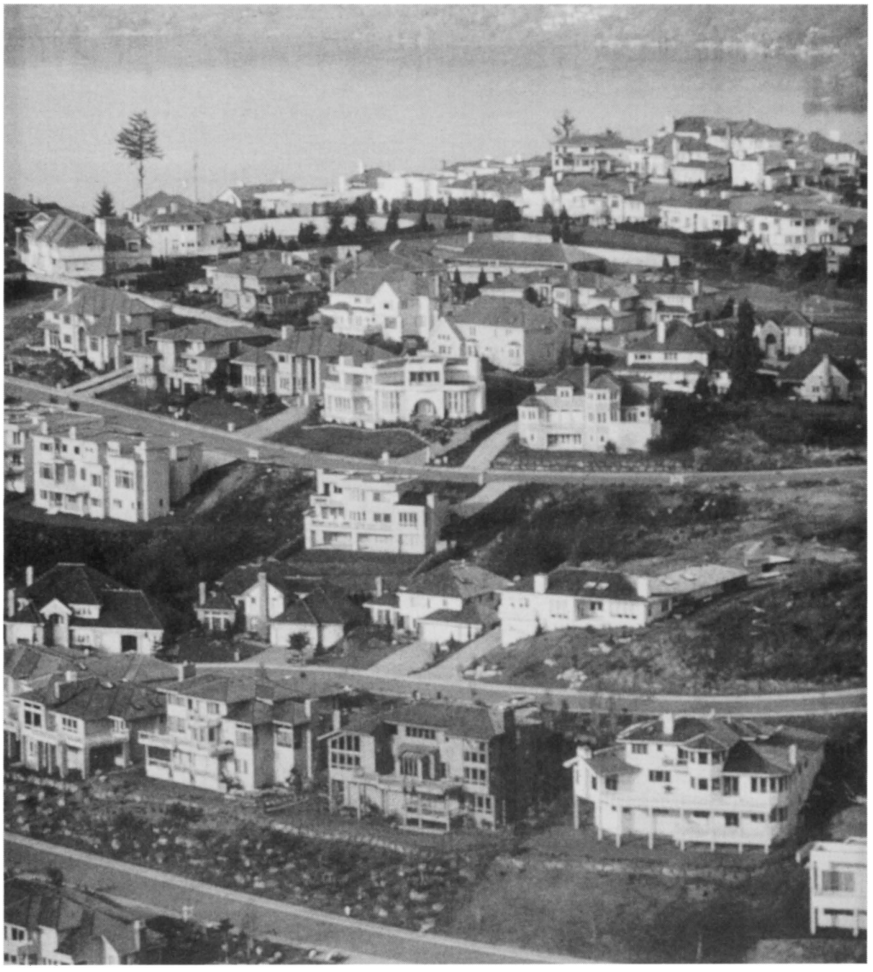
Make high-quality public schools the physical, social, and cultural centerpiece of the neighborhood by locating community centers, public libraries, gyms, museums, and even selected social services in, connected to, or adjacent to the school buildings. The federal government can help communities build "green infrastructure" through such new programs as Conservation Tax Incentives, the Federal Farmland Protection Program, and Better America Bonds. It is important that these place-specific urban policies work hand-in-hand with environmental policies, recognizing that protection of open space, farmland, ecosystem, habitat, wilderness, and scenic beauty—and the design and development of towns and cities—are two sides of the same coin.

Implementing these seven initiatives would have a very salutary effect on community-making in most metropolitan regions, dramatically improving it at the macro and the micro scale. Many of them, like regional planning and tax revenue sharing, could be implemented at the regional level. Other initiatives, like urban growth boundaries, will require the state legislature to act. Some, like the gas or carbon tax, are most fair and effective if enacted at the national or even international level. Although they are recommended as incremental steps that work within the existing system, taken in concert they would constitute a revolution in the way government tries to foster communities and helps them to solve their problems.

The Consequences of Not Acting

If we don't act, there will be more and more debilitating urban and natural entropy ahead. As Kenneth Frampton has opined: "All the indicators suggest that the megalopolis will continue to expand without constraint, ultimately leaving in its wake the fragmented detritus of worn-out stock and infrastructure, not to mention people."[11] Demographic predictions for 2050 suggest there will be about four hundred million Americans, a quarter of whom will be Hispanic and a fifth of whom will be over sixty-five years old. Among school-age children, Caucasians will be an American minority for the first time. Winters are expected to be wetter and summers hotter, impacting urban infrastructure and urban health. Three-fourths of the world population will live in cities, including many more Americans, because less unzoned and inexpensive land will be available in suburbia. There may be "a golden age of ingenious retrofitting but also much painful debate about what cities should do and be in a built-out post industrial information nation."[12]

Despite the recent rise of property rightists in many parts of the United States, there is fairly broad consensus that we cannot endlessly sprawl ourselves across the countryside in auto-dependent patterns studded with McMansions that con-



In 1900, the average American house did not have indoor plumbing. In 2000, subdivisions of McMansions, here fueled by Microsoft McMillionaires outside of Seattle, have sybaritic bathrooms that outnumber occupants. Have we overdone it?

The continuous carpet of sprawl, like this monoculture in the desert on the outskirts of Las Vegas, is not only auto-dependent, placeless, and limited in housing types, it threatens to suck dry both groundwater and distant rivers.

tain more bathrooms than occupants and garage bays than drivers. Although most citizens are against sprawl and rapacious development, they are also bothered by density and over-regulation—leaving society with a difficult conundrum. This dilemma is political and ethical in nature and must be addressed by lawmakers, policymakers, civic leaders, and the citizenry together and a.s.a.p. It cannot be left to government technocrats or the vicissitudes of the marketplace.

Shelter is the largest economic investment made by the typical household, and buildings are one of the biggest economic investments made by society as a whole. Investments in the built environment are usually decided by the marketplace. As discussed earlier, the marketplace has a poor record in assessing and assigning the cost of externalities, such as environmental and social costs.

Uncoordinated attempts to regulate the market through laws, tax incentives, and subsidies have sometimes exacerbated problems of community making.

On the other hand, there has been considerable environmental progress through regulation in the United States over the last quarter century. Energy use and pollution have been reduced in many sectors, especially the industrial. But VMT has continued to grow at around 3 percent per year in spite of predictions that it would be lowered by the end of the century. There has, for instance, been a dramatic reduction over the last three decades in the amount of energy it takes to move a person a mile in an automobile or an airplane.[13] This success story has resulted in a great irony: The environmentalists are reluctant to acknowledge progress for fear of complacency and legislative rollbacks, while political conservatives are loath to give credit for fear of the call for more environmental laws and regulations. If we don't break this deadlock, and continue to improve, there are some alarming possible scenarios ahead:

There will be greater dependence on foreign oil with commensurate geopolitical entanglements, especially in the Mideast, with a related rise in terrorism that can lead to war.

There will be more air pollution associated with the increasing frequency, congestion, and length of automobile trips, with consequent increases in greenhouse gases, global warming, and climate changes—not to mention an increase in health problems and the loss of clear skies and views. (More efficient cars, including niche cars, station cars, smart cars, and hypercars might mitigate energy consumption and air pollution but will do little to ease congestion, trip generation, or VMT.)

There will be large parts of American cities like Miami, New Orleans, and Manhattan, not to mention many international cities like Singapore, Bombay, and Amsterdam, rendered unlivable if not permanently flooded, if global warming pushes up sea level as predicted. And there will be other cities that will become parched as desertification and over-pumping push down the water table.

There will be more water pollution with increased water run-off. (Houston has thirty parking spaces per resident, which means that the city is devoting about a quarter of an acre to each car, more than the size of a typical residential lot!)[14] Waste products associated with sprawling development will also increase, with a consequent loss in fish, wildlife and recreational space as well as an increase in health risks.

There will be more and more traffic congestion, with more lost time and road rage, necessitating increasingly drastic corrective measures, such as commuting taxes, toll roads, much higher parking fees, and the regulation, even prohibition, of driving at certain times and places. Also, the high number of deaths and injuries that result from automobile accidents will probably climb, despite safer vehicles.

There will be less and less open space and wilderness to enjoy, with a com-

mensurate loss in agriculture, wetlands, wildlife habitat, and flora, resulting in loss of animal and plant species and ecological diversity and sustainability.

Housing will become prohibitively expensive, with the consequence of more homelessness, less home ownership, and further cheapening of the quality of construction, materials, and craftsmanship. (It is estimated that there are already more homeless people in India than the total population of the United States. And despite the United States' sustained economic growth and incredible increase in private wealth, there are more homeless in America than ever.)

As the built environment is put at a competitive economic disadvantage relative to less and less expensive electronics and other new technologies, there will be more substitution of ever cheaper fake materials and mediated reality (such as TV, video, virtual reality, and computers), as well as more architecture of artifice and entertainment, such as Disneyesque shopping malls and theme parks.

As a techno-world equips everyone for a post-urbanist world with Star Trek-like command modules to do electronic shopping, banking, reading, and communicating, there will be more personal isolation and more crime in a public realm that is increasingly stark, abandoned, and Huxleyesque.[15]

There will be more placelessness, social alienation, and civil unrest, sometimes accompanied by violence. Governmental measures in the name of law, order, security, anti-terrorism and survival ecology will escalate, and there will be more gated communities, private police forces, and dispersed settlement.

With intra-metropolitan competition for tax base among local municipalities, American cities will be disadvantaged in a global economy made up less and less of national economies and more and more of city-state economies.

With sprawl and retail consumption continuing to absorb funds needed for such items as education, research, and the arts, the United States will become less and less competitive in the international arena, with a consequent downward spiral in the quality of life and in international political and cultural standing.

Although it is unlikely that all of these scenarios will happen, none of them are out of the realm of possibility. These changes are difficult to predict, even to measure. Sometimes we can't even agree on the terms of measurement, much less the amount of quantitative or qualitative change. Some scenarios will reduce the American standard of living relative to faster growing and more industrious parts of the world; others will continue to result in absolute cuts in our physical living standards, especially for the poor and disadvantaged. Many of these changes are unfolding all across America, and scarier scenarios are, alas, being lived out in places like Somalia, Rwanda, and Bangladesh, to mention a few countries where population growth far outstrips resources and natural carrying capacity.

The chronic and increasingly extreme differences between wealth and poverty, between management and labor, between upper and lower management,

between landowners and tenants, and between the developed and developing world will be made all the more dire by ecological imperatives. There are social pundits who already warn of the dangers of fascist and totalitarian political movements rising to institute draconian measures and countermeasures as environmental and socioeconomic problems reach crisis proportions—much as extremists have always seized such moments and curtailed human rights in the name of a greater cause. While these predictions may be alarmist, the inexorable trends of population growth and global limits presage more governmental taxes, incentives, regulations, and takings—ultimately reversing the recent decline in "command and control" political economies and the rise of "market" political economies. It is entirely likely that population growth and overcrowding will bring on a social climate of less environmental, economic, and personal freedom, exacerbated by terrorism and counter-terrorism. This social arithmetic and political geometry, especially the alarming population increases in the developing world, is something that conservative camps particularly, but all political camps to some extent, ignore at everyone's peril.

"The fact is the United States, by world standards, has very light land use regulations."[16] They will no doubt increase over time, despite last-ditch attempts by well-intentioned property-rights advocates to turn back the clock to an era of lower population and environmental laxity in America. Property rightists must come to grips with the fact that rights attached to land ownership are part of a social contract and not inalienable, absolute, natural, or God-given. (If their Christian God gave land and property rights to anyone in this country, it was to the Native Americans.) Their desire to roll back laws and compensate property holders for government regulation is reasonable in certain cases. However, if applied to all government actions that diminish property value, as a citizen initiative in Washington State tried, it would effectively emasculate government and its ability to govern. Moreover, those who cry loudest about government "takings" are usually monumentally silent about "givings" that accrue to them as a result of government actions. If we are going to compensate landowners for their every loss, we should tax them for their every gain. A guarantee of risk-free land ownership and absolute protection of private property would ultimately rescind community and repeal civilization itself.

For reasons deeply and heroically embedded in its history, property rights are probably stronger in the U.S.A. than any country on earth. They have long played a central role in shaping American urbanism or, more accurately, in restraining the government from shaping it. We have increasingly had fragmented private development within a public realm that is often little more than leftover space. In many other countries, the public sector takes a stronger planning and regulatory role in real estate development, and private property rights are more frequently trumped by the public good. Many Americans may feel that, in the bigger picture, it is important for the United States to be the vigilant champion

of private property rights. "If we don't, who will?" is a political position that is less and less compelling in the international landscape.

The Cold War is over and the global economy and political order are more democratic, less polarized, and increasingly interconnected. There is no longer as great an historical need for the U.S.A. to act as the last national bastion against the danger of totalitarianism and fascism or as the sole guardian of freedom. The world is getting too small for unilateral and even multi-lateral actions; more international action and cooperation are needed. Although there will always be extremist threats to freedom from the left and right, the world no longer needs the sort of American individualism that is equally extremist. The new international balance of power allows the U.S.A. to strike a more centrist position abroad and relax the grip of private property at home. More government/private sector partnerships and a robust third realm of not-for-profit organizations and independent public commissions would help narrow the gap between public and private interests. The reforms in land use and zoning regulations outlined in this book are other examples of what is needed. New ecological imperatives also require us to recalibrate the rights of community and the rights of property owners. For all these reasons, America should assume a more mature leadership role by moving both its foreign and domestic policies and values from their polar position closer to the center.

As Americans and other peoples of the world bump up against our planet's finite size and resources, new models for shelter and community are needed. While it is true that new technical inventions and scientific breakthroughs will deliver us from some of our existing and upcoming problems, they will not spare us from many of the hard decisions and trade-offs that await us. Ingenuity will help, but we also have to rally our collective discipline and political will before it is too late. If we don't act soon, sensible incremental change will no longer suffice, and the millennial door will be opened wider to massive natural crises and to violent social cataclysmic change that could ravage the country and world on an unprecedented scale. It already has begun to do so in undeveloped parts of the world, with whom America is increasingly and forever linked—a realization that will surely prove one of our major psychological adjustments of the new century.

Some of the answers lie in traditional models of shelter and community and in patterns of ecology and life that have been sitting under our noses all the time; some can be learned from other countries and cultures, both rich and poor, north and south; others embrace new ideas and technologies as our society takes social twists and technological turns never even envisioned. We should be careful never to lose sight, touch, smell, and feel of place. It is the primordial tie that binds. Place is more fundamental than nationhood or government itself. Only kinship can produce stronger human bonds.[17] We can no longer muddle along and defer action on the basic questions of where and how we make place and community.

To default is to follow Jakarta and Calcutta into the abyss. We are neither as far behind nor as independent of these places as we like to think. And the future comes more quickly than it used to.

Placemaking and citymaking are local acts. Despite the gnashing-of-teeth and pulling-of-hair about national and global issues, we must continually remind ourselves that we can only act in our home locale. We have our work cut out for us in most metropolitan regions in the United States. All the forces and determinants for continued sprawl and auto dependence are in place. As the author of *Edge Cities*, Joel Garreau, has said, if we want sprawl as far as the eye can see, all we have to do is sit back and do nothing. It could also be said that, if we want more and more cars driven more miles per year, with all the additional congestion, pollution, and energy consumption, we need only sit back and watch.

At times and places, the scale and scope of metropolitan sprawl and the forces that create it may seem too large and inexorable to arrest and reverse. As Robert Davis has noted, we can take some heart in recalling that at the end of the nineteenth century, the City Beautiful Movement was able to change many of our rapidly growing and squalid industrial cities to places of civic grandeur and beauty in a decade or two of concerted action. As fast as some American metropolitan areas are growing today, American cities have actually grown faster in the past. Detroit, for example, grew from 250,000 to 1,500,000 in the period from 1900 to 1930. (But, alas, it dropped from a peak of almost two million to roughly one million in as few decades.) And the growth rate in the cities of developing countries is staggeringly high when compared to American cities of the same size. We could now be facing, and have in the past faced, bigger challenges.

The Declaration of Independence established our right to "life, liberty, and the pursuit of happiness," and the Constitution established our right to settle anywhere in the country that we choose. While these rights may sometimes conflict—as they do when a state absorbs far more than its fair share of national population growth—they remain inalienable. States cannot stop new residents at their state lines. The question is whether they can absorb growth without ruining the qualities that brought people there in the first place. Indeed, can they grow in a way that will enhance community and personal lives? We need to find ways, including the theory and policy advanced in this book, to maintain and improve the quality of our lives while reducing our levels of consumption and waste. And we must find strategies that allow our metropolitan areas to grow in ways that do not leave behind hollowed-out inner cities that are racially and economically segregated and in which the physical standard of living is in absolute decline.

It will be difficult for Americans to give up private space for common space and private worlds for common ground that is a bona fide, sustainable public realm. It will be challenging to relinquish some of our personal freedoms and property rights for more compact patterns of settlement that can offer a greater sense of community and leave more natural areas alone. The challenge to prop-

Any Interstate plowing through Anywhere, U.S.A.—an environment of highways, overpasses, roads, and parking lots, all paved with good intentions but leading to a sort of hell on earth.

erty rights could prove a national trauma, just as civil rights, women's rights, and gay rights shook the United States to its cultural, religious, constitutional roots in the last third of the twentieth century. Socioeconomic dislocations could be caused by a shift from industrial capitalism to a more benign natural capitalism, and an explosion of megacities could sponsor preponderantly urban populations and international cultures. The World Wide Web may prove to be as significant, but more peaceful, a battlefield in the twenty-first century as WWI and WWII proved to be in the twentieth. (For better or worse, it is clear that the World Wide Web is here and that no government or corporation or institution can put it back in the bottle.)

It will be painful to give up automobility for more shared means of conveyance. It will be hard to repeal consumerist dreams and break subsidized habits in favor of smaller lifestyles. It will be difficult to resist economic pressures to settle for cheaper and shoddier building construction as regional authenticity and genuine local nuance get more expensive. (It will also be hard for design professionals and their clients to give up some of their personal expression and vanity for a more sustainable, regionalist, and more typologically coherent architecture and urbanism.) It will be less pleasant to spend even seventy minutes a day outdoors if the architecture that surrounds us is increasingly dumbed-down, commodified, and banal, and nature is further and further away and increasingly sullied. It will be a challenge to resist the spectacle and excitement of Post Urbanist excesses and to constructively harness new media and technologies.

More equitable distribution of wealth and opportunity will be taxing both literally and figuratively. Racial diversity and gender equity will test us both socially and ethically and will prove absolutely essential to our sustainability as a society; environmental imperatives and issues will continue to be as politically divisive as they are critical to our survival. Suburban and urban centers will have trouble achieving a full and genuine mix of people and activities; neighborhoods will resist their fair share of society's costs and burdens; and municipalities will be glacially slow to yield to regional governance. Nations will struggle with issues of environmental justice, global equity, and physical security. Finally, to move from the terrain of rugged individualism to a place of civic humanism may prove the biggest challenge of all.

We must do all of this and more if we are to sustain community and the human spirit, not to mention civilization itself, for future generations. At the same time, we must help America's poorer neighbors to the south, in Africa, and in Asia as they struggle with far bigger challenges. Indeed, we must swallow our hard-won pride in the "American Century" that will soon become the "Asian Century," or at least the "Pacific Century." None of these changes will be easy. They will take herculean discipline, intelligence, and good luck. We have overcome problems of this magnitude before, and we can do it again. Some of these transformations will be cyclic, but most will be metamorphic. They will surely require courage to take large risks, but also wisdom to guard against the foolhardy and short-sighted. These changes and reforms are essential because the alternatives are stark, and the consequences of inaction are apocalyptic. It will be worth both our grittiest and noblest efforts. And as we repair and revitalize our architecture, neighborhoods, cities, and regions, we may build common places for ourselves along the way.

NOTES

Introduction

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