THE VALUE OF ARCHITECTURE

being the Coda of
A General Theory of Value

We have been engaged in what could fairly be described as a study of the architecture of value—with "architecture" understood quite abstractly. Here, in the Coda, we turn to the value of architecture quite literally. Our question: can the theory of value developed in this book shed light upon how architecture is valued?—and, by extension, how the whole designed, built, and landscaped physical world is valued? Or ought to be?

We ask because around the world the quality of buildings and the condition of the physical environment is for the most part lamentable and on the whole getting worse. At the beginning of the 21st century, several overlapping factors can be listed as contributing to this trend:

- continued rapid population growth in and around cities, causing crowding and over-stressing all physical and legal infrastructures;
- powerful market forces, intensified by globalization, riding roughshod over traditional practices, values, and uses of the land;
- distraction by the mass media and by other technologically-assisted entertainments and communication systems;
- a general lack of understanding of the kind of good that (good) architecture is, and the value of what it does for everyone, not just for elites;

- people's passion for individual freedom over liberty—freedom in the form of physical mobility, job opportunity, experiential variety, "better deals," and greater consumer choice...at almost all costs;
- citizen reluctance to pay (and government reluctance to dedicate) the tax monies required to create and keep public buildings in good repair and civic spaces a reason for pride;
- the values, doctrines, and strategies of architects, engineers, and other design professionals throughout the latter part of the 20th century attempting to respond to above conditions—but exacerbating them instead.

In this chapter, we will look into all of these issues and more. I will suggest that turning people's attention to the quality of the designed environment and raising their level of ambition with regard to it would do far more than effect healing or repair of the physical environment. It would unleash a period of general economic prosperity the likes of which the world has seldom seen. So large are the number and types of skills involved in making fine buildings and landscapes, so engrossing is the task, so universal and yet local are the opportunities, and so literally as well as symbolically *constructive* is the creation of architecture, that architecture—and environmental improvement generally—adopted as a cultural project and encouraged as an economic activity, could be redemptive at a national if not global scale—a source of peace, prosperity and justice in the process; a source of pleasure and beauty in the result.

This, at least, is what I am going to argue. But let's start at the beginning, with...

I. The Problem

The American reader who began with this Coda might wonder what the problem is. After all, who does *not* value architecture highly (and beautiful streets and parks too)? Take Frank Lloyd Wright's "Falling Water" house in Pennsylvania, the Library of Congress building in Washington D.C., the late great World Trade Center, the Guggenheim Museum, or the Chrysler or Empire State buildings in New York; the TransAmerica Tower in San Francisco, the Kimbell Art Museum in Fort Worth (or the Guggenheim Museum in Bilbao, Spain, for gosh' sake)...these

buildings are paragons of value by almost any measure, and there are dozens more like them around America. Indeed there are hundreds. Hardly a town cannot boast of some buildings that are admirable—a church here, an office building there, a campus building, a bank, a house, a courthouse, even a water-tower. Large cities, of course, can boast of more: old and new neighborhoods with million-dollar houses, and scores upon scores of structures that have some scale, and style, and importance as landmarks. In workmanship, materials, engineering, and design, all of these buildings are "better than they have to be" and "cost a bundle." In a word, they are *architecture*, whether they earned a page in some history of architecture book or not.

And how enviable is the working life of the average architect. What is there to complain about here? Relative to other occupations, do architects not enjoy considerable social status, nice incomes,[1] safe and pleasant working conditions, long professional careers, higher-than-average opportunities to be creative, and the certainty—a certainty that few other professionals can feel—that their work will leave a lasting mark on the world? What more could one want from a career? For these and other reasons, not since the 1940s has there been less than a crush of students wanting to get into architecture schools in North America (and around the world), despite entrance standards that are regularly among the highest of all university departments.

All this, I imagine, is what a reader who opened this book with this Coda, could reasonably think.

But those who have made their way here through previous chapters might also have reasons for wondering what the problem is. Given the serious difficulties that still face humanity—poverty, hunger, disease, ignorance, injustice, inequality, violence, environmental destruction, political chicanery, terrorism, unfair taxes, etc., etc.—why would anyone but a spoiled and officious minority care one way or another whether the art of *architecture*—over and above making safe and serviceable buildings—was alive and well and properly valued by all? Perhaps (goes the objection) democratic societies have *over*valued architecture for too long already, a hold-over from bad old aristocratic times. After all, if a country's people are generally healthy, prosperous, and free, what does it matter if their landscape is tough and scruffy? What does it matter if their cities become sprawling agglomerations of highways and whatever-won't-literally-fall-down? Would one rather be sick, poor, or subjugated among the stately avenues of

a Paris or Prague or Washington D.C.? Beautiful buildings, beautiful streets, parks, monuments, etc., are luxury goods. They always were and always will be; and good for everybody, to some extent, only because they generate tourism dollars. And besides, if beauty lies in the eye of the beholder (as it surely does), who is to say that the run-down, honky-tonk, or super-efficient, one-size-fits-all edifices of our day are not as beautiful *in their own way* as the structures of any place or era?

I have presented two groups of possible responses to my opening-for-discussion of the question of architecture's value. They are, in summary: (1) There is no cause for concern since there is quite enough architecture to go around already and no shortage of happy, well-compensated architects to provide more when we want it. And (2), even if there isn't much *good* architecture around by some mandarin measure, *who cares*? It's a free country. We have (most of us) more serious problems—or at least better things to do with our time and money than to invest in producing refined "architectural pleasures," or to spend in enjoying them.

Spending the next few pages on both of these responses will take us to the heart of our subject matter.

There is, in fact, a dire shortage of buildings and places in America worthy of being called "good," *or* "architecture." Look around at the condition of the bulk of our urban and suburban landscape; or read writers like Edward Relph or James Howard Kunstler to experience the shock of recognition:

> America (is in) a crisis of the human habitat: cities ruined by corporate gigantism and abstract renewal schemes, public buildings and public spaces unworthy of human affection, vast sprawling suburbs that lack any sense of community, housing that the un-rich cannot afford to live in, a slavish obeisance to the needs of automobiles and their dependent industries at the expense of (other) human needs, and a gathering ecological calamity that we have only begun to measure.[2]

Outside of its wealthy and (usually) historic enclaves, the American built environment is hostile to inhabitation: angry freeways ploughing through wastelands of space; thousands upon thousands of derelict and abandoned buildings (with new ones well on their way to joining them); urban parks that are little more than weed patches with broken swings and a concrete basketball "court;" countrysides that are fenced, billboarded, and littered all the way to the

national park gates; shopping malls with forty-foot-high blank walls turned to their lake-sized, half-empty parking lots; suburban high schools that are hard to distinguish from minimum-security prisons...and almost everywhere that people work the same water coolers, the same over-recycled air, the same squeezed-down, fluorescent-blasted "office landscapes" of plastic and metal, with the real landscape—such as it is, crisscrossed by wires and poles—glimpsed remotely through darkened glass. Not just in its crumbling older bridges and roads but in its newer buildings and streetscapes everywhere, America is a broken-down place, hard and cheap and scrappy, and becoming more so each year as its better-off citizens, cocooning themselves in their leathered SUVs and home-theaters, communicate by cell phone to meet in themed restaurants at coordinated times.

With exceptions duly and gratefully noted, it would seem that the richest nation on earth has better things to do than make itself a place that would bring a smile to anyone who looked up from a screen, or stopped their car, to look around.

In modern Europe and Asia, the picture just beyond the tourist's gaze and diplomat's route is no better. In many places, it is worse. With population densities generally higher and growth rates faster, air and sound and water pollution is common, as is choking traffic. Outside their older cores, the cities of Western Europe look much like American cities, all highways and billboards and loud little buildings each "doing its own thing" to get attention rising out of a dense bed of sheds and shacks, litter, dead cars, and empty lots. In China, in Russia, in Eastern Europe, millions live their lives piled high in housing-block hatcheries with sand lots between, while those less fortunate scrape about "free" in shantytowns next to them or a few miles further out, the skies dark with pollution. The modern urban landscape of much of Central and South America looks much the same, if sunnier, as do the newer cities of Africa and the Middle East, where buildings of all types have been reduced to rectangular concrete frames thrown up in a matter of weeks by unskilled labor, with large, steel-sash windows filling in wherever there is no brick or cinder block. While picturesque villages lie abandoned or struggling in poverty, the young and displaced fill up the cities. There, as though hardened to meet the onslaught, commercial and public buildings turn their unfriendly faces to the street, with concrete walls and windows as impenetrable as those of the limousines that enter and leave them. And everywhere economically "vital" according to economic statistics: wires and signs, soot and dust, diesel fumes and the ear-ripping roar of trucks, scooters, and buses.

At the same time, more and more of the environment of the travelled upper-middle classes is becoming an indoor one, uniform in character: gigantic shopping malls and hotels with "atria" and "food courts," huge convention centers and underground halls tied directly to airports all looking and feeling the same, and all surrounded by tattered urban "fabric." Manuel Castells calls it "the space of flows;" Rem Koolhaas calls all it *junkspace*:

> If space junk is the human debris that litters the universe, junkspace is the residue mankind leaves on the planet. The built product of modernization...is not modern architecture but junkspace. Junkspace is what remains after modernism has run its course, or more accurately, what coagulates while modernization is in progress, its fallout. Modernization had a rational program: to share the blessings of science, universally. Junkspace is its apotheosis, or meltdown...
>
> Junkspace is the sum total of our current architecture: we have built more than all previous history together, but we hardly register on the same scales. Junkspace is the product of the encounter between escalator and the air conditioning, conceived in an incubator of sheetrock (all three missing from history books).... It substitutes accumulation for hierarchy, addition for composition. More and more, more is more. Junkspace is overripe and undernourishing at the same time, a colossal security blanket that covers the earth. Junkspace is like being condemned to a perpetual jacuzzi with millions of your best friends.[3]

Let us return to the United States. To the list of famous buildings sampled at the beginning of this chapter, add all the finer buildings across America, "finer" being defined as having at least once received favorable critical notice in a local newspaper or the architectural press. All these buildings do not account for more than a tiny fraction of the structures that make up the contemporary American milieu.

Let us try to quantify this claim. If we divided the total floor area of all the (non-residential) buildings reviewed annually by the two major professional journals in architecture[4] by the total floor area of all (non-residential) buildings built that year, and multiplied by one hundred, we would have a number to start with, to wit: a percentage of buildings built in the U.S. that are arguably "architecture." In 1998 that percentage was 0.7%.[5] Intuitively too low? Double this figure to account for all the new buildings that were discussed—for reasons other than just being new real-estate—in local newspapers and professional journals like *Texas Architect* or *Architecture Minnesota.* This gives us 1.4%. Double this figure again to cover "unsung heroes," i.e., all the good and interesting buildings that *ought* to have received some public recognition as architecture

in 1998 but did not. This gives us 2.8%. Reduce that figure for all the mediocre buildings that got positive notice anyway, and reduce it again for duplication of coverage, and we might arrive at a rough estimate of 2%.[6] Whether 2% is high or low depends on what you expected. But what it suggests is that 98% of the new construction put in place in 1998 was done either without an architect, or with an architect whose contribution was minimal or deleterious.[7] It is unlikely that this percentage has been much different for the fifty years before 1998, a period during which the average American city more than doubled in size.[8]

Now, it is not that uncommon for architects to cite statistics like those above. They tend to do so more frequently when business is slow (and they are feeling sorry for themselves), or when they are in need of reassurance that, as a group anyway, they cannot be held responsible for the general thoughtlessness and lack of quality of the built environment. At all other times, though, architects, immersed in their practices, their journals, lectures, slides, books, award ceremonies, and icons of their profession's glorious history, tend to *over*estimate how much of the world comes within their bailiwick.[9] Architects tend to live and work in a more expensive, more tightly-styled environment than do most people; and when travelling they are more selective yet: Provence, not Disneyland. They live in the World of Architecture. So one can see why architects might tend to overestimate the scope and significance of their contribution.

As it happens, though, non-architects also tend to overestimate how much of the environment is "nice." This is because people's mental image of their cities and towns is highly selective and inaccurate, revolving around prominent natural and architectural features, around old-rich neighborhoods, around historical landmarks and the like...places one would take an out-of-town visitor, places that invoke pride. This compendium of images forms the permanent, orientational map of people's understanding of their town, of *where* they live, and even of who they are.[10] Under-represented by far in such maps is all the dispiriting "stuff" in between, i.e., the greater part of the city's building-stock in all its bruised, workaday plainness and faded commercial clamor. If not simply ignored or gotten used to, this is the stuff of *other* people's worlds, best seen through a windshield with music playing, while to their *own* less-than-wonderful milieus, people become inured.

None of this is to be ungrateful for the very real improvements in urban (and rural) living conditions that have come about since the 19th century in both Western Europe and the U.S. Soot no longer falls from the sky in London, tuberculosis no longer haunts Berlin or makes its way through overcrowded tenements of New York.[11] All praise to indoor plumbing and health

codes and the social impulses of the early modernist architects: sunlight, fresh air, and hygienic conditions for everyone. But it *is* to point out how much remains to be done before the quotidian environment can begin to meet the quality standards we expect of almost every other good we produce and consume.[12] For how long, does the reader imagine, can the telecommunication and computation industry continue to provide efficiencies enough to drive the global economy? Their time too shall pass, if it has not already as you read this. Then what?[13] Before too long, these amenities will reach such strongly-diminishing marginal utility for consumers, and yield such strongly-diminishing marginal returns to entrepreneurs and investors, that a whole new arena for life-enjoyment and life-improvement will *have* to be envisaged just to keep the economy *going*, never mind growing. What will that "new arena" be?

I say we need no look no further than the depressing, third-rate mess that is the bulk of our physical environment.

Indeed, before this chapter is through, I hope to have convinced the reader that the project of *improving the general quality of the built and natural environments could constitute the single largest wealth-producing activity of the 21st century* if, as consumers, as citizens, and as entrepreneurs, we would only set our minds to it. The capacity of *this* project to enliven and organize social life, as well as to produce individual happiness across a broad front, forms the substance of my reply to those who would classify architecture as the pursuit of elites only, a pursuit that could have no substantial impact on the world's more dire problems.

It would not be the first time that building beautiful cities all but sustained a nation. One could point to France, Germany, and Holland from the late-16th to the mid-19th centuries, not to mention the great cities of antiquity, New York City at the turn of the 20th century, or Finland, France, and parts of Spain to this day. The challenge is to do so again, but this time through democratic institutions and, as far as possible, using the free market system.

Let us look briefly at some economic and architectural history.

In the late 19th century, all over Western Europe (and the U.S.) the basis for economic development was changing rapidly from agriculture to industrial manufacture. Rural populations were migrating into the cities at an unprecedented rate. Workers needed to be housed; factories needed to be built and manned. The need for economically rational and speedy building methods meant the use of steel and glass, of large-scale assemblies of repetitive elements, of mechanical power from coal and steam. Transportation systems based on railroad and canal would straighten

all unnecessary bends. Roads would follow, with bridges and tunnels sufficient to straighten them too. Not just construction efficiency, but sunlight, air, and cleanliness would be the new watchwords for architecture. Tuberculosis, the scourge of the age, would be eliminated, even if that meant celebrating everywhere the aesthetic of the sanatorium or hospital: bare, white, and small-but-large-windowed rooms, furniture and fittings like medical equipment (gleaming hinges), and everything washable including the rooms themselves. Indeed, this was the "look" that would become the hallmark of the Modern style, and that would remain so long after modern medicine had made most of it quite unnecessary.[14]

Such impulses came together most fatefully in *fin-de-siècle* Germany with the formation in 1907 of the Deutscher Werkbund, an association of artists, craftsmen, and architects whose aim was to reconcile new mass-production technologies and the new standards of hygiene with the handcraft-based aesthetic ideals of the previous century. The Werkbund soon split into two factions, the one led by Henry van de Velde, who championed individual expression using machines where helpful, and the other by Hermann Muthesius, who championed the greatest possible use of industrialized, standardized design for making architecture, and emphasized speed and economy over serving any "non-rational" craft sensibilities. In 1914, the Werkbund voted to stand behind Muthesius, not van de Velde.[15]

By 1914, the Werkbund was already exerting a wide influence. Sister organizations had grown up in Austria, Switzerland, Sweden, and England (where it took the name of The Design and Industries Association). There, debate between craft and machine sensibilities continued. But after the physical destruction caused by the First World War and the financial crises that followed,[16] debate effectively ended and Muthesius's ideas quickly took over as *the* basis of what it meant to be *modern* in design. At the Bauhaus (led by Walter Gropius, Hannes Meyer, and finally, Mies van der Rohe), the emphasis changed accordingly: from training in arts and-crafts and theater, to training in graphic and industrial design. By 1945 and the end of World War Two, Modern Architecture—the architecture of war and emergency and medical recovery—had established itself as "the only game in town." It was the "International Style;" it had become global.

Back to 1937. This was the year that the United States became refuge to Walter Gropius and Mies van der Rohe. Gropius became chairman of the department of architecture at Harvard, which he led for fourteen years. Mies left Germany to become director of the School of Architecture at Chicago's Armor Institute (later IIT, the Illinois Institute of Technology), where

he ruled for twenty years. Between them, these two men revolutionized architectural education in America on the model of the Bauhaus, training young architects away from historical evolutionism, away from romantic notions of the city, away, even, from the influence of Frank Lloyd Wright—with his regionalism, his love of the domestic—as well as from the later Le Corbusier—with his expressive, even erotic, forms and rough materiality.[17] For Gropius and Mies the ideal of modern architecture was nothing more or less than the perfect marriage between constructional efficiency and painterly abstraction, a "style" that could claim to be a way-of-life suited to its times: proper to a fault, lean, and masculine, committed almost religiously to finding the simplest visual expression of applying the most efficient technical means, and most logical design methods, to optimizing a building's most overt functions. Where Mies's used these ideas to appeal to the upper-classes, Gropius turned them to urban-scale social projects, to systematic design methods and the use of everywhere of industrialized construction. These two versions of modernism—van der Rohe's and Gropius's—established the bookends of a seemingly-complete ideational spectrum: Art (with Class) at the one end, Industry (with Social Purpose) at the other. In the 1940s, '50s, and '60s anyway, architects could position themselves between these two poles according to their temperament and means. They could point to either man's work as it suited them, and call themselves *modern*.[18]

America's mayors, business boosters, and real-estate barons could not have been happier. As International Style buildings reached higher into the sky, wringing more income from increasingly expensive urban land, as more and more farmland turned into suburbia, so the value of construction quality dwindled.

Proof? In the U.S.A. it is easy to find. In 1955 the share of the Gross Domestic Product (GDP) in the U.S. accounted for by building construction was 5.9%. In 1995, its share of GDP was 7.4 %. Sounds good. But production over the same period increased from 1.7 billion square feet per annum to 3.4 billion square feet per annum. This means that a 100% increase in construction volume was achieved with a 25% increase in percent-GDP expenditure. These figures include residential construction: mainly houses. Remove this component (because very few architects are involved in producing houses), and we find building construction accounting for 3.3% of the GDP in 1955 and *dropping* to 2% of the GDP in 1995, with annual volume going up from 600 million square feet in 1955 to 1.3 billion square feet in 1995. Here a 116% percent *increase* in per annum floor area was achieved with a 65% *decrease* in percent-GDP expended. More than double for less than half[19]

What do these statistics show? Efficiency? "Returns to scale?" This would be the economist's favored explanation, and the explanation offered by anyone who could not see *that the product itself has changed*. True, buildings today are more efficiently constructed than they were fifty years ago, but not enough to account for these figures. Rather, standards too have changed. We are not building the same buildings literally (i.e. using the same plans), and we are not, on *average*, building to the same quality levels in durability, weight, finishes, or landscape accompaniment.[20] For fifty years (at least), America has been devoting relatively less of its economic energies to maintaining or improving the quality of its built environment. And this, it would seem—on the analogy that the changing fraction of one's income spent on a certain quantity of a good reflects how much one values quality in that good relative to other goods—reflects our changing national values directly.[21] Indeed, one might say that architecture is, and even plain buildings are, *inferior* goods for most Americans, because the wealthier we have become as a nation, the smaller has been the fraction of our collective income that we devote to producing or enjoying the same amount of whatever it is that architecture provides.[22]

Philip Johnson, dean and doyen of American architecture since 1932 perhaps summed matters up best when, in a 1989 article in *Interview*, he confessed: "The International Style swept the world because it [came] along at the same time developers wanted to make cheap buildings, and this was cheaper than any other architectures."[23] There you have it in a nutshell. One can almost hear the ghost of Gresham laughing. Not a word about this "benefit" of the International Style could be found in the original show (at the Museum of Modern Art in New York, co-curated by Henry-Russell Hitchcock in 1932), or in the book that followed of the same title—as though Johnson and Hitchcock didn't know what was really accounting for its success in Europe, or would soon in America.[24]

Figures 11.1 through 11.5 examine the period 1964 to 1997 in more detail. This was a period during which architects *en masse* started doubting the salvatory claims of the International Style, a style and manner of building which, by the mid-sixties, had become all-but-synonymous with "modern architecture," and which, as the basis for hundreds of urban renewal projects around the country, had become intensely disliked by the public.[25] Architects started looking for alternatives. To cut a long story short: they turned first to Postmodernism, which admitted both classical and popular-vernacular elements back into the canon and looked also for smaller-scale, more democratic, "mixed-use" solutions to the problems of urbanism; and then, in the 1980s,

they turned to Deconstructivism, which, as an ideology, attempted to undermine and up-end all certainties about architecture's function, and, as a style, leaned toward whichever shattered, disturbing, and dysfunctional forms could be used to tell the story.[26] Did either of these movements make a dent in the overall economic fate of architecture as we have been describing it?[27] It seems not:

Figure 11.1 shows the total amount of money spent on (nonresidential) building construction in the United States in 1992 dollars (i.e. inflation-corrected). As we can see, there was an overall rise in real expenditure in the thirty-four years from 1964 to 1997, although not without a certain cyclicity.

But Figure 11.2 shows the above as a fraction (percentage) of the GDP. Here we see that although real spending on construction increased (Figure 11.1), it increased less quickly than did overall GDP, i.e. less quickly than combined real spending in all other areas of the economy. Constructing buildings, as an economic activity, was falling behind the competition, as it were: relatively more new capital, desire, and effort was being directed towards other economic activities. Over the same period, the share of the GDP represented by the banking, real-estate, entertainment, health care, pharmaceuticals, sports, gambling, aeronautical, automobile, computing, and communications sectors of our economy grew in the opposite direction.

Figure 11.3 charts annual physical construction "volume," expressed as floor space (area) built per year (again omitting residential buildings). We see how volume continued to increase over the period, although irregularly through the well-known boom-and-bust cycles that characterize the building construction industry.

Figure 11.4 combines Figure 11.3 with Figure 11.1 to arrive at a real, average cost of construction for nonresidential buildings. Although sensitive to local economic conditions and boom-bust cycles, as the bumpiness of the chart shows, we note that there is no long-term historical trend. A real cost of about $123 per square foot has kept itself a central tendency over the thirty-four year period we are looking at. (The figure for 1955 was $130 in 1992 dollars.) This (non)trend undermines the assertion that "construction is so much more expensive these days", a statement often used to justify why the building at hand needs to be more cheaply built (per square foot) than the one it replaces. But it also would seem to undermine my claim that buildings today are indeed, on the whole, more cheaply built than ever.

The latter, in fact, has not been my claim, except in relative valuational terms. Figure 11.5 combines the data of Figure 11.3 with the data of Figure 11.2 to form the single statistic: "percent GDP expended per billion square feet built," which functions as a measure of the value of new construction (per unit area). (We can also look at the annual *change* in this statistic as a measure of architecture's "inferiority.") Again we see, but now in more detail, how an ever-dwindling fraction of our economic output (GDP) is being used to build a fixed amount of space, a trend which began long before 1964, as we have seen.[28] It is as though your family and mine, growing each year in membership and wealth and diversity-of-activity, continued to spend the same real amount of money and an ever diminishing part of their total budgets on building (or on renting) the places they lived and worked in. All of our families' new wealth and all of their members' new interest (in both senses of the word) would be directed elsewhere: into investing in the stock market, into starting new businesses, travelling abroad, driving nicer cars, buying boats, going to better restaurants, enjoying more entertainment, using faster computers, and so forth, even into buying new furniture and appliances...into anything *but* quality design and construction of buildings themselves.

Now, there is nothing obviously wrong with these value assignments. "It's a free country." But repeated at the national (and I suspect global) scale, they do show how buildings in modern times have become an inferior good. Fewer and farther between are those individuals and institutions that, on becoming wealthier, devote proportionally the same or greater resources to increasing, or even maintaining, the health and beauty of their environment. Perhaps they are the same 2% that call on the services of good architects.[29]

If any blame is to be cast for all this, one cannot blame "blind" market forces on the one hand or intentional skulduggery on the other. It is perfectly natural, over historical time, for certain sectors of the economy to grow while others shrink in both absolute and relative size. And this is a fact that rational people must accept even if the sector currently shrinking happens to involve goods that they value and that they are sorry to see fall on hard times. Changing spending patterns reflect changing consumer valuations quite directly.[30] It's what *most people want more of* that gets produced first, and it's what most people *still* want more of that gets produced more and more adroitly. Such is the function of the free market; such is the sovereignty of the consumer.[31]

Those old, pre-World War II buildings that ordinary people so prize today (when they are kept up)—I mean buildings with high ceilings, operable windows, well defined rooms, solid walls, and pleasing decoration, the ones that we sigh we can "no longer build today" because they would cost too much—*were not cheaper* to build back then. Indeed, they were relatively more expensive to build in their own day than they would be to build again in ours. They were *always* better-than-they-had-to-be, and this is one of the reasons they are still around and adored. What *has* changed is the national will to direct attention, labor, and resources to new architecture specifically, and to the physical environment generally. It would seem that many of the pleasures that the built environment alone once provided are being taken care of by other sectors of the economy—by other activities, by other means and technologies.

Or so one would hope. For it is also possible that the needs that buildings serve and the pleasures they provide are simply being ignored in favor of certain other needs, certain other pleasures more intense and immediate, less controversial and less demanding. And what might these other, hugely attractive pleasures be? I suggest again: they are mostly those that surround and promote the feeling of greater personal *freedom*, the post-Enlightenment passion for which, in America anyway, has flowered to spoilage. How do we know that it has flowered to "spoilage" and not just flowered? There are many manifestations, but here are four: in the increasingly total restructuring of the environment to provide free vehicular access to all points in it; in the increasing dominance of money over all other tokens in exchange; in the ascendancy of *price* over all other bases for economic competition; and in people's increasing aversion to *commitment* generally, be it to other people, to things, to laws, or to places. And all this is in direct contradiction to what people want, or say they want, over and above subsistence and a modicum of physical comfort: to wit, meaningful and rewarding "non-economic" relationships, high-quality products, jobs, and experiences, the sense of rightful belonging to and at-home-ness *in* the world...and, oh yes, all this and freedom too.

Now there are many architects, especially those still in thrall to the Modernist project, who would deny that there is any connection between *good design* and construction cost.[32] Their evidence is anecdotal but plausible, namely, the countless number of times that (client) stupidity and bad taste have run up costs and produced awful but expensive buildings, versus the number of times that (the architect's) intelligence and good taste have turned modest amounts of money

into gratifying and ennobling places to be. Such, they conclude, is the miracle of Good Design, which is quite independent of rising *or* falling general construction costs.

Well, of course, on *one* accounting of the situation their appraisal is correct. For if only 2% or less of what is built is to be counted as architecture in the first place, then national trends and statistics *vis-à-vis* construction expenditure per square foot will not reveal very much about the admittedly rare phenomenon of good design. But this is not the intended force of their argument. What they are challenging, more deeply, is the degree of correlation that *necessarily* exists between cost and quality in the presence of a creative designer—a person who, like themselves, can turn the proverbial sow's ear into a silk purse, who can make "something out of nothing," etc., etc.

I will have more to say later about architects' unreasonable belief in the power of their own creativity, as well as how strategically unwise it is to tout it. But here let me remind the reader of the discussion surrounding Figures 9.5 and 9.6 in Chapter Nine. There we examined a range of possible correlation coefficients, **r**, that might exist between product *cost* (price) and product *quality*, from **r** = 0 ("price tells you nothing") to **r** = 1 ("you get [exactly] what you pay for"). Since both of these extremes seemed implausible, if only because quality is partly subjective, we accepted the common wisdom that for any category of goods there is always *some* positive correlation between cost and quality (i.e., that $0 < \mathbf{r} < 1$). In the maneuvering room left by this imperfect yet positive correlation, the converse desires of producers and consumers play themselves out, to wit: producers' natural pressure to increase a good's price relative to its quality, and consumers' natural pressure to increase quality relative to price. The marketplace thus represents something of a battle of wills between producers and consumers, the former aided and abetted by the advertising and public relations firms they hire, the latter by personal experience, word-of-mouth, connoisseurship, consumer-guide magazines, and the like. I said that both should get their way, and I tried to show how they could.

Into this fray, anyway, steps our brave and designerly modern architect, attempting to serve (or play) both sides. But he must lean towards the values of those who mostly commission him, namely, ambitious developers, institutions with "budgets," wealthy individuals...people, in short, who control large sums of money and have incentive not to "waste" it. Very well, reasons the architect, I too shall be staunchly *for* "value for money." I too shall be for "honesty" and plain dealing with hoi-polloi, this exemplified not only by my personal behavior but by my buildings and *their* economy, honesty, and plainness. And who hates waste and excess more

than the Modern architect—that doctrinally committed lover of Simplicity, the Simplicity that inspired the great engineers and architects of the 20th century...and that comes also, like a blessing, like grace, to the faithful and starved?

I exaggerate momentarily, but only to touch on the deeper, religiously-based narratives at work here. These narratives are what lend moral force the architect's claim that architecture *benefits by poverty*...or, anyway, need cost no more than the vain and decadent junk that is the only alternative. Posed more secularly: stringent budgets are not a problem. Like stringent diets, they impose an entirely healthy discipline.

Now, reasons for the support of architects' claims like this, when they come from the clients and would-be clients of architects, can be several:

One is true religious belief: a leaning to asceticism supported (in the West) by a traditional Calvinist preference for modesty in clothing and accommodations, and indeed, for reserve in all outward expressions of inner states and needs. One simply *ought* not to spend money on elaborate buildings (and gardens) if the outcome is earthly pride or "pleasure of the senses." Certainly, *God* would not be impressed. He wants only your heart.[33]

Also running along these lines is the argument stemming from ecological concerns and energy conservation. Here, super-efficient and minimal buildings are a Good Thing because they (probably) consume fewer natural resources—less wood, cement, and so forth—and use less energy, and thus preserve the Earth.

A third response represents faith of a different sort, that of the bargain-hunter, based in turn on the belief that the profits of sellers are always too high and that only fools pay full price. "More for less?" Yes please, even if that "more" has to be of a kind that requires a special education to appreciate—an appreciation gained, most likely, from taking architecture classes or becoming a patron of the local modern art museum—and especially if, as for the less educated but upwardly mobile, the "more" turns out to be Modern Design itself and easy to spot: formal simplicity combined with machinic precision. The "less" part of the formula is easier to get, of course It means spending less time, trouble, or money to get the same things, the same number of square feet or features. And any Target customer can understand that.

The three responses just mentioned are, I think, defensible in decreasing degree. But there remains at least one more response that is neither genuine nor defensible. It is one that exploits the others, and it is as common as it is denied. Here, the client, developer, builder, and perhaps the architect himself...here, whoever aims to profit from erecting or owning or trading

buildings uses the *language* of cleanliness, simplicity, and unostentation—with phrases like "modern, efficient design," and "lightness upon the earth" thrown in—as an ideological *cover* to produce buildings that are actually mean, cheap, under-endowed, and spiritually emptying for all who live in them and around them. So tinged with unspoken moralism is this game, and with class-related, aesthetic one-upmanship too, that no one dares break the spell, not even the user, anxious lest she appear soft or spoiled or unfashionable.

Soon, anyway, no one seriously expects different. The die is cast.

The irony is that true minimalism in architecture, Modernist or not, was and remains an expensive proposition: from the elegant and resonant simplicity of Shaker homes in rural Maine, to the taut, ethereal spaces of John Pawson in London or Peter Zumthor in Switzerland, to the elemental sheds and sculptures of Donald Judd in the grassy light of west Texas. In architecture as in the other arts and crafts, life-enhancing simplicity-of-design makes huge demands on the precision of manufacture and assembly, on the quality and luster of the materials used, on a generosity (if not superfluity) of space and time and information around the object, and on considerable labor in design and maintenance. Far from being absent, complexity *teems* in true minimalism, and at those tiny, almost-invisible, scales that demand constant intense attention to appreciate. No, the minimalism of art and high-end fashion that designers so admire in the pages of their professional journals—the minimalism that allows them to look down upon the tastes of hoi polloi as just so much kitsch—is really *luxo*-minimalism, as Mies well understood.[34]. This luxo-minimalism, if one can afford it, can be a voluntary and logical response to an overbusy life in an otherwise careless and chaotic world. It can be a quasi-spiritual, Zen-like discipline.[35] But it is precisely the language, imagery, and prestige of luxo-minimalism that offers the Kings of Cheap just the legitimation they need to call their stringently reductive output—minimum-ism—the same thing, and to invite middle-class consumers living in tiny uncurtained condominiums and wearing overpriced black T-shirts to imagine themselves ascetics with trust funds, people who have *chosen* severity over floridity, paucity over excess.[36]

Taken very far, this is not just bad faith, it's bad economics: the sacrifice of *x*-of-value for *y*-of-value when both more-and-better-*x* *and* more-and-better-*y* is what is called for: greater complexity-and-organization, Ω, at all scales, in all things, in every walk of life, in every part of town. Economic progress is not a zero-sum game. Ω is *rich*ness; Ω *is* refinement. Architects should be helping the process of Ω-creation, not hindering it as they do when, under the banner of "less is more," they offer *less for less yet*, often in bad faith, and so help promulgate the spiral

of diminishing investment in the physical environment. Modern or Classical, quality costs time and money. It always did; it always will. Architects may beat this logic today with their ingenuity as designers, but they beat only themselves tomorrow, along with everyone affected by the paper-thin and temporary "elegance" of what they have done.

What's cheap is expensive.

I offer two more cautionary remarks to the architect who would set too great a store by his profession's creativity, if not his very own.

First, in a free market economy, architects exist in implicit competition with every other provider of objects and experiences of value, with every other profession, every other line of business. This competition is for dollars, to be sure, but it is for consciousness first, for attention and care to what the provider provides and (presumably) cares about herself.[37] In this context, by so obligingly celebrating efficiency and so creatively rationalizing cheapness in their chosen field, architects are ceding to the competition and do neither their profession nor society any good. In the marketplace at least, architects have been outflanked and outmaneuvered by the purveyors of stronger medicines with better stories. Rather than standing their ground and proselytizing for their art, rather than telling stories on the one hand and listening carefully to what people value on the other, the "best" architects have instead, especially in recent years, dedicated themselves to serving their capital-supplying masters all the better: with computers that speed, rationalize and simplify design, with redoubled enthusiasm for the engineering of larger, less expensive, and yet more inhabitation-hostile building types, and with sly theoretical postures that make it all right, even admirable, to join the business class and pour concrete sooner rather than later.[38]

Do these dedications demand creativity? Certainly—and a great deal of get-it-done ingenuity that *feels* like creativity too. Do they put money in the architect's bank account? Yes, for a while...until the market catches up and yesterday's extraordinarily economical, even ingenious, "solutions" becomes the today's *modus operandi*...and, rolling up our windows as we drive by, we lower our expectations of architecture yet again.

Where to turn? Perhaps the most perilous of counter-trends to minimalism of the purist sort, but still cheap, is *romanticizing of the look of urban decay*, a trend that caught on in the 1980s but that drew on decades of a certain dystopic literature, ranging from comic books to beat poetry, to the writings, specifically, of Henry Miller and William Burroughs.[39] Examples? MTV's embrace of urban rap and punk-rock in the mid-80s; fashion photography's then-fondness for displaying thousand-dollar outfits in front of graffiti'd walls, peeling paint, and oil-slicked puddles; the art-direction of post-apocalyptic films from *Road Warrior* and *Blade Runner* to *1984*, *Dark Man*, *Dark City*, *Batman*, the *Terminator* series, *12 Monkeys*, *Streets of Fire* or *The Matrix*; and cyberpunk literature like William Gibson's *Neuromancer* or *Count Zero*. In architecture itself, one could cite the drawings of Lebbeus Woods (*Radical Reconstruction* is his latest book)[40] or of Shin Takamatsu, the photographs of Manfred Hamm (*Dead Tech*)[41] or Hilla and Bernd Becher (*Watertowers*),[42] Rem Koolhaas's *S, M, L, XL* and *Mutations*, the industrial-glam designs of Wes Jones, the projects of artists like Mark Pauline (of Survival Research Labs), Gordon Matta-Clark, Edward Keinholz and others harking back to Joseph Beuys and Luis Bunuel, Marcel Duchamp and Salvador Dali, or refer to the fondness generally that architects have felt for the Russian Constructivists of the 1920s and 30s and their enthusiasm, then, for ship yards, steel mills, stadia, and indeed for anything large, tilted, embattled, and emanating power. Architecture students to this day are easily roused by visits to abandoned factories and power stations, will stand enraptured in tall spaces broken and caved-in, misted and tattered, will sift eagerly through the bric-a-brac of long-gone industry catching a stray beam of light. Nostalgia for the actuality of these places? I think not. It is a burning, native desire for complexity-of-place, for *character* in buildings, and the inability to imagine it *produced*, in modern times, in any other way.

And so emerged the train-wreck aesthetic of Deconstructivist architecture of the 1980s and 90s, the shards and bars, the zig-zags and slivers, the raw, unfinished surfaces, and the enormous interest (at the time of writing) in the work of contemporary Dutch architects following the lead of Rem Koolhaas in proposing new ways to "re-program" the least expensive kinds of construction—the kind used for warehouses, parking garages, and industrial buildings—for cultural and domestic uses like concert halls, libraries, and apartments. The desired effect? Bunker-with-chandelier; the air of an underground nightclub in east Berlin; buildings bald and lean, willful, wired, and tattooed.[43]

Now, without a doubt, there is an aesthetic thrill to be had in contemplating the sublime—the fierce and unyielding, the "terrible beauty"—in arts, for example, of painting and music. Art presumes a safe distance. Art represents. Art can be put away. But in quotidian architecture, which is real, which is for ordinary people, and which is *there* all the time, inescapable, what can the embrace of neglect, decay, and deterioration by designers lead to but kitschy and unconvincing simulations of it on the one hand (as in themed restaurants and clubs) and easier acceptance of real thing on the other? Surely the search for visual complexity and density of character need not lead architects and their economy-hungry "patrons" to seeing bombed-out inner cities as glamorous, deserted factories as beautiful, or wasted young models as lovely ("heroin chic"). Outside of the photography studio, only real pain creates these "effects," only real poverty and real neglect; and it offends morality to aestheticize—let alone cause or permit—the real suffering that alone makes such effects authentic. Beauty may bloom in the eye of the beholder, but that does not mean it makes no difference how it came about.

What are the alternatives? The cheery confections of New Urbanism: the lawns, the village shops, the pretty porches all in row as at Seaside or Disney's Celebration in Florida? The glittering movie-set architecture of Las Vegas or Atlantic City? Congeries of tall office towers at sunset, as on the cover of a Chamber of Commerce brochure? Hay-bale houses and windmills? Giant metallic squids covering five city blocks, strangely fluid and folded and slashed? A return to classicism? Taken as ideals, these images are just as disquieting to the architect in search of authentic and complex beauty as those invoking the gritty accidents of environmental deterioration.

So come, let us think of an architecture that is neither *Blade Runner* nor *The Truman Show*, that is neither stripped nor overladen, but that in its worthwhile difficulty lifts us up, one and all.[44] Far more than style is at stake.

II. Eighteen Proposals for Revaluing Architecture

These last few pages have been rather critical, on the supply side, of the architectural "scene" of the late 20th and early 21st century—critical of architects for their fiddling while Rome burns and for their complicity with Gresham. They have been critical also, on the demand side, of the dominant American culture, which, obsessed by personal freedom and the need for continuous shopping and inexpensive entertainment, seems unwilling or unable to register the

general decline of its landscape and want better. It is in the space of this disconnect between architecture's promise and the public's attention that developers, bankers, building committees, and city officials are able to ply their trade with increasing keenness, to take profits where they can and to save their institutions' funds for better uses than architecture.

Now and again, essays in *The Atlantic Monthly*, *The Nation*, *Harper's*, and the like take up the topic of this "disconnect." Certainly, over the last twenty years or so, raising awareness of the problem has provided the staple content of editorials in professional journals like *Architecture*, the late *Progressive Architecture*, and *Architectural Record* (the official journal of the American Institute of Architects). Here, architects are (gently) chastised for not being more attuned to the needs and desires of their clients, or their clients are chastised for not being more attuned to what architects can offer.[45] But no short treatment can get to the heart of the problem for the simple reason that the heart of the problem is not simple. One cannot, in the space of a few paragraphs, do the necessary work, which is to arrive at an understanding of nature and human nature, history, culture, and our present economic system that can begin to explain the situation in which architecture and the physical environment generally finds itself today. Providing such an understanding is what this book has tried to accomplish. If we really understood how value "works," I have implied all along—if we could really understand, in a new and basic way, what people want and how they interact for mutual benefit—then perhaps new *modi operandi* could evolve for bringing the world closer to being more prosperous, just, and beautiful everywhere.

In many places in this book, for example, I have argued that certain American "core values" taken too far—like commitment to personal freedom[46] and faith in the wisdom of free markets—run contrary to achieving the deeper and more universal goal of a net increase in the duration and quality of the life of every living thing, this in a global system of every-increasing complexity-and-organization in communications, trade, thought, and manufacture. It follows, as I argued in Chapter Ten, that ideologies and styles and laws that promote simplicity or disorganization—or worse, that promote them together: simplicity-and-disorganization—deserve our strongest resistance. For most often by far, greater simplicity yields only cheapness, and greater disorganization only uncertainty giving the illusion of freedom.

Peruse, on any day, the Recent Non-fiction shelves of a bookstore and you will find more than a few books taking American-style capitalism to task, lamenting what the marketplace has done to our values, and advising us to remember our spiritual and altruistic sides. You will

find an equal if not greater number of books that celebrate American-style capitalism as well as promise some new business insight or advantage. In short, debate is not lacking about "values," business, and the "new global economy." But whether the political persuasion is left or right, only a handful of such books discuss the *environment* at any length, and those that do discuss it mainly in natural-ecological terms, i.e., in terms of resource management, pollution control, habitat preservation, the sustainability of growth, or the fact(/non-fact) of global warming. Architecture *per se* is conspicuously absent, not important. True, urban sprawl is often scolded for wasting land and squandering energy, but this is done in a most generic way:[47] When it comes to The Environment, *buildings* are a fact to be dealt with generically. How much ground buildings cover, how much energy they consume, how much space they provide, how much parking they need and traffic they generate...these are the salient facts for the planner-economist-environmentalist; architecture is just their styling. Irrelevant to these discussions are how well these buildings are designed or whether the experience of being in and around them would make some level of prior environmental "destruction" entirely worthwhile.[48] In the absence of architecture worth wanting, who would *not* be in favor of preserving every stick and stone of The Environment as is?

In any event, a vicious circle forms, a slow-moving whirlpool: the worse the architecture produced by "development" gets, the greater becomes the incentive to resist development and save open space and nature. Likewise, the more money is spent (or profit is forgone) in order to save open space and nature, the less can be spent for creating the sort of architecture that people would not want environmentalists to protect them from.[49]

As one might expect, the literature of urbanism and urban design is better at discussing architecture's impact; although not since Lewis Mumford has there been a writer capable of linking issues of architectural design to city-life as lived, as well as to matters of contemporary cultural interest, with the depth, seriousness, and consistency of vision that the task requires.[50] In the closing decades of the 20th century, the art of urban design became that of producing appealing aerial renderings of some section of the city redone—all avenues and lakes and clever diagonals—together with a roster of square footages and use-zones that would please city officials and developers alike for its "economic viability." What would materialize years later, however, and after many, many *meetings*, was nothing like the renderings of course—no kids with balloons,

no tree-shaded sidewalks bustling with prosperous citizens—but just *real-estate*, bulked up in the last weeks of negotiation about density and "value-engineered" to within an inch of its life.

For its part, in academia, the literature of design and design theory in the last decades of the 20th century was all but bereft of informed discussion of architecture's larger role in making the world the way it is. From the design studios there issued "intervention" after "intervention" (a favorite word, for a while, for buildings in an urban context) offered up as addressing contemporary economic and cultural conditions but using not a jot of relevant knowledge in the area—no economics, no sociology, no psychology or politics, nothing empirical about the uses or pleasures of buildings. Serious political and economic histories of the city lay unread.[51] Instead, liftings from the thought of European (mainly French) philosophers of Modernity and a few snappy phrases of home manufacture were deemed sufficient to explain projects small and large, even to motivate them. Graphical manipulations of city maps generated a requisitely complex underlayment for formal invention. While real urban development proceeded along purely business lines, in academe, the resulting "practice" of urban design could only be called architectural shamanism—with "critical theory" providing the requisite vocabulary and tokens of historico-intellectual legitimacy. Writers of the caliber of Kenneth Frampton and Herbert Muschamp who were willing to explore modern architecture's socioeconomic ambitions quite closely and with a minimum of postmodern jargon had to tread a fine line between continuing flattery of present-day design heroes on the one hand and providing any realistic account of the reasons for architecture's peculiar and reduced role in the modern world on the other. Writers like Edmund Bacon (with his perennial *Design of Cities*) offered survey material but little of challenge or real insight to designers.[52]

As of this writing, only Rem Koolhaas and his collaborators, with their graphically powerful 2001 book *Mutations*, have begun to challenge architects to confront the crude realities of present-day urban conditions. Unfortunately, as Koolhaas admits, it is only with "statistics and intuition" that he and his collaborators are able to argue their case.[53] *Knowledge* of how modern urban systems actually work, and theories of design adequate to the task of ameliorating urban life—theories that architects can safely use because they (the theories, that is) are *based* on such knowledge rather than only statistics and intuition—remain to be developed.

As matters stand in architectural culture, the "hotter" the designer the less persuaded he or she is what s/he reads in books than by what s/he *sees* in them; and so even if complex, knowledge-based theories of design were to be worked out, few designers would adopt them. In the world of design, theory is servant to *new form*, its main use being to provide talk: a kind of background patter—braided with history, dotted with neologisms, and wrapped in mystification—aimed at inducing a pleasant vertigo in the listener, a comforting sense that there is a reason for everything. Theory that justifies new form lives on; but it lives on *not* until the theory is proved wrong, but until the formal invention it supports no longer seems new. Few designerly architects believe that their creativity should extend to the realm of law or business or human relations, and fewer still believe that this other creativity could or should be exercised by them on behalf of *all* architecture, not just their own businesses.

I paint, I know, an unflattering picture of my beloved profession, which ranges in its membership, anyway, from creative auteurs out to make their mark whatever it takes, to servants-of-society who want nothing more than to do no harm and make a living. Readers finding my judgments harsh would say that there are too many handsome buildings and urban projects done by intelligent, well-meaning architects to indict a whole profession and almost a century of its production so sweepingly. Surely environmental banality and blight is the fault of two world wars, of massive urban population growth, of bad governance, poor planning, political chicanery, highway pork-barreling, developer ambition, banker greed, capitalism itself, etc., etc., etc. Surely, in other words, it is everyone's fault *but* architects', poor fellows, poor dreamers, who in terms of their real power anyway are as a single hair on the tail of the dog of History.

But to this apologia one must ask in return: is this powerlessness something to be proud of? What is the use, dear colleagues, of shedding a tear as we drive through the shamble of car lots and underpasses that have eaten up our cities and towns? What is the use of straining a condescending smile at the hotels in which we convene, with their air-conditioned yet airless "atria," Christmas-light elevators, and plastic trees, if, with our superior knowledge, we take no blame for any of it on the one hand and, on the other, have not even *begun* to conceptualize how we might steer the engines of commerce towards creating a prouder American environment?[54]

This last problem is the one to which I now turn with more specific proposals. Based on the theory of value developed in earlier chapters, and numbering eighteen in all, my proposals fall into four general groups:

- Group I: proposals that would help persuade more people to value the quality of built environment more highly, numbered 1 through 5,
- Group II: proposals that would evolve or reform certain of the attitudes, beliefs, and practices of architects and the way they are educated, numbered 6 through 11,
- Group III: proposals that would emend some of the contractual and market relationships that presently obtain (mainly in the U.S.) between architects and others, numbered 12 and 13, and
- Group IV: proposals for new legislation and/or financing methods that would help bring about better buildings and environs for all, as well as stimulate economic development and progress, numbered 14 through 18.

Not all of the proposals I offer are equally likely to be adopted in the rough and tumble of life. If only a few were, however, they could make a difference.

Group I:
Proposals that would help persuade more people to value the quality of built environment more highly

Proposal 1. Addressing more needs in thought and deed.

It is entirely natural for people to stop noticing their fixed surroundings. The streets, buildings, and rooms of our lives recede. They become the background of social occasions, mere venues for the comings and goings of particular people with particular messages and things for each other. Seeing the environment itself as figural occurs only when we have intentions to act in ways that our surroundings positively helps or hinders: Perhaps we are visitors looking for an address. Perhaps we are trying to hide, or waiting for a friend, or looking for a nice bench to sit and eat lunch on. Under these "instructions" the physical environment suddenly three-

dimensionalizes—de-neutralizes, as it were—and becomes a field of obstacles and opportunities, of spaces, devices, materials, and configurations that have value.

Another way for the environment to be seen as figure rather than ground is for its character to be an essential part of one's *business*. There goes a movie scout on the prowl for good locations; there is a climber "sizing up" a mountain; there's a realtor assessing a building's worth, a detective surveying a scene of a crime, a painting contractor figuring out a bid, a photographer on a fashion shoot...and so on. These people are in the business of noticing what the world affords them and what it looks like. Certainly, architects move about the world with the intention to act in it by acting *on* it. This is their business. And as though to make matters worse (for it becomes an obsession), everywhere architects go they see the environment not only as it *is* but as it *could* be, and the tension between the two causes a sort of ache, a need to rectify the world that remains largely unfulfilled. Weekends included.

I mention the architect's view in this context not to talk about architects again but because something of the "architect's ache" is what ordinary people need to feel if they are to begin to see the built environment with any vividness or appreciation for how it affects them. The way the world looks and feels must become, in some way, their business. They must know that better is possible, and imagine it possible for *them.*

Is the solution, then, to send (or entice) people by the hundreds-of-thousands to architecture school? Not exactly. Even though they would be exposed, there, to images of the planet's finest designed places and be stimulated by *possibility,* most architectural educators are themselves not very good at elucidating the myriad and subtle ways that the environment affects us. They, too, gravitate towards propagating clichés about remarkable buildings in the canon, and their slide shows—parades of great buildings—all too often generate only a feeling of remoteness, like looking at postage stamps from far away places. Just as economists take property law for granted even though their entire discipline depends on its subtleties, so too do architects take a great deal for granted that is foundational to their enterprise. Even *given* an audience, I am saying, willing to hear how, exactly, good buildings are essential to the good life, it is not at all clear that more than a handful of architects in the academy or in practice could make a *prima facie* convincing case.[55] Needed is a conceptual framework for seeing architecture in the fullness of its action. And the best framework, I propose, is the story of how architecture addresses all of our needs: for *survival,* for *security*, for *legitimacy*, for *approval*, *confidence*, and *freedom,* as presented in Chapters Three and Four.

A book could be written about each need and how architecture specifically has a hand in satisfying them. Over the next few pages I offer only a hyper-condensed outline of how this account might go, together with a sprinkling of critical commentary.

First, architecture addresses the need for ***survival:***

We trust that buildings will not fall down around our heads, or burn at a spark, or rot away before our eyes. We count on them to protect us from sun and heat, from rain, from wind and cold, from animals, insects, and projectiles—sand, stones, spears, bullets... We trust that the water we drink from their pipes and the air we breath from their ducts is not poisoned or diseased; we trust that their edges will not burn us or cut us, scrape us or stab us. We store vital food and fuel supplies in our buildings; and the waste we produce in their consumption—from garbage to sewage to bad air—must be isolated and quickly moved away. Buildings hide us from our enemies. No matter how elaborately or simply, the first obligation of all habitable buildings is to do these survival-related things. To be called *architecture,* buildings must do these things mindfully and well.

But what does this mean, "mindfully and well"? Precisely this: that the *way* buildings meet our survival needs (or any of our higher needs, for that matter) is made comprehensible to eye and ear, and that they provide the highest degree of satisfaction possible with current techniques and technologies. Not surprisingly, meeting these two criteria tends to increase a building's complexity-and-organization at several scales, and to increase also, with near certainty, the cost of its construction.

At the limit, survival needs manifest themselves in the desire for supreme physical cleanliness and comfort: the perfect temperature and freshness of air, the pleasurable feel to the touch of every surface, the absence of glare or noise, dust or grime, effortless access to victuals, water, sun, and so forth—Baudelaire's *luxe, calme et volupté.* Sometimes, of course, a measure of physical discomfort or risk is sought precisely in order to provoke the need, to un-dull the palate. Would it not be interesting to discover that the health benefits ascribed to the Mediterranean *diet* (rich in olive oil, bread, vegetables, wine, etc.) were really due not to the diet but the Mediterranean *environment*:: its sunniness, its ancient fields and towns, the pedestrianism and sociability brought about by the architectural conventions of street and square?

In deciding what and how to build for whom, satisfying the need for survival has significant trumping power over all other needs, just as our theory of value says it should.[56] Our theory says

also, however, that the pursuit of *greater* satisfaction of our survival needs beyond some culturally-defined level of "enough" would yield diminishing returns, and so we would turn to satisfying our need for *security*, which is to say, our need for goods and tokens that seal over and all but guarantee that we need not worry about survival, and that prepare us for higher things.

When satisfying the need for ***security*** we look to buildings for protection: protection from trespass or seizure of person or property by others. We also begin to think of them as property themselves—as the "castles" that each man's home is—with walls and gates and doors and locks, with more subtle boundary and ownership markers, with signs and electronic "security systems" and patterns of visibility designed to make our "castles" defensible.[57]

We want not just firmness but reassurances of future firmness. And we want *privacy*: that is, control over flow of information to and from our bodies, and in and out of the spaces we are in. When indoors we want to feel oriented and connected to the outdoors, however minimally. Thus *windows*: not only for light and air, but for view; and not just for "picture-views" as could be provided, say, by paintings, photographs, or video monitors, but as three-dimensional, if weightless, "beams" of light-borne information radiating seemingly outward. These lock us to the layout and life of the world outside, and prevent, as it were, the room's rotation. (Consider how disorienting is the experience of a windowless elevator...)

A building's size and location suggests its owner's *power* too, which is the ability to affect another's security, and an ability that even the humblest of us must feel capable of exercising if needs be.

Once again, the difference between buildings and architecture lies in the extent to which, and artfulness *with* which, these needs are both addressed and met. For example, conveying a sense of reliability and regularity (which makes us feel secure) extends beyond how insistently a work of architecture shows off its structural components...to how sensitively it renders-perceptible the rhythms of time-of-day and season. The latter is a far more subtle affair.

Subtle also are the positive effects of proximity to non-threatening animal life. This contributes to feelings of security on the ancient logic that nothing fearful could be imminent or close...if the "wild" animals nearby are happy.[58]

So rudimentary are people's expectations of architecture-provided security, however, that many architects, rather than attend to further subtleties of the matter, turn to playing games of dare with security needs and to easier-won applause. I mean: invisibly thin glass walls, improbably

long cantilevers, "impossibly" slender or irrational structure, leaning and/or slaloming walls, vertiginously tall spaces and bridges across them, atypical juxtapositions of functions, provocative openings-of-view between public and private, and so on. Played well, these games both stimulate *and* satisfy our need for security. Like carnival rides, they seem dangerous but are safe. Transgressions are only apparent. And when played well (as, for example, at the Guggenheim Art Museums, both in New York and Bilbao, these games turn into art—or at least *an* art—the aim of which is to appear to others *not to need* to feel secure. (Which, of course, functions as a *sign* that *ipso facto* makes one truly more secure, at least in the social realm).

With this we begin to see how architecture, just as soon as it leaves concern with actual survival behind, enters more and more fully into the psychological economy. Which brings us to our next need, *legitimacy*.

Announcing social identity, establishing authority, laying claim to property, distinguishing people's membership of different institutions...these are some of the ways that architecture conveys ***legitimacy***. Just as grand and permanent forms of architecture once underwrote the legitimating power of the state (and, to a great extent, still do), so the scale and quality of religious buildings world over have long "instated" the ultimate authority of God (or of various gods). As is often noted, these models of legitimation-through-architecture are often emulated by other legitimacy-granting institutions such as schools, universities, museums, and courts, and these are in turn reflected in the homes of the wealthy.[59] Also well understood is how a city's naming of streets, squares, and buildings after prominent citizens conveys legitimacy to the person honored or their surviving family. Simpler yet is when building-names are bought (for money) by those seeking a shard of the state's legitimacy: think of the number of hospitals and medical centers, art museums, laboratories, libraries, stadia, campus buildings, and the like in your town that bear the name of a man or woman you would not otherwise know about.[60]

Or consider these deeper and less spoken-of matters: In order to be regarded as a person with social standing, one must have a physical address, the "better" the address the better, and the more permanent the address the better. A business card alone will not do. Nor will a website, postbox number, or phone number. Also, one must come *from* somewhere—from a town or school or university that is itself known as a place where people of standing come from and that itself has some landmark feature.

Buildings, unlike people, require permits to exist—"papers." Or is this, rather, *like* people? Do we not have birth certificates and social security cards and passports, and our parents marriage licenses ("building permits") to ensure we are legitimate?

Certainly, it matters whether one has a large office or a small one, with or without a window, in the middle of the building or at a corner, or on a lower floor or a upper one. The metaphors "volume = dominance" and "position = (social) status" cleave to their primitive, spatial roots. The same kind of token is emitted when one takes up a position at a boardroom- or dining room table. Ditto with assigned parking spaces and keys, with name boards and executive washrooms, and with bedrooms at home (the one nearest the kitchen or at the end of the hall, with or without its own bathroom, etc.)

Architectural styles *qua* pure styles, quite apart from whatever sensory and aesthetic pleasures they afford, are strong indicators of social class. So is the state of upkeep of a building and its grounds. Feelings of cultural belonging are often contingent upon living in buildings that refer to the upper-class historical styles of the region. Games of dare have their place here too, as when an architect (and his or her client) skirt the edges of social acceptability with the building's design, this in a bid to become taste *makers* rather than followers, in the attempt to become style "authorities."

Furnishings complement and complete the picture: *who* you are and *where* you are are tied together.

In all, when it comes to tokens of legitimacy and their accompanying "force," which I identified as *authority* in Chapter Six, we read the environment with an acuity that comes close to the acuity with which we read other non-verbal tokens and signs, such as faces, gestures, clothing, and accents.[61]

As we saw in Chapter Three, the need for legitimacy shades into the need for ***approval*** just as soon as issues of official validation fall away. But in democracies, we noted, there is often a reversal of order. In democracies, other people's "purely social" approval of us—of our appearance, demeanor, past behavior, and ideas for the future—can become prerequisite to our being granted legitimacy and its authority, and not the other way round. (This is what it means to be *elected* rather than to be appointed or rise through the exercise of power.)

With buildings, a parallel system for obtaining legitimacy through approval prevails.

First, buildings can literally be gifts expressing approval, as when a wealthy donor anonymously finances a campus building, a mogul builds a Taj Mahal for his beloved, or an NFL star buys a house for his mother. But more basically, construction permits (= licences) must often be won not only by proving to city officials that the proposed structure would meet legal standards of size and safety and location, but by persuading neighborhood members that it would be a value-positive addition to their neighborhood. That is, it often requires local citizen *approval* of its aesthetic, social, and economic impact on *them*. And this puts friendliness and persuasion above authority and coercion. Not only might he not be able to rent it out, but the owner of a building rejected or disliked by a neighborhood runs the risk of having his investment vandalized and himself ostracized, de-legitimated, at least until resignation sets in.[62]

Constructing buildings in styles and with materials of which our neighbors approve is one of the ways in which we seek their favor, even when we are legally at liberty to flout their wishes and build what and how we please. This lends a normativity to design that rankles individualists and creative architects. (Those damn aesthetics committees!) But, of course, there is another side to the matter. Buildings that are accepted and liked are more likely to be cared for and preserved. They are apt to maintain their real-estate value. Admired buildings also reflect well on their inhabitants, designers, owners, financiers, builders, and neighbors, and this adds directly to social capital. They are sources of pride (approval) as well as identity (legitimacy) and even *dignity*, a right to which *places* have as well as humans.

All this commentary is from the outside, as it were: the building itself seen as a citizen among citizens. But inside, too, admirable buildings are careful to provide spaces for respect and admiration, not just *of* their own interior effects and artifacts, but *between* people. For example, rather than making large interior spaces uniform in character and repetitive in division—this under the (impossible) instruction to distribute prestige equally—good architecture allows distinctions in the social realm to find appropriate physical location and form, and allows all classes of people to go about their lives in dignified and dignifying surroundings. This is true especially of work environments where opportunities for workspace personalization, for the formation and gathering of small groups expressing their own preferences, and for the creation of circulation patterns that increase both serendipitous and formal human contact, as well as protect privacy, are most important.

And why should not every room, in the way it is colored and lit and furnished, make its occupant look handsome, healthy, smart, beautiful...worthy? Louis Kahn liked to call a (good)

building "a society of rooms," each room, like a person, having its own center, structure, light, and dignity. What better principles of design could a liberal democratic society ask for?

Near centers of power the circulation of approval tokens, which are lighter, more "purely social," overlaps with the circulation of legitimacy tokens, which are heavier, more political and tied to structures of authority. Indeed, it can become hard to distinguish one kind of token from the other, and this by design. I raise the subject here, though, to point out how the circulation of both kinds of tokens can depend on the "circulation" of people in a quite literal, architectural sense: the orchestration, in conspiracy with a building, of who sees whom, when, how often, for how long, and under what expectations of privacy.

Responding to all these considerations adds considerable complexity-and-organization to the design of buildings, of course. The ones I have mentioned represent just a few examples of the ways in which works of architecture can themselves constitute sources of approval tokens, as well as promote (or hinder) their trade among people.[63]

Feeling sufficient approbation, ***confidence*** becomes the next most urgent need, in part for itself, in part because it is prerequisite to achieving what we have been calling well-founded freedom. With confidence, a certain spontaneity enters our behavior, a willingness to be unpredictable, to do certain things "come what may." Having paid our dues to convention, law, and duty, and having earned some considerable affection from those around us, we fear no serious fall.

Architecture can play a part in bringing about this state of mind. We see this when a building seems somehow *fresh* in design and condition, that is, when it seems forward without seeming pushy or callow or cheap, when it looks new but in no way raw or unfinished, when there is a touch of abandon, of promise, of adventure, in its forms and patterns and colors. Upon entering buildings like this, the feeling rubs off.

Are "fresh" buildings stylistically strange? Not very, and certainly not necessarily. They can follow already-admired traditions quite closely but *execute* them with élan, the way a skilled jazz singer plays with the phrasing and emphases of a "standard" song and gives it fresh meaning without ever disrespecting the original.

Now, certain of the "games" I listed earlier that architects play with our feelings of security can also produce feelings of confidence. But they can also undermine them, as when architects make daring forms that the building's inhabitants (and neighbors) soon habituate to and

find pointless, or don't ever habituate to and then find endlessly irksome. In both cases, it is the *architect's* need to show confidence in his or her medium that is satisfied, and no one else's. (Ditto with design games involving provocations of our *other* needs by omitting or reversing the gestures required for their satisfaction.)

A confident building is not so much *dramatic* as unapologetic in its siting, materials, and form. Secure in the knowledge that whatever it replaced was of less *value*, broadly conceived, it does not squirm in form or try minimize its "impact" by bobbing around every boulder and mound, or by dodging every tree ("excuse me, excuse me..."). It does not camouflage itself with rustic or reflective materials; it does replicate its neighbors. It does not cower; it does not try to reduce its scale by "breaking itself down" into parts or refusing (as though it could) to cast a shadow. It does not shrink from evidently having cost some money, but nor, at the other extreme, does it try to impress with its expensiveness. Architecture that is confident of its quality and *raison d'etre* stands up straight. It adds *to* the public world; it does not free-ride on what others have done. It asserts its right to be where it is in the fullness of its presence, significance, materiality, and emptiness, along *with* nature and other buildings.[64] It does not mind that we are endlessly curious about how it achieves its liveliness nonetheless. It will happily teach us how it works. But only if we ask.

Feelings of confidence, in so far as they are induced in us by the designed environment, can also result from the type of legal and economic relationship one has to it. Are we at home or visiting, a resident or a tourist? Are we owners or renters? The degree of control we have over our literal *place* in the world, together with our familiarity with that place, make a difference to how *confidently* we act in it. So does the presence or absence of other people. These are issues which architects can address.

Finally, ***freedom***, America's supreme value: how does architecture help bring it about? We know that for our freedom to be well-founded it must be based on the adequate—if not ultimate—satisfaction of all the lower needs. For without this our freedoms might be many, but they are fugitive and shallow. This means that for architecture to help bring about well-founded freedom, it must significantly be satisfying the needs we have already discussed, or at least be able to depend on *other* areas of life to be doing so.[65]

To get some purchase with a slippery subject, let us begin by looking at the freedoms underwritten by the First Amendment. How does architecture participate in making them real?

Freedom of speech and assembly: see how architecture supports and even inspires rallies and convocations with steps and backdrops and squares; how streets allow marches and parades with sidewalks and staging areas and destinations. Events such as these in the past, witnessed and recorded, become examples to others of what is possible.[66] See how storefronts and newsstands and billboards fill the visual air with persuasions and news, how restaurants, coffee houses, bars, clubs, and malls provide destinations for people to meet and cultivate extra-familial relationships, and how, when at their best, cities are laid out so the rich see the poor and the poor see the rich and neither forgets their dependence on the other.

Freedom of faith and religion: see how churches and synagogues and mosques and "dharma centers" and Baha'i temples enjoy not just tax protection but zoning protection too; how their doors are open to all.

Freedom of movement: see how our streets and highways and air lanes throng with people exercising their freedom to be *wherever* they want *whenever* they want, and see how architecture cooperates with driveways and drive-throughs, parking lots, garages, new road side building types, suburbs...indeed, with the entirety of land-use patterns in modern cities. And what is the soundest argument that traditionalists can use to persuade Americans to prefer environments of the pre-modern era? Surely not their civility or beauty (at least not so far, because that is to appeal only to nostalgia), but the argument that by obviating traffic and parking problems through higher densities and public transit, neo-traditional plans can, on balance, provide *greater* freedom and ease of movement towards objects of desire.[67]

The American romance with freedom has long influenced architectural ideologies and styles, and continues to do so. Freedom requires space. Deeper than that, freedom *is* space, real or abstract; and space is what architecture shapes in both realms (although sharing the second with law). Consider how quickly America embraced the *raumplan* or "space plan" as the generator of its architecture, and *bürolandschaft*, or office landscaping, as its commercial interior standard. Or consider how, in the residential realm, Frank Lloyd Wright could "destroy the box" and give us not the intricate dance of weightless but enclosing planes (as van Doesberg had done with the same idea in Holland) but, with broad roofs and dissolved walls and removed corners, evoke instead liberatory images of settling the West and the wide open prairie. Indeed, with his potent mix of style and rhetoric, Wright almost single-handedly established the rambling, open ranch house as America's suburban ideal.[68] And here is Frederick Law Olmsted, the great landscape architect, putting his finger on exactly why *American* citizens needed urban parks:

"the feeling of relief...from the cramped, confined, and controlling circumstances of the streets of the town; in other words, *a sense of enlarged freedom*.."[69]

And consider how many long-span, lightweight structures, once used only in factories and train stations, today provide column-free space for "maximum flexibility" and "unobstructed views" for a wide variety of building types, from office buildings to shopping malls to high schools.

All this architectural "openness" has its economic advantages too. Set aside the (often only putative) benefits of flexibility-of-use. Skylights, large windows, and the easy "flow of space" from room to room (or better, from "area" to "area") all tend to make interior space seem larger.[70] This is because each room free-rides on the visual volume of the next, and the building as a whole around its edges free-rides on the space outdoors (which it "brings in"). Advantage? The larger the apparent square footage of a building or leasable area, the slightly greater is the price that can be asked for it.[71] Complementary is the advantage of not having to provide as many room-making walls and doors in the first place. In addition, ceiling heights can drop, and partitions, glass doors, window-walls, and fixed-glass "picture windows" can be used that are cheaper to construct than the equivalent area of solid wall.[72] This delivers freedom twice over: once in feelings of greater freedom given by spaciousness per se, and once again in the *money* saved by faster, thinner, emptier construction. This grants us the freedom of choosing how to spend the money saved on other goods.

In all, the rhetoric of Modernism in art and architecture and the rhetoric of freedom in politics and economics have gone hand in hand in the U.S. since at least the 1940s. They were well suited to each other. This is not to say that their association was without salutary results. Americans have indeed created for themselves a society of unprecedented physical mobility and economic opportunity. In more than just a geographical sense, America's *openness*—to new ideas, new technologies, new art forms, new neighbors, products, jobs, living arrangements, and subcultures—is the envy of the world. One only wishes that her architecture and countryside, which did so much to make these freedoms real for millions of people in the 20th century, did not also have to pay so heavy a price in quality.

It is easy to forget, in our adulation of freedom and openness, how important *exclusion* and *privacy* are to the realization of the freedoms offered by architecture. It is the *closed* door to the bedroom, after all, that allows intimacy and ease behind it; it is the *closed* door to boardroom that allows executives to speak freely of company matters. It is the right to *exclude* others from

private property (making them *less* free because it forbids them access) that allows free markets to flourish. Without walls and doors, there is no freedom, only embarrassment and conflict. Without rules there is no freedom, only chaos. Complexity is not enough; "potential" is not enough. As we have seen throughout this book, an equal measure of *organization*, a structure of limitations, is required for life to flourish.

Over the last few pages I have offered a brief tour of some of the ways in which architecture addresses (or fails to address), satisfies (or fails to satisfy) what in Chapter Four I identified as our six basic human needs, namely, survival, security, legitimacy, approval, confidence, and freedom. My advocacy is this: that architects should think harder about how what they produce satisfies *all* human needs, and then concentrate on how to refine and defend their work on this basis. After all, if ordinary people are to value architecture more highly, they first have to know how and why it matters to them.

If, beyond this, people are to *love* their surroundings regardless of its condition, they must have hope for its future, forgiveness for its past, and trust in present efforts to improve it. They must enter into a relationship of engagement with the physical world rather than one of indifference or hostility, and this on all fronts, over all needs.

An important first step is showing how architecture addresses our needs at all. This is what I hope to have done in the last few pages, albeit in bare outline. The second step is to figure out how architecture might address human needs more fully, more completely.[73]

Proposal 2. Raising the standards of necessary and sufficient satisfaction with respect to architecture.

It's one thing to recommend that architects increase the number of needs they address (and satisfy) with their work and also the number of ways that they do so. It is another thing to recommend that minimum standards of acceptability (on the consumer side) somehow be raised. "After all," people will ask, "just *how* safe, *how* legitimizing, *how* confidence-inspiring, etc., should (or need) a work of architecture be? How much is *enough*?"[74]

Some would say that the average American has already answered the last question, at least implicitly. Look around: people have "revealed their preferences" with their money and with their votes. To judge by the results it would seem that people don't *want* any greater

satisfaction from architecture or the physical environment, or at least, not if it's going to cost them one dollar more in construction cost, rent, or higher taxes.[75] An economist might describe the situation this way: that the marginal returns to (spending more on) environmental beauty are presently set equal to or below the marginal returns to (spending more on) any other good. Implication? Quit complaining.

Of course, we *are* complaining. The decline of environmental beauty is precisely what we are trying to halt, if not reverse. As marvelous as they are, markets, we have learned, are not all-wise and all-knowing in how they call forth goods and distribute them. They are never at equilibrium: prices and priorities are in constant flux. Moreover, markets themselves have "likes" and "dislikes:" goods they handle very easily (commodities) and goods they don't (architecture, defense, education). Markets have grooves they fall into, accidents they magnify, inputs they ignore, and so forth.[76] So it is not necessarily the case that the way the environment looks is how each of us *wants* it to, even though, individually, we make perfectly rational decisions with respect to it all the time—given the choices we face.[77]

Nevertheless, until we are willing and able to modify market mechanisms themselves, a possibility we will discuss later, we ought to proceed *as though* markets did indeed provide people with what they want, or at least provide most people with they want most, most of the time. This makes our self-given problem figuring out how to make more people want a more satisfying environment more keenly than they (apparently) do.

Well, we cannot *coerce* people into wanting (more of) what we want them to want (more of). But we certainly can try to *persuade* them.[78] This is how free markets work in a democratic society, and why persuading people to value architecture more highly is such a competitive exercise—what with all the other arts and professions and businesses claiming "extra consideration" too.[79] Let us turn, then, to thinking about tactics of persuasion. We have some theory to help us.

In Chapter Five I identify three types of persuasive (i.e. non-coercive) "force," namely, the forces of *example*, *encouragement*, and *flattery*. (These are associated with the three higher needs—freedom, confidence, and approval—respectively.) And in Chapter Six I gave names to four kinds of goods whose value resists diminution by consumption (i.e. that resist the law of diminishing marginal utility), namely, *climactic goods*, *gifts that keep giving*, *goals that keep receding*, and *addictive goods*. It would behoove architects to learn how to describe their goods

along these lines, if only tacitly (i.e. without exhibiting the theoretical machinery behind them). Rather than repeat material from previous chapters, I offer some provocations for discussion, starting with the three persuasive forces: *example*, *encouragement*, and *flattery*.

Persuasion using example. Architects need to do a better job of exposing ordinary people to the best of what they do, and they should stop looking down upon those of their colleagues who succeed. In the U.S. there are several high-circulation "shelter" magazines, and even a 24-hour cable channel (HGTV) devoted to architecture at a residential scale. More architects need to "lower" their sights to being featured in/on them.[80] Some schools of architecture and local chapters of the AIA sponsor tours of new, architect-designed homes, as well as trips to foreign countries. Programs such as these could be increased in scope, frequency, and variety by a factor of a hundred or more before any economic or social impact would be felt. Only a few major newspapers cover events in the world of architecture: usually the completion of new and remarkable buildings in their area. More papers around the country need to do the same but with a broader definition of "architecture," this so as to include articles about local *places*, about their history, character, and present and future uses.[81] Indeed, I would argue that the "Travel" sections of national papers like the *New York Times* are their true "Architecture" sections, precisely because so many of the articles in them are not just about museums or noteworthy buildings but about the sights and sounds and smells of appealing physical *places* in the world—about parks, marketplaces, waterfronts, streets, restaurants, neighborhoods and districts, old *and* new, about their history, and about native ways-of-life in and around them. Immersion in the complexity of the built world delivers to us the substance of architecture as much or more than subjection to the targeted effects of certain landmark buildings.

The vast majority of people, anyway, have not seen excellent architecture, let alone lived in or around it. In partial compensation for this, popular movies can be important. After all, special-effects extravaganzas aside, movies must be shot *some where*, and directors are especially sensitive to how their film's locations will establish the mood and character. Do audiences look past the actors to make note of the places the actors are in? Probably not much, and not consciously. People watch *people* most intently. But the film medium's inherent strength in conveying place-character, a strength not shared by television, could be taken further. For example, a deftly-narrated series of films in 3-D *IMAX* format of the world's great buildings and life-rich places—from the Taj Mahal and Chartres to the market hall of Guanajuato to Times

Square to the Guggenheim in Bilbao—could, I believe, be both a financial success and a small but significant stimulus to raising expectations of architecture in general, here and now.

Let's talk about the producers of architecture for a moment. How do architects themselves find examples to emulate? Laden with cameras, many travel. Many look at books. But architects depend most heavily on their own professional press. (In America this means two journals: *Architecture* and *Architectural Record*, plus perhaps *Architectural Review* from the U.K.) It is from these journals, over a sandwich, that they learn each month what their peers around the country have been doing—and not just what their *peers* have been doing, but what their rivals and betters are accomplishing. Sadly, however, there is almost no criticism in the professional architectural press other than the criticism implicit in *not*-being-published at all.[82] In America it falls to little-read and distinctly non-lay magazines like *Harvard Design Magazine, Center, Nest, Places, Design Book Review*, or *Metropolis*, to publish occasionally critical, "unauthorized"-by-architect-or-owner views of new architecture (and especially interiors). The magazines I have just mentioned also have a wider view of what the term "architecture" covers (it covers design, interiors, politics, landscape, all *places* of interest) and they also print a wider range of types of photographs than can be found in professional architecture journals or "shelter" glossies.

My recommendation? More investment by architecture's benefactors in journals like those listed above that are willing to offer criticism when deserved, this *not* in order to bring architects down a notch, but in order to excite more general interest in what architects do, have done, and *can* do, in the first place. Whether in print or online, almost every new building should be reviewed by knowledgeable critics, just as new books, movies, or car models are—that is, with wit, with an underlying love of the medium, with explicit standards and comparisons, and a measure of skepticism. This must be done with language that educates and in ways and that make people *care*.[83]

Persuasion using encouragement. With the last idea (of making people *care*) we begin to "descend" the stratigraphy, from simply exposing people (and architects, for that matter) to a greater number of *examples* of good architecture and leaving them free to visit/want/emulate the ones of their choice (even though these were editorially pre-selected), to actively *encouraging*

people to believe that a far better-designed and better-constructed physical environment is *possible for them*, that they deserve such and could easily act in ways that help bring it about.

We enter the realm of advocacy.

Here, for her part, the architect becomes active in civic affairs (as many already are, of course, if only to get commissions). She constantly designs, proposes, and urges more life-enhancing uses for land. Like the marketer of any product, she underplays the difficulties and overplays the rewards. But she does not go too far in this. Why? Because her goal is to raise confidence, to en*courage*, and this effort makes no sense if the undertaking involves *no* risk and *no* cost (which no one would believe anyway). Rather, she presents her ideas and projects as difficult but worthwhile. She then inspires as much confidence as she can in her experience and that of her consultants. She recounts the happy experiences of other cities and other clients with similar projects. And she reminds her clients of *their* resources, both material and psychoeconomic, i.e., their already huge "stocks" of approval and legitimacy. They can *afford*, she says, to be confident.

With this last stratagem we pass from confidence (and its associated "force," encouragement) to the next rung down on the stratigraphy of needs—to approval, and its associated force, flattery.

Persuasion using flattery. Philip Johnson famously once likened architects to prostitutes.[84] The truth he overstated is this: that very often architects can only get their way by being constantly attractive to, amenable to, and flattering of, whoever holds the purse strings, i.e., "the client." Here the architect assents to whatever the client proposes (how clever, how right!). He loves how his client lives and how he or she makes a living. He compliments his client's family, his or her house, car, children, taste in books, furniture, and art, indeed his or her every word...all this in return for the client's approval of the architect's aims and ministrations, not to mention fee requests.[85]

Not just private clients respond to flattery (of varying obviousness, of course), but institutional and public ones do too. Under the aegis of learning about his client—say a church—many an agnostic architect has become an assiduous churchgoer. Commissioned by Company X, he finds a new appreciation of product X. Commissioned by the Department of Y, or about to be, he finds Y's functions good and essential to society.[86] The most populist of architects find themselves in a not-dissimilar situation: again and again facing roomfuls of lay

experts, nay-sayers, and community-savers, all of whom must be flattered to be led. And when architects do *not* play this game, they are either ignored or branded as arrogant prima donnas.

Let me not cast too disparaging a light on flattery. When an architect genuinely likes his client(s), and vice versa, the project is likely to benefit. Appreciation is always good to give and to receive, even when we know it is tinged with strategic interest, just as criticism is hard to bear even when it is delicate and justified. Being slighted—overlooked—is often worst of all. Tokens of approval offered unilaterally, like applause, smiles, compliments, congratulations, dedications, gifts, greetings, and thanks (not to say votes and endorsements, which shade into tokens of legitimacy), are powerful tools of persuasion even when only *partly* genuine because they indicate positive social acceptance (acceptance, that this, over and above the legal minimum of tolerance) and because, once offered and accepted, they are hard to retract. There is nothing wrong with architects becoming "players" in this economy of tokens if it is on behalf of creating a more livable and lovable environment for all.

Buildings themselves can enter the psychological economy quite strongly, operating at the stratum of approval. By just standing there and flattering passers-by as good citizens, worthy recipients, proud neighbors, people of class and taste, etc. they can help persuade them to raise their expectations *vis-à-vis* architecture.

I have mentioned the role that the press can play in publicly offering (and withholding) approval tokens to architects and their work. Beyond this, it is up to those interested in raising environmental standards to proliferate occasions in which fine buildings and grounds, and everyone involved in making them—from architects to landscapers to engineers, contractors, financiers, city officials, owners, clients, and neighborhood groups—are *together* recognized and rewarded. An Oscars night for new buildings? Annual AIA awards *by* architects *to* architects are well and good, but they do not begin to tap into the opportunities for celebrating superior architecture, let alone honoring good "old" buildings and neighborhoods for "lifetime achievement." Certainly, much more could be made locally of such traditional ceremonies as ground-breakings, roof-toppings, and openings, all three waning in the modern day. And much more could be done to stimulate trade in approval tokens across the borders between the public, business, and private realms in the areas of design, construction, and property management.[87]

This much about example, encouragement, and flattery. Continuing in our search for tactics that architects might use to persuade others (and even themselves) to demand more from

architecture, we now turn to exploring how architecture might be construed, truthfully, as a good whose value does not diminish with repeated access and use, a good of peculiar and continuing importance, a good of which one cannot have enough, and so on. I shall be brief, and ask the reader who is interested in this line of investigation to revisit the second half of Chapter Six. In what follows, any one or several of the six basic needs can be at issue, and any one of the above persuasive forces (i.e., example, encouragement, or flattery) might be used.

Construing architecture as a climactic good. No building has caused an orgasm as far as I know, but many are so sited that finding, arriving, and entering them are climactic experiences. This pattern is more common of monuments and shrines and sports arenas than of workaday buildings to be sure, but the same drama is played out more quietly in buildings everywhere and even in homes where certain rooms are more "sacred" than others and require permissions of some sort, implicit or explicit, to reach and enter. "Master" bedrooms, for example. Tended inner courtyards are climactic experiences in some buildings, as are hidden gardens and penthouse roof terraces. One nearly always finds that extra effort has been put into design and workmanship of climactic spaces, precisely because of the extra value that is placed on seeing them and being there.

An entire building can be a climactic good too if its size or design, construction quality or address, must meet certain standards in order for its owner(s) to gain membership, say, of a club or certain social circle. The owners' associations of exclusive condominium buildings, which have the authority to make applicants wait for them to decide who will and will not be allowed in, can propel prices much higher than would be the case in a more open and fluid market.

On a more mundane level: While a building is under construction, meeting deadlines, passing inspections, installing difficult components, and so on, create innumerable periods of time over which the value of the task at hand ramps up more steeply with every passing hour...to climax, as it were, in a single large dose of satisfaction (or disappointment). Back in the office, and under pressure to save time or money, client and architect might battle over which design features are mission-critical and which are not.[88] While this is going on, the feature examined gains enormously in value, and both the dispute and the subject of the dispute can remain large in the memory of both parties for some time. A disproportionate amount of money also can be spent on subtle features that both the owner and the architect come to regard as critical...and that the general contractor or some sole supplier has learned about.

If construing certain elements or moments in the architectural project as "make-or-break" serves to increase their value, and if understanding this can form part of a general strategy to revalue architecture, we should remember that the attendant risk is that *other* elements and moments will become devalued by contrast, possibly lessening rather than increasing the value of the whole. In addition, as the story of "The Boy Who Cried 'Wolf'" teaches us, it is not a strategy than can be used indiscriminately.[89]

Construing architecture as a gift that keeps giving. Buildings are big and they last a long time. This is what (usually) makes owning them a good long-term investment, notwithstanding the costs of heating and cooling them, of maintaining them, of paying insurance, taxes, and so on. These expenses are small compared to what can be earned through rent, capital appreciation, and resale. To a building's inhabitants and neighbors, however, what a good building provides it provides tirelessly and endlessly. Like a sign that is never silent, like a hill or a tree that *does what it does* day-in and day-out because *it is what it is*, like a book, like a patient mother...buildings modulate the energies that impinge on them and give them use and meaning because of what they *are*, by nature, inexhaustibly. This is especially true of buildings that we would like to call *architecture* not because of their bulk or civic purpose but because of the amount of thought that has gone into them, because of the trove of *information* they contain compressed and frozen, as it were, in consonant dimensions and materials, in precision and detail, in symbol and effect, in choreography of experience, in having been stage to significant human history, in exemplifying the sciences of structure and light, color and sound...which is to say, in all, in their encyclopedic complexity-and-organization, Ω, being itself the deposit and result of hundreds of man-years of effort and accumulated knowledge directed towards life-enhancement. All this information can be read if it is there; and it sounds like *La Boheme.* Or *Take Five.* As Keats said, "a thing of beauty is a joy forever."

But here is the question: how much should one pay for a good that really *is* a joy forever? Assuming the usual relationship between cost and quality, the answer should be "as much as we can afford," not "as little as we can get away with." But, of course, the very constancy and longevity of a good building's value is precisely what allows us to take it for granted—just as the beach is taken for granted by beach-side communities, just as mothers are taken for granted by their children (for most of their lives, anyway). When *x* is "granted" to us, it means that we need not—or need no longer—earn *x*, pay for *x*, or reward *x*. And it means *x*'s falling out of

contention for future scarce and allocatable resources.[90] With goods that keep giving for long enough to be *taken for granted*, therefore, only the thought, made vivid, of their possible *loss* can remind us of their value and incline us pay for their upkeep.[91]

What do these considerations imply for us, strategically?

Pointing out the possible loss of a good—and especially its *imminent* loss—is a good strategy. It is a strategy already widely used by architectural preservationists and by environmentalists generally.[92] It is also a major feature of auctions. But the imminent-possible-loss strategy is less effective when trying to encourage investment in *new* construction and its future upkeep. One might, in this case, warn of the loss of future higher value (= profit or pleasure) because of present under-investment in the environment—i.e. of "opportunity costs"—but this tends not to be very persuasive to investors or governments with limited resources or a shorter view. Besides, few people think that environmental loveliness (or health for that matter) depends critically on sufficient *initial* investment, and few believe that it can be lost save through natural disasters, which are insurable. Hence the perdurable popularity of "deferred maintenance" as a way of saving institutional funds, and hence, too, the creeping decrepitude of so many buildings and grounds. Certainly when examples of environmental loveliness are nowhere to be seen in the vicinity—either as a fact, as a norm, or an expectation—then creating a sense of *loss* for it, actual or potential, is apt itself to be an ineffective tactic.

These considerations leave composing guilt-inducing narratives-of-appreciation as the only alternative: odes to the constancy of the generously-designed and -built environment, odes to architecture as a gift that keeps giving, worth doing well in the first place and doing well-by thereafter.

Finally this: From the owner's point of view, there are three ways to convert the constant output of value that buildings (and their grounds) provide into flows of money. With decreasing directness they are: (1) admission charges, (2) rent, and (3) premiums (or taxes) on the prices of whatever goods and services are being traded there. These three cash flows constitute legitimate recoupment of the costs of making and maintaining architectural places, with profit as the reward for taking the risks involved. Now, it's conceivable that more subtle ways can be found for owners to be recompensed for providing higher-quality environments. But because here we are focussing on how people as consumers or "experiencers" of the environment might be induced to

value that experience more highly (i.e. raise *V* in Equation 8.4), I will postpone until later making any suggestions as to what different economic arrangements might exist between architects, building users, and building owners.

Construing architecture as a goal that keeps receding. This is a tactic best reserved as a way of encouraging those already sensitized to architecture to achieve higher complexity-and-organization in their lives through active engagement with the quality of the built environment. As the basis for a *broad* appeal to raise design standards, construing architecture as a goal that keep receding runs the risk of discouraging many ordinary people. Why enter a game you cannot win? If no building is going to be good enough, why spend any more on *this* one?

Ideal, then, is setting the goal just far enough away, and just close enough at hand, to maximize motivation towards better architecture, and to keep *that* distance constant through readjustments of the ideal as it is approached. Call it "raising the bar." Raising the bar may seem like an impossible task. And yet we see something like this tactic already in place in the artworld, in higher education, in science, sports, and business. These are areas where *success* knows no upper bound, where the sky is the limit, where new records are set every week...and yet mechanisms abound for encouraging, judging, and ranking progress all along the way. Moreover, pursuers of excellence seem to select groups to compare themselves to that will maximize their own motivation. Amateur sportsmen choose their league. Kids want to place in the top of their class or team. Small-business owners strive to be the best in town. Wanting to be big fish, people "choose the right pond," as Robert Frank puts it.

Most architects, unfortunately, do not have a picture of the world that allows them comfortably to choose the right pond. Trained to admire only a handful of master architects, exposed in history classes to a picture-and-a-paragraph each of the world's most striking structures, and possessed (therefore?) of a rather limited vocabulary and patience for describing great architecture in any detail,[93] the average architect is not in a position to flesh out goals that, in being many, delicate, measurable, and *almost* achievable, motivate significant accomplishment in their pursuit.

"Success" in a work of architecture is hard to define. Slogans abound, and noteworthiness often devolves to buildings that excel in only one or two obvious dimensions, such as being the first, newest, biggest, tallest, shiniest, lightest, wildest, most modern, or most-arcanely derived. Architects congratulate each other for what they can "get away with," a telling phrase. The result

is that the average architect, in order to make buildings that are good in ways that he *knows* are more subtle and complex than this, must give up on being commended for what he dreams of being commended for —i.e., the creation of strikingly original buildings—while the average client, who knows even *less* about what exactly makes buildings wonderful and who will not pay for or risk real originality, is left with not much to talk about...about except common-sense issues of layout and cost-control. Enter Gresham.

Let me try to be clearer about what I am recommending. Setting goals at the most motivating distance from the status quo—i.e., not too close to it and not too far—requires care. What requires care too, though, is setting goals that are the *right* goals, not just the ones easiest to set a course by. The right goals are those that enhance life. And since enhancing life with and through buildings is a delicate and complex affair, it becomes critical, in order for the receding-goal tactic to work, that more architects and more lay-people come to a deeper understanding of how the physical environment affects our well-being. A language of connoisseurship must evolve that is learnable, contentful, and rewarding to use, so that construing having-wonderful-architecture-everywhere as a receding goal can have enough *content*—enough substance—to actually work. Only then will people be able to see what they have achieved and feel pleased, and know what remains to be done and feel challenged.[94]

I am optimistic. People *like* becoming connoisseurs of some aspect of the Good Life. People *enjoy* knowing about and choosing among a range products. People want to excel, themselves, and they want to contribute to the production of superior goods. They don't mind that the *very* best of things might lie beyond their ken or means, as long as they can get started, feel progress, and best some local comparisons. The task is to position architecture as a venue that rewards such pursuit—not just in the area of home improvement (where millions are already active and fully convinced of the value of their admittedly never-ending efforts), but in its larger, civic manifestations.

Construing architecture as an addictive good. It is hard to think of anyone but students of architecture, architects themselves, architectural historians, and the handful of wealthy enthusiasts who become architecture's clients and patrons as being *addicted* to architecture, i.e., unable to live without it, unable to get enough. But such people do exist, and the idea here is to make more people like that—to get them "hooked."

Too strongly put? Immoral? Addicts, after all, cannot control themselves around the source of their addiction, and this makes them at the very least unfree. But milder than addictions yet sharing the same underlying structure are habits, weaknesses, passions, and the like, such as for exercise, cleanliness, opera, Western movies, Thai food, etc. It is with these positive examples in mind that we could, in good conscience, think of ways to offer architecture as an addictive good for more people—"addictive" simply meaning: a good the more of which one has, the more one wants and values it, and the more it pains one *not* to have it.

Put this way, there is no doubt that architecture is a naturally addictive good (or pursuit). Certainly, the more one knows about architecture the more one wants to be in and around the best examples of it. And eventually not just grand and photogenic structures but in and around intimate and half-accidental ones, places created by the happy coincidence of time and care and the sunlight just so. There are no substitutes for such experiences; stories and pictures will not do. And harder, too, is it for the person already introduced to the experience of fine architecture to be in places that are worse than they need to be: for example, among the gigantic blank walls, hurricane fences, trash, poles, and weeds that comprise the American urban landscape and that are considered, wrongly, to be the inevitable by-product of our "fast-moving" and "dynamic" free market system.

To recommend addiction to architecture, however, or to be pleased at its natural progression once some bait is taken, is conditional on believing that no harm could come of it. We must be sure that architecture is a Good Thing, that more architecture would be a Better Thing, and that having a passion for it would be life-enhancing for those who "succumbed." Unfortunately, these conditions do not entirely hold; and our proposal is the weaker for it. Unfortunately, too much of what presently passes for good architecture—in the estimation of architects and the architectural press, anyway—is in fact not very life-enhancing at all for anyone except, sometimes, their architects. I mean: strenuous exercises in strictness of form and economy of means; hard and unlivable places (if momentarily photogenic when empty, at sunset, camera low and pointed slightly upward); vain and cynical plays with cultural symbols on the one hand or slate-clean blandness on the other; "expressions" of things like "the joint" or "the separation of envelope from structure" or "continuous form" that matter only to people caught up in the very small and exclusive world of Design, which is a world insulated from the roughness and banality of the rest of the world as well as from what non-architects would care about for longer than a minute. More of this we do not need. This is why all of the strategies I have proposed for raising

standards and expectations of architecture involve, first, a broadening of what we mean by "architecture" to include *all* designed physical places and *all* of their qualities and problems. As of yet, architects are ill-equipped by their training and temperament, by their subculture and economic circumstances, to deal with more than a fraction of these qualities and problems, let alone know how to improve them.[95] And this is why one hesitates to "addict" too many people (assuming one could) to what most architects now espouse and are capable of producing.

We will return to discuss strategies for changing this state of affairs later, when I address some of architecture's institutional arrangements as a profession.

Proposal 3. Combatting "place machismo."

There is a strain in American culture that judges sensitivity-to-place in general to be a weakness. Where this strain comes from is unclear; it has not to my knowledge been studied. It seems plausible, however, that place machismo, allied as it is to the ideal of *independence*, is an expression of values formed in America's pioneering days. After all, conditions were harsh on the frontier. Life on the trail, on the farm, and in new towns was dangerous and difficult. One had to ignore its discomforts; one had to become hardened. As late as the mid-19th century, Europeans as well as cultivated Americans visiting frontier towns from cities like New York or Chicago or Kansas City were dismissed as fops and softies—what with their demands for daily baths, soft linens, fans, and comfortable beds. No one intending to thrive in the West could afford to be so fussy.

Then too, interior-making was a civilizing and essentially *female* occupation. If a man was going to be "environmentally sensitive," it would be to things outdoors: to trails and spoors, to the weather and the soil.

These images are cultural clichés to be sure, based, very possibly, on historical inaccuracies. But in matters of culture and belief, clichés win, whether or not they were made in Hollywood. Certainly, the general gender bias with respect to place-sensitivity—the idea that women are "soft" and men are "hard," that women care about their surroundings and men could not care less, that women cultivate and men pioneer, that women decorate and men design, that women thrive indoors and men outdoors, and so forth—can be found equally in the European psyche, based less on the memory of frontiersmanship, perhaps, than on millennia of warfare. Certainly it is a bias lodged also at the origins of Modernist art and architecture.[96] To this day, anyway, the

profession of interior design is dominated by women, while male interior designers are presumed to be effeminate. Architects, male and female, have to be careful not to like curtains, or to know too much about fabrics. *Erecting* things must remain at the core of their expertise—or battling the weather, or courting danger, or deploying the latest technologies (for their "performance"), or exploring geometry for its own sake...architecture as edifice, tool, weapon, or sport, not as *place*, not as shelter, harbor, or succor; architecture as an object among objects with shapes that *do* things, not as an enwrapping thing, as an inside always inside other insides, bathed in information.[97]

Imagine the following situation. A young man is interviewing for a job and is shown his (possible) future workplace: an over-lit, noisy little cubicle with a buzzing computer. "Great!" he exclaims, not wanting to appear a ninny. He thinks: What kind of soldier, scanning the horizon for the enemy, would complain that the sun is hurting his eyes; what farmer, that the flies are bothering him; what mechanic, that the lube-pit is claustrophobic? Comforts of place, he knows, are the perquisites of power, not the prerequisites of productivity. Besides, *this* company is so "lean and mean" that even the CEO works in an open cubicle down the way

All this must change if the designed environment is to be valued more highly. Away from the extreme conditions that would justify it, studied indifference to the environment—"place machismo"—cannot be considered a virtue.

But how could so ancient a mental habit be reversed? Public relations efforts to make it manly to manage the finer points of where you are? Perhaps. Action-movie heroes brought down by sheer depression at their environment? Right. "Lumberjack Risks Life to Save Owl Eggs"? None of these seem to me very promising, although the last does offer the appealing image of hero as environment *savior*. But, one *might* look at the design of schools, and especially of high schools. For, setting aside the influence of television and movies, not to mention the call to young men of the military mind-set, high schools are where place machismo is tantamount to *taught. In situ*.[98] Let me explain what I mean.

Visit the average suburban high school, vintage 1965 or after. As bland as a warehouse, as hardened as a prison, are you inspired to do anything but escape its echoing din? Is its design indicative of the high regard in which we hold youthfulness, or for the long days our children must spend in education? Is there an ounce of romance in those classrooms—a tall window, a sparkling laboratory with birds outside? Is there a place for the shy to dream? The answer, I venture, to all these questions is "no," and one has to wonder why.

Surely it is for all the reasons I have discussed in this chapter. In particular, it is thanks to the pioneering efforts of architecture firms like CRS in Houston (now CRSS) that new high schools responding to the post-war baby boom of the 1960s fell victim to the same optimization and rational planning principles that had been used hitherto for manufacturing plants.[99] If kids are to learn, they shouldn't need to look out of windows. If kids are messy, schools should be as easy to clean as bathrooms, linoleum and glazed tile. If 75 foot-candles at desk height is the ideal illumination, then so be it, everywhere, steady. Energy consumption? Build as tight as a refrigerator with tiny or no windows and fluorescent light. Most efficient size? Bigger is better. Theft a problem? Locks and bars. Misbehavior? Video cameras scanning every room, stair, and hallway bend. Communications? A public address system. Furniture abused? Make it steel and rock-hard plastic. Bolt it down.

This is the environment in which millions of American middle- and upper-middle class teenagers spent, and continue to spend, five or more years of their lives at a time when they are sorting out who they are, what counts, and what their value is to their peers and to society at large. What message could they possibly receive from schools built on these principles of design other than that they are quasi-criminals from the start, whose sensitivity is best covered over and whose individuality is to be fought for tooth and nail by strategic choice of clothing, and stoic, aggressive, or subversive behavior? Whatever these young people might learn about social interaction (or math or biology...), the only response to the *place itself*, they learn, is abuse, or neglect, or *not* responding at all to the physical discomfort it causes or to the insult it implies to them, as people, and to the whole process of education.

Part of the reason for all this is that high school students have no say in the shape of their environment. They are not the clients of the school's architect, for all that might be said over the tops of reading glasses about how they "really are." As legal minors and without independent monies, they have no choice about where to go to school. And even if these last two limitations were unavoidable and parents were fully attentive to the matter on behalf of their children, the state holds so complete a monopoly over providing secondary education—the where, what, when, how, by-whom, and to-whom—that commercial monopolies pale by comparison. Primary and secondary education may rightly be compulsory, but this should not mean that the *sites* of education should have to drive the point home with such force.[100] No industrially developed nation in the world devotes as small a fraction of its public spending to pre-college education as does the U.S.[101]

In correction, and failing a massive overhaul of government programs (including a doubling of state budgets per student and *per square foot* for construction, and a ban on all talk of "efficiency"),[102] I would urgently recommend creating properly-incentived markets in the provision of public high school education, parallel to the ones that exist for college-level education.[103] Perhaps then the physical setting of learning will become one of the grounds for competition between schools, along with better teachers and scholastic programs.

A chapter about the value of architecture is not the place to debate "school choice," a complex political issue with a long and involved history of its own. Indeed, there would be no reason to broach the subject if sensitivity to the designed environment was not one of the casualties of the system we have, and if architects—too quick to jettison the finer points of their art for modern-seeming "systems solutions"—were not partly to blame. For with whatever else students might have learned at school about history or geography, about each other, and about their worth to society, millions of eighteen-year-olds leave high school each year—and have for decades now—with much-lowered expectations of the quality of their future workplace and of the whole built environment, not to mention an almost proud imperviousness to what might be good *or* bad in either.[104]

What goes around, dear colleagues, comes around.

Proposal 4. Seeing architecture as always a public good.

Every building is physically situated on its lot, which is a precisely and legally defined area of land. Its owners have property rights in both building and lot, meaning that subject to zoning laws and the like they may do as they please with both their building and land, with their "real-estate." They may use it themselves, rent it out, or sell it; they may paint it or add to it, garden it or demolish it, and so forth. It is *theirs*, and there is no question as to *what* is theirs.

But when it comes to *experience*, no building is so tidily contained on its lot. It overflows its boundaries. A building is everywhere it casts a shadow, everywhere it blocks a view, diverts a wind, reflects a sound or sunbeam. It radiates its presence through its neighborhood no less surely than the sound of a boombox pervades the air of a park. If it were a large light bulb, it would light up the streetscape with a glow for hundreds of yards around, perhaps thousands of yards, blocked only by this or that other building, which itself shone a different light. *A building exists everywhere it can be seen from.*

This is true of all physical goods, even rather private ones. I might read a book and privately enjoy its contents, but you might see me enjoying the book, and such pleasure as this gives *you* it might also give to anyone else in the same room or at the same cafe. When out and about, my clothes are certainly for others to enjoy (or not), as is my voice and state of grooming. I move through the world giving off plumes of information. Not all of this information is under my control even though I produce it; and not all of it am I conscious of.[105] But it is *out there* as surely as I breathe. Think these thoughts for very long and one arrives at a unique view of the world: that the world consists not so much of things—discrete and owned—as of space dense with information-*from*-things, information largely free for the taking and turning into experience, then-and-there. There is no emptiness anywhere. We live in a plenum thick with light beams, radio waves, and mechanical vibrations, beclouded with motes, microbes, and molecules. My computer screen, for example, creates a finite bubble of light-filled space in front of it, a space in which text and pictures are legible. I must insert my head into that bubble to drink in that information just as surely as I must dip my cup into a bowl to have any punch. Space is not empty and its science is not geometry. Space is an information field and its science is the structure of experience.[106]

Consider, now, the idea of *public goods*. Public goods are those that it costs something to produce or maintain but whose enjoyment it is difficult to exclude anyone from, or to demand payment from, on a per-occasion basis. These difficulties might be merely technical; that is, it might be too expensive, relative to how much people would willingly pay for the good, to set up ways to charge for it and/or to physically exclude non-payers. Or these difficulties might be legal: one may not legally deny people access to streets, parks, or emergency medical treatment even if, technically, one easily could. And some goods are partly-public, partly-private. A street performer, for example, passes the hat around the crowd, cajoling people into paying for what they have seen. National Public Radio does the same for what people have heard on their stations. But neither can really *prevent* anyone from seeing/listening for free. What's more—and some economists argue this is crucial for understanding public goods—neither the street performer nor NPR can argue that it costs them anything more to produce the "extra" goods that the freeloaders are consuming.[107]

Now, in most of these cases, the good is information, spread through space in just the way discussed in the previous paragraphs. Certainly this is the case with buildings, and for one who believes that a minimum number of goods should be public and a maximum number private

(and thus open to market dynamics), the problem is how to turn that information field into private property.

For example, if they did not put big boxes around movie screens to exclude both sunlight and non-payers, those who had bought the right to display films would be unlikely to see their money back.[108] The primary property owned by a cinema owner is a block of space carved from the public realm. Before it is developed, this space is saturated top to bottom with information as to the buildings around it, the weather, the sound of traffic, etc. Once the theater is built, however, this same block of space is *re-inscribed* as it were, re-filled, with the photon tracks issuing from a screen and vibrations issuing from a set of loudspeakers. Within clearly delimited borders a new information field is created that replaces the one that was there before with one of more value. So far, so good. At the same time however, an "externality" is created, which is the information field *outside* their theater and *in* the neighborhood. For just as surely as a smoky factory emits pollution all over a nearby town, so do the gigantic blank walls of the sides of movie theaters radiate their blankness into the neighborhood for hundreds of yards around. What does it mean to "radiate blankness?" It means the projection of nothingness, of no-information. It means the removal of vital complexity-and-organization from the world outside, a sort of clear cutting of the public information field. "Radiating blankness" means the effective erasure of a section of the retinas of every passer-by.

Who, one wonders, has the right to clear-cut the common visual world? Who has the right to induce such blindness in others?

It seems we all do. And in a world in which there were no norms of behavior, no building codes or aesthetics committees, we would be freer yet to pursue interior richness, keeping it for ourselves or capturing it for sale at the expense of the experience of a non-paying public—indeed, by punishing them for not paying. What I have said about radiating blankness could just as well be said of radiating ugliness, disrepair, or neglect, the consequences of which far exceed momentary aesthetic discomfort. They can change the traffic flow, the demographics, the very value and course of development of properties around.

These observations are not intended to undermine private property rights, without which markets could not work and economies could not prosper.[109] On the contrary, they are an attempt to strengthen and extend property rights by construing the volume of open space between buildings as a content-full, public information field, in which all people have an interest if not, at present, clear property rights, and which constitutes the *real* fabric of what is sometimes referred to as

"the urban fabric." This information field is a public good, sometimes created by design *for* the public good (as when a pharmacist in East Los Angeles commissions a mural, or Baron Hausmann reconfigures Paris), but most often created by default, as an externality, a side effect, of privately owned instances of architecture, each design taking advantage of its context at the time of design. The challenge is to find ways to connect the desires of these inadvertent creators of the public information field to the desires of the experiencers of it, and to do it in such a way *that the field itself evolves in complexity-and-organization*—in lifefulness.

Ideal, for this purpose, would be to arrange matters so that (1) the incentive for field creators to *defect* by depending on neighboring property owners to carry the greater load of enriching the public information field, is counteracted or eliminated, and so that (2) the incentive for experiencers to *free-ride* by enjoying the field without somewhere, somehow, having contributed to its creation, is counteracted or eliminated too.[110] There are several ways to arrange these two things:

One is to place legal restrictions, democratically arrived at, on what, where, and how land-owners may build, and then let them "have at it" with the freedoms that remain.

Another is to assign the task of constructing buildings to the public sector, there to be designed by democratically-elected experts and to be paid for by democratically-agreed-to taxes.

A third is to give project-by-project *veto* power to the public while projects are still in the design stage (be they privately *or* publicly owned).

All three of these measures have been tried at some time. One or more of them can be found operating in most cities today, together with the taxes, levies, and fees that ensure that *some* money price is paid for the pleasures and benefits of citizenship or visitation.[111] None of these mechanisms for discouraging defection and free-riding can be as effective, however, as those that would stimulate the self-interest of those who design and build in the first place, this by rewarding them in proportion to the public usage and valuation of what they produce. What one wants, in fact, is just the sort of motivation that is found in the mature marketplace: smart producers facing discriminating consumers who have real alternatives (and from whom fair payment can be expected). One wants the free-est *possible* market system consistent with the public good as defined *by* that public. And on our analysis, this must entail *some way for private property owners to receive fair payment (or punishment) for providing the public information field they presently give away to (or impose upon) others.*

Before we agree that "marketization" is the solution, however, we need to remember that the market model is not without its special problems for buildings, problems that need to be gotten around. These problems tend to be associated with the near-irreversibility of a building's presence once built and the enduring effect this has on the public realm. For whereas in the markets for most finished goods, failed brands and models are quickly removed from the shelf and replaced by better ones, in the market for real-estate ugly, dysfunctional, or generally miscalculated buildings remain on the land for decades, absorbing money, falling into disrepair, and broadcasting their woe to all who pass by. Moreover, when the consequences of failure are so hard to reverse, design innovation is stifled and the amount of capital risked at the outset is held to a minimum.[112]

What to do?

One idea runs as follows: *to stage open design competitions for all buildings, with the designs being judged by the public* or their representatives *before they are actually built*. (With computer technology, veridical simulations are no longer difficult to produce.) This mechanism will ensure that the environment's producers—owners, architects, developers, bankers, and builders—will compete to please more people than just themselves, as well as try to build good reputations.[113] It will reduce the owner-investors' financial risk while inducing them (and their designers) to think much harder about what people actually value and what buildings actually do. It will also allow consumer-citizens to come as close as possible to "shopping for architecture" (second only to choosing among existing buildings), giving them alternatives to choose from complete with price spreads, quality spreads, and maintenance or service guarantees. And it will minimize the amount of learning-too-late by all parties as to what *not* to do. It will create, in effect, a pre-market virtual market.

How to pay for its costs?

On the payment side, property owners (both commercial and residential) might pay neighborhood-specific property taxes—let us call them "field fees"—to a city-legitimized neighborhood authority. The funds generated are used to cover competition administration costs as well as compensation to the entrants.[114] In this way, individuals can express their interest in their neighborhood's information field and make or extract payment to or from those responsible for its good or bad quality. The city may also define common neighborhoods such as downtowns, museum districts, central parks, etc. for which all citizens pay in the same way, and which all participate in judging.

With these suggestions I have passed into the subject matter of a later section of this coda, one where I propose changes in the legal and market conditions that make the physical environment. I will pick up this ideas again there, and add some others.[115]

To conclude for now, then: The fact that architecture is always also a public good has persuaded many thinkers that generous, public-spirited architecture can only be brought about by the city or state or some other land-owning institution that is politically committed to serving *all* of the people and that has the authority to override objections from some of them. Turning to history, they ask, rhetorically: "What great architecture, what marvellous boulevards and parks, were *not* built in spite of the objections of many, the apathy of most, and with their taxes or tithes?"[116] Economist James K. Galbraith:

> *There are no cases*—I assert without fear of contradiction—*of beautiful architecture organized on the decentralized principles of the free market.* Believe in free markets and you must conclude that urban constructed beauty is a social evil, something imposed on us against our wills, an act of tyranny! You must either think that, or you must reject the economist's view—the vulgar economist's view, that is—of the market and of the social construction of value.[117]

My hope is that in the past few pages we have moved beyond "the vulgar economist's view." Public-spirited works of architecture do exist that were built by private enterprises operating very much "on the decentralized principles of the free market." These are the same principles, after all, that protect the rights of private property owners to build more *wonderfully* than we expect them to also. We only want such buildings to be the rule, not the exception.

Publicly judged design competitions for everyday buildings may not be The Solution. Certainly, the idea needs more detailed development.[118] And it ought not have the effect of dissuading individuals or institutions from building beautifully just because they *want* to, for whatever reason. But I am fairly certain that establishing the idea that architecture is always a public good, and that much of the "public realm" is actually the experience of a field of information that is the effluvium, or externality, of private acts on private property—a field that is actually *public property*—would help clear the way for devising new methods for citizen-consumers to exert their ownership of it, and to reward those who improve and sustain it.

Proposal 5. Seeing buildings in the "experience economy" as the primary preservers and standard-bearers of our sense of reality.

As countless books and magazine articles have reported since Marshall McLuhan published *Understanding Media* in 1964, we are living in a new age, the Age of Information. Hyperbole or not, certainly we move about in an increasingly media-saturated environment. The sights and sounds of television, movies, radio, billboards, newspapers, magazines, signs, phones, faxes, Walkmen, computer screens, and people talking on cell phones...fill the air. The semantic quiet of nature has become harder to experience on an everyday basis (out my window right now, leaves are shimmying and flashing against a blue sky, saying nothing) as has the quiet of classical and "classic" Modernist architecture, all things to be said already said, standing by, standing by....

Reality—this quieter reality, anyway—is under threat.

We are now working, some further say, in an *experience economy*. In a book of the same title, business analysts B. Joseph Pine II and James Gilmore expound upon what this means:[119] As economies evolve, they say, there is a "progression of value." The focus of new value creation (and with it new profits) shifts from the production and consumption of *commodities*, to the production and consumption of *goods*, to the production and consumption of *services*, to the production and consumption of *experiences*...this as though to escape a simultaneous movement in the opposite direction, i.e. the steady devolution under routine market pressure of hundreds of once-estimable goods and once-luxurious services to low-profit commodities: standardized, reliable, mechanized, and cheap.[120] What emerges from the "progression of value" is an economy in which the dominant new goods produced are delimited information fields—themselves lighter than gossamer—fields in which memorable and entertaining *experiences* can be had and be charged for. Thus: restaurants compete on atmosphere and service, the food becoming more like art on a plate and the waiters more like actors. (See the chefs' *toque*s bobbing in the flames and steam across the room; hear "happy birthday" being sung in Italian by a chorus of waiters.) Climate-controlled shopping streets become "Roman marketplaces" (Forum Shops in Las Vegas); gigantic suburban bookstores imitate old-time, intimate ones with living room furniture, readings, and expresso bars (Barnes & Noble, Borders, Bookstop—can a resident cat or two be far behind?); quick-stop coffee shops become yuppie neighborhood hangouts (Starbucks), movie houses become movie "palaces" (again, but much more economically, and off freeways) or indoor entertainment

complexes (Sony's Metreon in San Francisco) vying with sports stadia and art museums (SFMoMa, Gehry Guggenheims anywhere); sporting goods stores become gyms, arenas, and celebrity-meet spots (Niketown, Oshman's); and housing developments imitate historic or imagined village life (Celebration, Harbortown). At children's hospitals, patients become explorers, "embarking on a journey to recovery" (as at Montefiore Hospital in the Bronx which has a planetarium, observatory, garden and family center on the roof and on check-in children receive "passports" and "explorer's kits.").[121] Every place, every product, every service and event becomes *themed*, as though it were part of an endless carnival. And for thirty cents a minute you can have a friend's voice in your ear any time, any place: the cell phone.

The trend to marketing experiences has not been lost on architects. Every since Postmodernism burst through Modernist orthodoxy in the early 1970s, more and more architects have felt free to join in the business of *entertaining* with their buildings. Although very few savvy architects today are interested in perpetuating the classical-historical pastiche that Postmodernism first favored,[122] many, as 21st century opens, are still interested in the proposition that *all* buildings—not just amusement parks, museums, hotels, aquaria, and such—ought to provide exciting and memorable experiences. What admission can be charged, what extra rent can be paid, what premium on trade in the building can be levied for an experience heightened and bracketed from the everyday by unusual architecture? What sorts of effects, architects wonder, could be achieved by melted or twisted or leaping or shattered forms?, by adorning buildings with moving projections, laser lighting, terminals, and computer screens?, by sheathing them in glass like dragonfly wings and moving though them on ramps and escalators?, by etching metal and glass and concrete with Photoshopped pictures?

Follow these trends, extend them, and ultimately we must arrive at a new general understanding of architecture, to wit: architecture as *ride*, the world as *ride*, perhaps *life* as a ride, and, all things solid having have melted into air, a new base-line as to what the word "experience" means in the everyday.[123]

What is wrong with this picture? Certainly, creating special atmospheres and engendering memorable experiences have always been part of architecture's primary mission, although only recently would one put it that way. Why else the great Gothic cathedrals? Why else Versailles, the Parthenon, or Stonehenge for that matter? And so, if Pines and Gilmore are correct about economic trends, architects have reason to celebrate: with centuries of precedent to draw from,

and Las Vegas emblematically (and actually) the fastest growing city in America, the economy is coming their way. No more "tectonic rationality," no more talk of essence or purity or honesty-of-expression, just delight, emotion, and glorious entertainment, Form following Feeling and *experiences* for sale everywhere

Again: what is wrong with this future? Why does the thought of it not thrill every architect (and citizen) to the marrow? Could it be a reflection of what we have encountered (and resisted) so many times already, namely, snobbishness about popular culture, an upper-class condescension towards *commerce* itself? Might it be a reactionary dread of the future, a fear of getting lost, somehow, in the media blizzard, or of (architects) being unable to compete?

I think not. I propose, rather, that architects as a group, like canaries in the proverbial coal mine, are registering the loss of the balance that architecture has historically provided in our sense of what is *real* and what is not. This is a subject treated in my earlier book, *For an Architecture of Reality*.[124] There I pointed to people's need and ability to distinguish, in general, between the actual and the illusory, the natural and the artificial, the material and the non-material, the significant and the trivial, the authentic and the fake, the guileless and the motivated, the found-ready and the made-ready.... I grouped all such qualities into four, value-positive ones—presence, significance, materiality, and emptiness—and argued two things: first, that together they make up our sense of reality, and second, that architecture, through embodying these qualities all at once, plays an important role in providing people with benchmark examples of what reality *is*. Buildings that have strong presence, significance, materiality, and emptiness serve as touch-stones relative to which other human emanations—gestures, speech, art—are shown to be less than fully reliable, less than fully real. Poised, as it were, between nature and culture, heaven and earth, architecture always shows two faces at once, the real and the un-. This means that, however much artifice architecture historically indulged in (and it did, a-plenty), the face of reality always shone through: here, in how the necessities of light, air, and structural soundness disported with *trompe-l'œil* angels, and there, a few streets away, in how beauty of another sort shone from the humblest of structures—barns, sheds, signal boxes—because they were built with care but with no intention to charm or persuade.

Keeping the balance between the real and unreal does not come naturally to modern, industrialized construction methods or to late-20th century attitudes. When buildings are reduced to card-thin containers, or when, genie out of the bottle, any shape dreamed of with the help of a

computer can be rigged with light steel, plastic, gypsum, and glass, when "reality" is a word seldom printed or pronounced without quotes...what reason is there to refrain from remaking the world as an illusory Heavenly City? And a profitable one at that?

Some architects have responded by showing us *this* reality, accommodating without capitulating to it. And the better of them do so quite beautifully: on the one hand exposing structure, fabrication, and ductwork to public view, all lightness and clarity and display of engineering craft, on the other, creating theatrical spaces that frankly show off the thinness of their artifice and the props behind. Such responses are not just aesthetic games; they are entirely rational and entirely strategic in the context of keeping architecture valuable *because* it is still, somehow, a standard bearer for what-is-real. Take this a bit further, though, and capitalize upon it, and one realizes that whatever else the experience economy may offer, the "*direct aesthetic experience of the real*" is an experience that *architecture* can offer. Indeed, as the rest of the economy chases after ephemera, it is an experience that architecture can specialize in offering.[125]

Is there a demand for direct aesthetic experiences of the real? I believe so. Indeed, I think there is an outright hunger for such experiences among the spiritually inclined, the unhappily distracted, the disaffected young, the nostalgic old, and the jaded in-between. They are what the scientist in us wants; they are what the poet in us wants, the traveller, the gardener.

Can direct aesthetic experiences of the real be had elsewhere, and in association with other "goods"? Yes: in nature, hiking or meditating; and yes, in Buberian, I-Thou dialogue with another person. But in and around architecture is where elements of both are intermingled, or *can* be: I mean the grand and rhymeless logic of gravity, ground and sky, and the magnificent complexity-and-organization of another human mind and its handiwork.

Two questions remain. First, can direct aesthetic experiences of the real be packaged and sold (to put it crudely), without destroying their credibility in the process? And second, how can architects make realness-per-se a salient quality of their buildings?

To the first question, the answer is yes, carefully. Take travel. Travelling off the beaten path—and sometimes squarely *on* it—can deliver one to places and moments in which the sheer realness of the world strikes one as right and good, as deeply commonplace and yet fresh. Perhaps this happens as one steps out of an old hillside church on the Amalfi coast and sees, past palm trees and over roof tops, three white sailboats bobbing on the blue water. Or perhaps as one waits on the sidewalk for a bus in Mexico City and watches an old woman, holding the hand

of a child, cross the roaring street. All travellers can recall such places and moments. Are they *free*? In themselves, mostly yes, in that no one rushes up to demand payment. But dozens if not hundreds of people will have earned their keep getting you there, putting you up, and bringing you back home afterwards. Not for nothing is tourism the largest industry in the world.[126]

Closer to home, direct aesthetic experiences of the real can be "packaged and sold" too—but subtly, in the form of slightly higher rents and real-estate prices for places that are genuinely genuine: for example, parts of town that have evolved over a long period of time and have been maintained but not gentrified. To the hasty, acquisitive eye, these places might appear seedy, but, in fact, they have a degree of complexity-and-organization, social and visual, far greater than the average new development. Artists tend to find them first. The value of these places, I suggest, once recognized for what it consists in, *can* be captured by canny investors and turned to economic advantage without ruining them. These are living places that need to be nurtured and grown rather than developed in the usual way (i.e. by bulldozer). There is room in them for design, but design of a higher order of sensitivity and complexity than is usually applied.[127]

Which brings us to our second question, "how can architects make realness, per se, a salient quality of their buildings?" For some answers to this question, at an intellectual level at least, readers might turn to my earlier writings and to the writings of Christopher Alexander.[128] There, images and examples are offered as well as ideas. The vision of architecture accumulated over the course of this chapter could point out some directions too. After all, "presence" is about a building's confidence and the confidence it inspires in us (without which the former is wasted), "significance" is about approval and legitimacy, "materiality" is largely about security, and "emptiness" is about freedom, *our* freedom. These mappings are rough, however. The quality of realness and how we experience it deserves attention in its own right. Certainly, a thing's realness has to do with the persistence of its expected level of complexity-and-organization, all sensory modes considered.

Pines and Gilmore close their book by asserting that the "progression of value" (as they call their scheme) from the production and consumption of commodities, through goods and services to experiences, is not the whole story. One more step remains after "experiences," and that is the production and "consumption" in a market setting of the good that stands above all goods, namely, *personal transformation*. For beyond entertainment (of which one can only stand

so much), and beyond totally customized service experiences (the flight attendant, without asking, knows you prefer Pepsi to Coke, the hotel clerk that you want an extra blanket), what people ultimately want is transformation—personal transformation from whatever, wherever, and whoever they are to *ideality*: to perfect health, wealth, freedom, beauty...the usual things. Or if not ideality, then betterment; and if not betterment by some measure, then *change,* until every person lives not one but many distinct lives (careers, spouses, hometowns...) before they are done. In addition to higher education and religion, Pines and Gilmore point to professions already positioned to organize transformative experiences for economic return: medicine (especially holistic medicine), psychiatry and psychology, spiritual and business counseling, adventure travel, sports, and martial arts. All businesses will eventually find themselves involved in the "transformation business" or having to claim that they are, say Pines and Gilmore, and they are at pains to point out the new level of moral responsibility this will entail from producers.

Interestingly, they do not cite architecture as transformative. Indeed, the word "architecture" does not appear in their index, even though theming and design are everywhere mentioned. Perhaps they too put architecture on a pedestal, above the fray.[129] This would be a shame, because learning about, designing, making, or renovating buildings that deserve the name architecture are all canonically transformative experiences, and living in and around the environments that result keeps the transformed life transformed. Architecture that understands its role as being exemplary, in its own way, of everything authentic, genuine, life-affirmingly real, *and* human (for otherwise wilderness would do as well), provides us with more than just amusement, more than another kind of "attraction" in a world determined to dissolve itself ever more completely into fleeting performances and messages and the media that carry them. It supplies life with the kind of complexity-and-organization that only architecture can supply—and it does so like a gift that keeps giving.

In the attempt to persuade people of the value of architecture along these lines, however, it is best not to harp on architecture's "unique hold on Reality" or its "transformative power," especially if doing so entails disapproving of architecture's—or life's—more trivial pursuits. Besides, as we have seen in this chapter alone, architecture fulfills a variety of needs that are less freighted, less metaphysical, less Important, than safeguarding our sense of the real. And this is as it should be. Increasing life's complexity-and-organization is our first duty, and this requires

that we take a more inclusive view. The only enemy is greater simplicity-and-disorganization, the "love" of which, as I argued in Chapter Ten, is the root of all evil.

Group II
Proposals that would reform certain of the attitudes, beliefs, and practices of architects

So far, we have discussed how the value of architecture to the average consumer-citizen might be enhanced. In what follows we address the producer's side of the equation, i.e., we address issues that are more internal to architecture as an art, discipline, business, and profession. Where redundancy threatens (since some of the ideas discussed here first appeared in previous sections) I shall be especially brief.

Proposal 6. Reclaiming the science of architectural phenomena.

With every passing year of the 20th century, architects handed more and more of whatever was remotely scientific and quantitative about their discipline over to consulting engineers. As a result, what most engineers know and do about acoustics, light, lighting, air quality and air movement, heating, and cooling for example, has become so narrow, formulaic, and ruled by codes that their expertises together form nothing more than a chain of islands separated from each other, and from the mainland of design, by oceans of ignorance about the myriad architectural phenomena created by the very physicality of buildings.

These phenomena were once attended to "automatically," as it were, by the DNA of traditional models. (On this metaphor, the Modernist revolution was both a liberation and an extinction event.) Evaluating the glare from a window, assessing the resilience of a floor, modeling the coherence of interior air flow or the balance of radiant to ambient heat, simulating the pattern of sound reflections down the halls and in the rooms of an ordinary building (not a concert hall or auditorium), analyzing patterns of privacy and exposure, tuning the perception of thresholds or the color of ambient light or the sensible temperature of materials, and understanding how all these factors work together to create *quality* in a place, value in architecture...these are activities that do not currently form the stuff of architectural practice *or* engineering practice, let

alone produce design fame, and they are taught hurriedly (if at all) by the least design-adept teacher at school. And yet close study of such phenomena is precisely what is needed if the sensible complexity-and-organization of contemporary architecture is to come to match, let alone come to exceed, in its *own* stylistic terms, what was routinely achieved by pre-modern architects. The acoustics of La Scala in Milan have still not been matched; nor has its atmosphere.

This is not a call for empiricism *per se*. This is not about "creating a body of architectural knowledge," that war-cry of those who in the 1970s wanted architecture to be more scientific. This is about raising a veritable Atlantis of sensibility about architecture, a realm of facts and insights that can support connoisseurship of the look-and-feel qualities of buildings equal to the connoisseurship involved in the making and evaluating of music, cars, movies, food, or computers. Addressing this material seriously—i.e. scientifically *and* poetically—will help architects make a powerful case for the significance of architecture in producing a plethora of life-affecting phenomena that people can notice, appreciate, measure, value, and ultimately demand and pay for. From the producers' point of view, this Atlantis is a territory that remains to be claimed, and profited from. If architects don't wake up first, perhaps the engineers will.

But let us not posit competition where cooperation is the better model. Exemplary in reconciling architecture and engineering have been two, stylistically very different architects, a generation apart: Norman Foster and Louis I. Kahn. Although most architects will report *partnership* with their consulting engineers, and many will cede some "creative input" to them, few come close to these two architects' lifelong love of the interaction of dry technical matters with sensible—make that "sensual"—architectural experience (beyond the obvious effects of structural derring-do). Philosophically, both men embraced *quantitative* accounts of *qualities*, and *qualitative* accounts of *quantities*; indeed, both searched for resolution in some higher understanding of how the world works. Both inspired their engineers and allowed themselves to be inspired *by* their engineers. Both knew that Modernism's proudest achievements could occur only in the richness of the blend.[130]

More is the pity, then, that in architecture schools, courses in math and physics are considered bad medicine at best. Design and calculation are considered natural enemies, even by those who have talent at both, as many students do. At the same time, across campus, young engineers are made proud of their artistic philistinism (shadow cast, perhaps, by place machismo) while just a few buildings away, young painters and sculptors are seduced in the opposite direction. None of this is necessary; and all of it is counterproductive, especially for architects.

The space inside buildings and the space between them is filled with information, like a tapestry in four dimensions, like a Persian carpet warped and woofed in every direction, like an ocean crisscrossed with light beneath its silvery surface and a-bubble with air. The science of this body, this field, of information is not separate from the art of its invention or the guiding of its evolution.

Proposal 7. Using computers not to simplify design and streamline production but to complexify design and organize construction.

One might imagine that computers would help architects deal with expertise of the variety I have just discussed. Not so.

True: ever faster computers and ever more sophisticated computer-aided design (CAD) and computer-aided manufacturing (CAM) software packages have allowed architects, engineers, suppliers, contractors, and subcontractors to use the same graphic language and the same set of digital documents to communicate with one another about "technical matters"—sizes, shapes, quantities, materials, time and price schedules, etc.—more efficiently. True: from the mid-1980s onward, computers have been especially helpful in the realm of structural design, enabling a handful of highly skilled designers to explore intriguingly difficult building geometries, ones that would be all-but-impossible to draw (or build) without a computer. But computers have so far *not* been deployed to tackle the harder problems of design, which have little to do with the making of fantastical shapes. They have, rather, to do with modeling the total sensory environment that every ordinary and every extraordinary building *is*. Try to study a proposed building's illumination characteristics and you will quickly run up against time, contrast, and resolution limits, even with the fastest computers available. The visualization process is very computation-intensive (it can take days to simulate the light in a room of any complexity), and two-dimensional pictures rather than three-dimensional spaces are the designer's feedback. Physical models are superior in this regard. Software that predicts a building's acoustical character is more primitive yet.[131] Here, physical models will not serve because the wavelength of sound is too large. And software packages that analyze visibility patterns, ambient light and color spectra, natural and artificial air flow and so forth, are so far non-existent outside of research laboratories.

But much of this is academic. The computer is not being used in *any* of these ways by the majority of architects who are responsible for what you see on the drive to the mall. Nor is the computer likely to be used differently until the sorts of initiatives outlined in this chapter have begun to take hold and the demands placed upon architecture to be *cheaper* are replaced by demands upon it to provide finer sensory and social satisfactions. In the vast majority of present-day engineering and architecture firms, the computer is being used as it is conventionally being used in business and industry, i.e., to increase labor productivity while eliminating what consumers don't notice or need from the product. A building that ten years ago would have taken ten draftsmen one year to draw, might now take three draftsmen eight months to draw. Once digitized, details from old projects can be seamlessly incorporated into new ones, even bought and sold and swapped among firms. Documents can easily be updated as construction progresses and further economies are found. To produce components, one can go directly from CAD file to a digitally-controlled machine. And so on.

The efficiencies that computers afford raise a critical question: who benefits from the increased productivity? I would venture that it is not the architect. I would venture that intense market competition between architects, focused on service-for-fee and the ability to control costs, has passed these productivity-won savings cleanly along to clients, and that architects have not, with these savings, bought one minute more of their own time to spend on the design or refinement of their buildings.[132] Indeed, I would venture that *less* time is being spent in design, profession-wide, than ever before. Moreover, what design *is* being done, is being done more and more entirely on the computer, this despite the plain-as-day fact that the compositional tools provided by CAD software cannot match the fluidity and serendipity and delicacy of hand-guided pencil on molecularly noisy paper, or the realism of models, or the capacity of these "old" media for recording the accumulation of thought over time. Add, to the desire to save time and money, CAD's inherent reluctance to represent land forms—the curves and cuts and twisted surfaces, the plants, the "noise," the color—and the riddle is solved as to why so much of our new suburban landscape looks toy, projected, made for androids.

To make matters worse, those who commission architecture, and even those who "consume" it, are waking up to the idea that most buildings, within a type, have no need to differ from each other from place to place. The architect's already tenuous status as a custom tailor, based as it is on the flattery of supposing that every building is properly a unique response to a unique site and program, will surely be challenged if not ridiculed once computers more commonly guide machinery

rather than artisans directly from "drawings" (which can be parameterized, and, if necessary, modularized, commoditized, and traded, as I noted above) to produce identical buildings that will never be seen next to each other. Multiple "performances"? Recombinant architecture? Why not? Think of what digital sampling has done to (for?) the production of music. Many commercial building types, from storage buildings to freeway hotels, garages, office buildings, houses, clinics, franchise outlets and whole shopping centers, are already produced this way.[133]

Computerization offers a new way of conceiving buildings, and almost imperceptibly it leads architects to make value judgments they might not otherwise make. This happens even as—indeed precisely *because*—architects innocently protest that CAD is "just a new tool" that enables them to "offer better service for lower fees." Without concerted efforts at revaluation along lines that increase Ω, quotidian architecture in the 21st century will slide more quickly than it has been, for decades already, towards the status of a commodity good—a good with close-to-zero profit margins for its producers and no growth potential other than through increasing volume of production, greater labor productivity, and supporting more intense financial speculation on real estate.

As much as one might question Peter Eisenman's or Frank Gehry's (present) enthusiasm for fantastical, computer-generated or computer-scanned forms,[134] their work has at least this merit: that digital technology is being used not to deplete architecture's capital, as it were, but to *add* to it; to push the proverbial envelope of possibility; to make architecture that is difficult and unique and exciting...in short, to make it the very opposite of a commodity. Bravo! I, however, look forward to the computer's more subtle uses in increasing the complexity-and-organization of the whole built environment, and worry only that their example will be followed too literally.

This concern leads me naturally to:

Proposal 8. Downplaying creativity.

Creativity is essential to being an architect. Indeed, creativity is essential to being human: it is the name we give not just to our capacity to make "something out of nothing," but to our ability to increase the complexity-and-organization of the world without really knowing what we are doing, to take actions that we are not entirely certain will work because they are new.

More than a capacity or ability, creativity is also the desire, the urge, *to* create.

So why would I recommend architects' downplaying it? For two reasons.

First, because creativity is too often identified with *originality* of the most obvious kind and with the egotism that usually goes along with it. In honoring creativity (= originality = inventiveness) one must weigh the total good and harm done in the single-minded pursuit of it. Yes, some brilliant and persistent designers do eventually succeed in creating gorgeous buildings the likes of which have never been seen, and when this happens it is legitimate cause for celebration. But what of the harms? For architects, it is thousands of architects feeling like failures, or rather, feeling successful only to the extent that their own careers model those of the "stars" and they too can realize unlikely formal compositions with their client's program. For the environment, it is the tens of thousands of architect-designed buildings wearing the fact that they *are* architect-designed on their sleeves, as it were: buildings like models holding some impossible pose for an absent camera, frozen for the perfect day, provoking imitation. The last can result in yet more such "original" buildings being built...until a neighborhood or downtown resembles nothing so much as an architectural zoo—a different species on each block. Just look at downtown Houston.[135]

Moreover, the complex, delicate experience of joy-in-inhabitation, which it is everyone's right to feel, comes from a thousand subtleties of position and color and view and touch that are too easily mown down by overtly original, obviously-creative, designs. Where to plant a tree, how to make a street or a terrace, how to shape and open a window...these manifest a complexity that can only be *evolved*; it cannot be produced *ab initio* by formal games, gestures, and explorations, no matter how elaborate, literate, intuitive or "logical." Schoenberg cannot be a model for architects. Nor can Picasso. And nor can Le Corbusier or Wright *as great as these men were*. Their works were demonstrations. The lessons to be drawn from them are best added to the corpus of lessons contained in the DNA of the world's more ordinarily wonderful places, not taken as a wholesale replacement of them.

Ironically, it is the increased blindness to the finer points of architecture at the popular *and* professional levels since around 1945 that has made ambitious architects feel the need to go to greater and greater extremes to be seen and heard at all, to reach for caricatures, to shout with every building. It is also what frightens many people from hiring architects in the first place,

especially ones admired by other architects. Rather than deal with architects' private longings, they go to engineers or turn-key builders instead, and pass up the many valuable things architects have yet to offer. This makes some architects strain yet harder to get attention with their "creativity," and others to give up entirely to become the good servants of commerce while resenting those who succeed at doing the first. Neither outcome is desirable.

A second reason for downplaying creativity is that a *reputation* for creativity can greatly weaken the architect's bargaining power when all the parties who have a say in the design of the environment sit down at the same table. Imagine: here is the engineer; here is the owner; here is the contractor, the city official, the neighborhood group representative, the financier; and the architect. An impasse has developed. Someone has to give. Who will have to be "flexible?" Who will have to go back to the drawing board because she is "so creative?" You guessed it.[136]

Or consider another common situation: a client comes to an architect with a very tight budget and an ambitious project. The architect believes (as he was taught at school) that cheap doesn't necessarily mean bad or ugly, that creativity is his gift to society, and that if he doesn't take the job, some lesser architect will. Rare is the architect—and then only in the best of economic times—who will politely show the client the door informing them that a Mercedes for the price of a Honda *can't be had*. Most architects would rather give it a go; do *something* Is he not *creative*? Cannot cheap things be beautiful? Is this not a democracy where even the modestly well off can get to have Good Design. And later, when the project has fallen apart logistically or pieces are lopped off or finishes are downgraded or fees are not paid because the budget is being overshot, who does the architect *really* blame, in spite of what he tells others? Himself, of course. He wasn't "creative" enough.

Creativity is probably the single worst idea(l) with which architects could publicly associate themselves. And yet "the chance to be creative" is the foremost reason students give for wanting to become architects. No teacher will discourage this goal or disabuse them of this value, not just because being "creative" has become tantamount to a human right in our time, but because the ideal of material design creativity, of redemption through the combination of art and engineering, goes back to the very *raison d'etre* of modern architecture and its promise to humanity. Choose against creativity and we are condemned to make buildings that are unequal to the Challenges of the Modern World. Or so we children of the Bauhaus were told.

And in a final irony, one of the chief reasons that non-star architects are paid poorly is simple professional envy from non-architects. It is partly because architects "get to be creative," a reward in itself, that they do not receive the authority, or money, they deserve.

My advice is not for architects to renounce creativity, still less to *de*nounce it. I am suggesting that it might be time to start keeping creativity's importance to ourselves and to focus on other ideals, other skills, and other achievements that can absorb it, such as quality or knowledge or dignity or power or lifefulness, or just being *good*.

Proposal 9. Rethinking the role of "environmental determinism."

If creativity is best downplayed, then a related but reverse strategy applies to what might be called "environmental determinism"—the idea, that is, that the physical environment has strong, direct, and predictable effects on human behavior and human feeling. *This* idea needs to be played up.

Some background. During the late 1960s and through the 1970s, a movement grew up at the intersection of architecture, sociology, and psychology called "environmental design." It had, and still has, three major journals. The quasi-professional organization, the Environmental Design Research Association (EDRA), also meets annually and publishes proceedings.[137] As the moniker "environmental design" suggests, the aim of this group is twofold: to embrace and represent all the disciplines that affect the character of physical environment, from landscape design to facilities management, and second, to work towards making these disciplines both better at, and more accountable for, the results they achieve through developing scientific frameworks and instruments for measuring success in dimensions other than purely economic.

The project has had only limited success. Neither the broader program of interdisciplinarity nor that of empiricism has taken hold. Thirty years of work has gone largely unnoticed outside of EDRA circles. Architects, certainly, listened for a different kind of music. And so did almost everyone else.

Part of the problem is that the environmental design movement gave up much of its potential power very early on, when it declared "environmental determinism" naïve.[138] So interested were its founders in being scientific that the field *began* with the concession that it could uncover, at *best*, only minor influences on our well-being. Had place machismo infected academics? Perhaps. But contributing also was the felt need to protect the sanctity of each

individual's freedom from being "determined" by anything at all, let alone by the color of a wall or the placement of a desk. In this, environmental design researchers (as well as most architects, by default) followed in the apparently sensible and (still) politically correct path of social scientists. After all, determinism, whether hereditary, cultural, racial, educational, economic, or dietary determinism, does not hold up to scrutiny. If you are not "what you eat" or what you earn, if you are not "the color of your skin," etc., then you are certainly not where-you-are or where-you-come-from either. A person is not *bound* in any of these ways.

But what is scientifically, statistically, true is not necessarily morally "true," as we saw in Chapter Two in relation to the nature-nurture debate (pp. 6 and 7). One cannot make the same class of scientific empirical statements about human beings as one can about most animals and lower beings. For what humans *do* depends on what they know and believe, on whether they're being watched, on what they want to happen and what they dread to happen, and so forth. The future for them is created *by* them at least as much as it is presented *to* them, *fait accompli* as it were, by the impersonal laws of nature. A person is not a stone or a bug or a star. No: with people, the reason that one possible future eventuates and another does not depends critically on what beliefs they hold about the future, be these beliefs "hogwash" or not, and on rapidly adjusting expectations as the present unfolds. With people, in other words, prophecies have a tendency to be self-fulfilling.[139]

Instead of drawing from this the further conclusion that people are therefore *influencable* and *should* be, the environmental psychologist draws up short: there is a place she cannot go. Like a good physicist, she may not persuade the subject or influence the experiment, even though the very topic of the experiment—here, experience of the environment—is shot through with intentionality.

Who is more naïve, then? The one who insists that the shape and condition of the physical environment plays no part in effecting human happiness, or the one who insists that it does? The less naïve view, in my view, is the second. It is certainly more effective in bringing about the reality it says it describes.[140] But more than this, it may also turn out to be the more true of the two positions scientifically. The instruments used in experiments by environmental psychologists are so blunt (for example, subjects checking rows of "definitely prefer/ prefer/indifferent/do not prefer/definitely do not prefer" blocks on being presented slides of complex scenes), or so fine (for example, eye-movement tracking), that it is unwarranted to conclude that the physical environment has little effect on people because statistical tests of the

results such experiments do not show machine-like regularity. The just-as-correct conclusion is that the theories and methods so far applied have not captured the complexity of the phenomenon. If what plain introspection reveals is that *what's inside your head*—when you're not sleeping or daydreaming—*is what your head's inside of at the time*, then so be it. Accurate phenomenology is the beginning and end of all scientific investigation. And what's inside your head and outside of it is a continuous, buzzingly-rich, and nuanced field of inherently-structured information, much of it due to the physical environment.[141]

Is it true, in this light, that all forms of determinism, from economic to environmental, are correct? The answer might be: yes and no. No *one* factor might be determining of human behavior or experience, but *all together* might well be. Who knows? We would be in no danger of losing our freedom by supposing that all together were determinative, however, because the complexity of these factors' overlap and interaction would be so enormous, so beyond computing any faster than they themselves play out, that it would leave us plenty of room to be surprised, to jest, and to decide—that is, to both *feel* free and *be* free. Indeed, the irreducible complexity of *any one* of the "factors" we are loathe to think of as determining our fates—say, education level, or parental income, or, our case in point, the physical environment—is sufficient for us to choose beliefs with due regard for their basis in scientific research *and* for the value-outcomes of acting on them as though true. Uncertainty is a quality of both what-is-true and of what-would-be-good.

This is the context in which I recommend that architects and environmentalists of all stripes begin to insist that people's dependence on the physical environment is all but complete: stronger than they suspect. It probably is; and, given the consequences of believing otherwise—i.e., the current state of our landscape—it almost certainly should be.

Proposal 10. Adjusting architectural education.

The period 2000–2025 in America will see two large swells of population going though life-stages of interest to architects: (1) "baby boomers" (people born between 1945 and 1965) moving into their maximum earning, spending, investing, and luxury-purchasing years, and (2) "baby baby boomers" (people born between 1974 and 1994) moving into their college-going years.

The first group forms a tremendous new potential client base. It needs to be educated and cajoled in the ways I have mentioned in these pages. The second group offers architectural *educators* the opportunity to make sensitivity to the designed environment a more important part of the culture than it has been, and at the same to cultivate future patrons, clients, and (hopefully) constructive critics of architecture. Schools of architecture, currently among the most selective of schools, must open their doors wider, doubling, at least, their intake of students into four-year undergraduate programs over the next ten years. The intake and output of architecture *graduate* programs that offer professional (M. Arch) degrees, however, must remain roughly at present levels, with entrants restricted to only the best of those who graduate from undergraduate programs. These undergraduate programs—offering, say, a B.S. in architecture or even a four-year version of the professional five-year B. Arch. degree (now disappearing as though of its own accord)—would not be simple liberal arts or natural science degrees with "majors" in architecture (meaning: three architectural histories, a studio, and a drawing class, or some such). Rather, they would be full-fledged, studio-based, design-oriented programs that would put thousands of students through the mind-altering experience of architecture school with all of its traditions of independent thinking and initiative-taking, hard work, late nights, intense camaraderie, formal presentations of work, and so forth, together with a complement of liberal arts and natural science classes.

Architecture, like literature, is a complex pleasure best appreciated by people who have tried to produce it. The case for it must be made anew with each generation. Among architects' best clients and supporters today are people who have undergone such an experience as young people and then gone on to other careers.[142]

Some less time-sensitive observations:

The assumption so far has been that architects—in what they *could* do, given the chance—are without fault. But the truth is less comforting: the average architect is an indifferent designer and probably could not produce a fine, handsome, long-lasting, uplifting, richly-functional, broadly-liked, and beautiful building even under the most favorable budgetary and scheduling arrangements. Few practicing architects ever overcome their spotty educations at architecture schools or the ethos that has reigned there for more than sixty years: that talent and creativity allows buildings to be designed from basic formal principles.

But rare creative talent ought *not* to be necessary for designing good buildings, just intelligence, knowledge, and dedication. Architecture is not *necessarily* a "creative" profession like advertising; we've just gotten used to thinking of it that way. We cling to the idea that it is an art and essentially mysterious. How many doctors, engineers, or lawyers are "talented," or, more importantly, *need* to be talented in order to do an excellent job? Architects hang their heads when shown the handiwork of most of their peers and then wave their magazines aloft: "look at what Gehry did here, or Meier, or Holl, or Foster... This is what architects can do, given the chance" What doctor needs point to throngs of disfigured people in his town and say, "Ah, but you should see the work of Dr. Broz in Stuttgart. Magnificent! He shows what we doctors can do today given a chance."?

I have already offered commentary on the problems of over-valorizing creativity in the profession—creativity being all but synonymous with "talent"—ranging from architects' reduced bargaining power, to their blaming themselves for being unable to meet impossible budgets and schedules, to their giving away all supposedly non-creative, non-talent-requiring architectural services to specialists. The schools, though, is where the idea of the centrality of talent is most fully, if often tacitly, instilled. This is done by design teachers for good, and also not-so-good, reasons. Some examples of the latter: (1) to restrict membership ("...you're not quite talented enough to make it in architecture"), (2) to excuse mediocre teaching to each other ("...I didn't have any talented students in my class this semester"), (3) to create an illusion of superiority to other professions ("...she wasn't talented enough for architecture, so she went into engineering"), and (4) to excuse self-indulgent grandstanding ("...the fools just don't recognize talent when they see it,"), all of which quite tragically prevent teachers and their students from seeing that it is not lack of talent that stymies architects in the real world but the difficult situation that the myth of talent (or creativity) has gotten them into.

Set the issue of talent/creativity aside. What about knowledge, about *content*?

A few paragraphs ago I suggested that architecture schools should open their doors more widely and sketched a rather cheery picture of a studio-based undergraduate education in architecture. But notice that the object of my enthusiasm was method, not content. For in truth, what armies of largely middle-class entrants to architecture schools have been taught, content-wise, over the last fifty or more years of Modernism and Post-, has been so thin, misconceived, or plainly mistaken, so cut off from history, science, art, Money, or intellectual rigor, that once they

graduated from school and into the world of business, most found themselves innocents with very little authoritative knowledge and without the advantages had by architects of earlier centuries, namely, social rank and/or family money, and a vast base of builder-craftsmen with sufficient skill to fill in the blanks in the architect's knowledge. All they could do was accommodate to the way things are done, to learn on-the-job how "buildings are made" and watch their school-learned dreams wash away. As a result, architects with any idealism exited each job as alienated (because of cost overruns or struggles about design niceties) from the individuals or committees that hired them as from the people who live or work in their buildings (and to whom they rarely go back and ask "How'd I do?"). Rare are the architects who escape the pattern. We tend to know their names. The survival of the profession under these circumstances is a testament to the incredible value of its fundamental operations.

The solution, I suggest, lies in configuring an education that directs students' creative energies away from creative but ultimately empty formal inventiveness and towards orchestrating, beautifully, architecture's less visible functions. It lies in uncovering and addressing architecture's value to ordinary people, and in making such factors the explicit subject matter of design-studio explorations.[143] It lies in thinking of architecture in evolutionary rather than revolution-rehearsing terms...

But this is not the place to flesh out a new curriculum for architectural education. Almost everything suggested in these pages has implications for how this might go. We know this in advance: new levels of complexity will need to be mastered, and new forms of organization.

Proposal 11. Inviting and tolerating more debate.

For all that one can find fault with in architectural education as it stands, one of its great strengths is the tradition of critique and debate of student design proposals, this on a daily basis in the studio and every few weeks at semi-public design reviews. The design leadership of practicing architects who also teach at universities has often been noted, as I did above. Part of this leadership comes from the financial subsidy that teaching provides, allowing architect-teachers to spend more time than the average architect can afford to in reflection and experiment. But part of it has to do with their constant exposure to new ideas from students and fellow faculty members. The design studio is a laboratory for the ambitious design teacher: sixteen design

experiments being run under strange instructions and low cost. Later, the most proficient students might work with the teacher in a more professional setting, entering a competition, say, or making models for her, or hired as a full employee.

A great pity is that for the great majority of working architects this world vanishes, and with it all the ferment, risk, and exposure to criticism. In eight-to-five practice, in-house discussions of design ("pin-ups" in the conference room, reminiscent of reviews at school) are occasional affairs, suppressed in the interests of time, efficiency, and diplomacy. For their part, as we have noted already, architectural monthlies will not publish criticism of the architects they hope to publish again, and ignore all the others, while professional ethics recommends silence or faint praise as the way to critique one's peers. And yet it is essential for architects to be exposed to reasoned criticism and appreciation from each other and from the public (as perhaps represented by critics) throughout their working lives. Without it, they still face criticism, of course, but by rumor and paranoia: weird silences, dropped invitations, apparently happy clients who don't come back (or "wrong" ones who do), and the feeling that, for all the design awards they might have received, peers are saying withering things about their work behind their backs (just as *they* do).

Remedies? Creating new institutions such as "centers," publications, salons, websites, and regular conference events in which architects present and discuss their work in open search for public engagement, peer critique, and self-improvement.[144] Such institutions and venues might be more than the American Institute of Architects can afford to provide. After all, the AIA (and its state affiliates) must support its members, not make them feel insecure. It must present a unified and confident face to the world, and it must maintain cordial relations with the construction industry, governments, and other professional organizations.[145] Here, schools of architecture, more raffish by nature, and as institutions with a larger cultural mission as well as reserves of energy, expertise, and innocence on hand, can play a vital role. They already do. They can do more.[146]

Group III

Proposals that would emend some of the contractual and market relationships that presently obtain between architects and others

The proposal in Group III go beyond what architects can achieve unilaterally by organizing themselves, thinking differently, improving and advertising their skills, and so on. These will require the establishment of new kinds of economic relationships among the people who deal with architects and architecture. Law and politics begin to dominate.

Proposal 12. Making the market for architecture more, or possibly less, "ideal."

Some quick definitions: The "market for architecture" consists of several markets of quite different character. We will concentrate on two: the market for the services of architects, and the market for completed buildings, or land, i.e. the real-estate market. Are these two markets ideal?

Defined most abstractly, an "ideal" market is one that channels a variety of resources to their most valued, competing uses with a minimum of energy, delay, or error. Market ideality is thus closely linked to a certain kind of efficiency, "market efficiency," which is the aim of every economist and entrepreneur to increase.[147] Defined more operationally, an ideal market is one that has:

1. many independent sellers, and
2. many independent buyers, of
3. large quantities of identical or closely-substitutable goods, gathered
4. in effectively one place, at
5. effectively the same time,
   with, for both buyers and sellers,
6. minimal qualifications for entry/access,
7. minimal relevance of personal identity,
8. sufficient and reliable information that is
   (a) free, or of minimal cost relative to prices,
   (b) available on demand to all inquirers, and
   (c) assimilable in good time,
   about
   (i) the prices of all goods,
   (ii) the qualities and durability of all goods,
   (iii) the number of other buyers and sellers in the market for any given good,
   (iv) the terms of trade (e.g. availability, delivery, warranty, method of payment),

(v) the reputations of all buyers and sellers, (but see 6 and 7)
both historical and proposed, and

9. agreed-upon rules and protocols of giving/taking/keeping possession, and
10. the freedom to 'exit' the market without penalty, assuming debts settled.

(This list of ten ideal market characteristics is found in Chapter Eight. I present it again here to save the reader turning back.)

Now, no market found in the real world is absolutely ideal, i.e. perfectly efficient, but those that come closest are the markets for financial securities (like stocks and bonds), for commodities (like oil and wool), and for certain routine, mass-produced consumer goods (like shampoos and shoes). A preliminary inspection of the above list of characteristics, however, should convince one that the market for real-estate is quite far from ideal, and that the market for architectural services is further-yet from ideal. The question is what to make of this finding.

Actually, the question runs deeper than this. It is: "why make *anything* of the finding that the market for architecture is not 'ideal'?" Why not walk away from the whole problem, if a problem it is? The answer is: because if architects don't make something of it, someone else will on their behalf, and probably to their dismay. What do I mean?

We live in a society and under an economic system—i.e. free market, free-enterprise, global capitalism—that more or less *demands* that all goods and all services and all experiences evolve to fit the mold of market ideality as far as possible. It is a system designed to reward those who create markets where none existed before as well as those who can move less-than-ideal markets *towards* ideality in any one of the ten ways listed above. If architects did nothing to understand why and how the market for their services is *not* ideal *and perhaps ought never to be*, pressures would develop from every quarter and every direction, as though spontaneously, to make the market for architectural services more ideal, more efficient, this by piecemeal moves that rewarded their instigators well and that architects were unable to resist.[148]

It has happened already. Prior to 1972, the AIA, through its publications and code of ethics, was able to direct fee schedules for the services of its members and to prohibit its members from competing with each other on the basis of price. Engineers had a similar code. But in a landmark 1972 consent decree with the U.S. Department of Justice, the AIA was ordered

> ...to amend its Standards of Ethical Practice, rules, bylaws, resolutions and any other policy statements, to eliminate therefrom any provision which prohibits or limits the submission of price quotations for architectural services (by its members) or which states or implies that the submission of price quotations...is unethical, unprofessional, or contrary to...policy...[149]

In the market for architectural services, *price* was henceforth to be permitted as a salient basis—and even the sole basis, if the buyer saw fit—for competition between qualified suppliers, just as was (and is) the case for all other goods and services. To have it otherwise would be to condone price-fixing, and this would be in violation of the Sherman Antitrust Act. In 1974, the Justice Department brought suit against the National Society of Professional Engineers for essentially the same price-fixing transgression.[150] The decision went against the NSPE, who appealed. In 1978, the Supreme Court, ruling that the Sherman Act applied to professional activity and that the engineers' proscription against submitting price quotations violated the nation's antitrust rules, found against the NSPE.

Prior to 1979, the AIA's code of ethics forbade one architect from "supplanting" another who had begun a job, until the first was legally terminated. In 1979, one Aram H. Mardirosian brought a private antitrust suit against the AIA and Seymour Auerbach. The AIA had suspended Mardirosian's license for "supplanting" Auerbach as the architect in charge of renovating Union Station in Washington D.C. and who had instigated action by the AIA against Mardirosian for unprofessional/unethical behavior. The AIA (and Auerbach) lost and had to pay substantial damages (rumored to be around one million dollars) as well as legal fees, which exceeded the damages.[151] It took the AIA decades to pay off this debt, which it did from increasing members' dues. Once again the law promulgated the view that architects' qualifications, certifications, and special expertise should not offer them—beyond certain barriers to entry, which were clearly in the public interest—any additional privileges in the marketplace or any special protection from its rough-and-tumble, profit- and efficiency-seeking ways. In the 1970s too, several cases applying to the professions of medicine and the law had the same thrust: i.e., eliminating price-fixing, fee scheduling, injunctions against advertising, and so on; all under the aegis of antitrust regulation.[152]

Among architects, one result of this opening-up-to-price-competition has been the steady decline of architectural fees since, especially for commercial projects. Large architecture-engineering (A-E) firms and design-build (A-E-C) firms could produce good-enough buildings faster and more efficiently than all-architect firms who used consultants and bid out to contractors.

Those all-architect firms that decided to compete nonetheless found themselves in a hard new business-dominated environment, making what profit they could on the extra "class" or "distinctive design" they could offer for just a slightly higher fee. At the same time, the AIA, through its standard contracts, started looking for ways to reduce architect's exposure to risk and to legal liabilities. And state legislatures started lowering or removing fee floors for architectural services (to the states) to meet those typical for A-E services (around 4% of construction costs).[153]

In sum: if one looks at items 1, 2, 3, 7, 8(b) and 8(i) in our list of ideal market characteristics, one can see how the courts and legislatures have effectively conspired to make the market for the professional services of architects and engineers more competitive, more efficient, closer to ideal.[154]

Is this a good or a bad thing? Let us start by going back a few steps.

What is a "profession"? A profession is the practice of an expertise offered to the public as a service for a fee, where, uniquely, the *quality* of that expertise cannot competently be judged by the layperson who contracts to have it applied on their behalf. Do we know whether our doctor has prescribed the best treatment? No. Do we know that our lawyer has given us the best advice? No. We trust them. This is why all true professions have Codes of Ethics and Standards of Conduct—rules that bind their members on pain of loss of legitimation to doing their best, to behaving honestly, to protecting their client's interest as well as the public interest, to being worthy of trust. "Buyer beware" is insufficient protection. Their goods are all customized, and in what they do, even reputation is no guarantee of quality. This is why the professions can reasonably argue that they are "above" the marketplace.

To put the argument more technically: items 3, 6, and 8(i) through 8(v) do not and can not fully apply to professional services. To concede that they do, or that they that *should* more fully apply, is to open the way to consumer sovereignty and then, inexorably, following Gresham's Law, *to the reduction of the expertise offered to just those features of it whose outcomes people with little or no expertise can judge for themselves*, like whether or not they recover from an illness, whether or not they win a court case, whether or not a project was on-time and on-budget, etc., judgements, all, rather close to the "bottom line" and without much consideration for the long-term or social benefit.[155]

With this we have the beginning of an answer to the question as to whether making the market for architectural services more ideal is a good or bad idea. To wit: dependency on trust and on regulation by the state should be *minimized* if and only if people's willingness and ability

to exercise quality-discriminations are at the same time *maximized*. If the public cannot assess the benefits and harms done by a building, or if it has no way to express that knowledge in ways that can strongly affect what is produced, then market regulation from the state and professional paternalism from architects is perfectly legitimate, even morally required. Market efficiency, like popular democracy, depends on the average adult knowing what is good for them and also having means to choose among options he or she can objectively judge as good for them or not. Any move in the direction of marketizing architecture (or any other profession), therefore, must be matched by an equal and complementary move in the direction of informing and empowering clients and, more importantly, buildings' ultimate users, the public. In this way, gains in market efficiency—not *inherently* a bad thing after all (in fact, a good thing, all else being equal)—are wedded to growth in social, individual, and final product complexity-and-organization, Ω.

Here we see how the economist's concept of the "ideal" market differs from ours. Our ideal is a more inclusive one, having to do with maximizing lifefulness through optimizing social complexity-and-organization, Ω, and not *necessarily* with saving time and money in the marketplace itself. Markets that maximize lifefulness may well look inefficient to the economist or businessman. But we can see that the desire for efficiency, which is really the desire for organization, *R*, is just a half—a valuable half—of the equation. Required too is ever increasing complexity, *C*. (Recall that Ω is the square root of *C* times *R*.) This is what brings about economic growth and progress.[156]

Let us now turn to the market for buildings as real-estate. Earlier, I remarked upon the major drawback of thinking of buildings as marketable goods, given with their near-irreversibility and their nature as always-public goods (p. 51 ff.). I have also explored (Chapter Nine, pp. 4–13) how the intention to resell (the rights to) a good can distract us from valuing the possession or use of it ourselves. This, in turn, encourages the creation of goods that excel chiefly at item 3 on our ideal market characteristics list, which in turn, all too often, means the devolution of the good itself to a lowest common denominator. This applies to residential architecture and to most commercial architecture.

These considerations seem to recommend that we be wary of making the real-estate market any more efficient than it already is. However, I would suggest the opposite. For supposing that we could find ways to ameliorate the problems just mentioned (several solutions

have been offered in these pages), much remains to be done that would bring the real-estate market closer to ideality without ill effects for architecture and the environment. To wit:

As it stands, the business of buying and selling a building is a particularly time-consuming, frustrating, and convoluted one. True, buildings, being expensive goods of considerable consequence, will always be more complicated to buy and sell than cars or tomatoes. Nevertheless, the market for real-estate remains a curious hybrid of public advertising and personal networking, of open and closed auctions, of person-to-person brokerage and secret negotiations, all intersown with an inordinate number of middlemen: agents, representatives, inspectors, guarantors, bankers, lawyers, city officials and other masters of paperwork, all attracted, like predators, to the imminent migration of rather large sums of money. From the potential buyer's point of view, locating and finding salient information about a building is a labor-intensive enough, let alone arranging financing, ensuring legal possession, and exploring the long-term implications of ownership. From the seller's point of view, large amounts of time are spent showing the property to, and negotiating with, prospects who will *not* turn out to be the buyer. The system cries out for greater efficiency.

In this regard, the marketing of houses and apartments on the Internet in recent years has led the way. On the Internet, and with the World Wide Web, a home buyer can scan a large number of alternatives before narrowing his or her choices to a few houses to visit in person. Setting up residential mortgage loans through the Internet is much simplified. Finding places to rent through on-line "classifieds" is also a faster, more informative affair than it used to be, as is discovering the amenities offered by a neighborhood or city. In all of these ways, the Internet is proving itself to be a market-efficiency-improving technology *par excellence.* Indeed, all the items on our ideal market list—except 8(ii), 8(v), and 9, which involve tactile or face-to-face contact—are eminently addressable though the medium.[157]

The far-off danger is that experiencing buildings this way will begin to occlude their experience as real places and spaces.[158] In the meantime, the development of a real-estate market into a more efficient institution than it is now, along the lines we have been discussing, presents numerous opportunities for educating large numbers of consumers as well as producers as to what will make the other happy. These opportunities should not be missed by those who care about the future of the American environment.[159]

Proposal 13. Making architectural services more affordable.

"More affordable" here does not mean "cheaper." It means easier to pay for, and easier to see the *reason* for paying for. Indeed, as the reader might suspect, I should like to see architects' fees go *up*.[160]

It is usual for a person who hires an architect to be able to pay the architect a portion of the architect's total fee out of cash holdings. Developers who work with borrowed money must be able to present to their bankers/investors designs that are developed enough for cost estimates and return projections to be plausible; and unless the architect is willing to prepare these drawings on the promise of payment if and when the developer gets his loan, the developer has to front the money (usually around a quarter of the architect's total fee). The rest of the fee—along with the fees of engineers and other consultants—can then be "rolled in" to the overall loan and financed along with the construction. This helps make the architect's fees affordable, since they become spread over the project's financial life and passed along to tenants, future buyers, and so forth.

People who hire architects to design their *houses* are in a slightly more difficult position. They are apt to have to pay their architect's fees entirely out of cash holdings; this *not* because mortgage companies will not, on principle, fold professional fees into short-term construction loans or long-term mortgages—they will—but because their appraisals of the resulting house are rarely increased sufficiently to cover the cost of the architect's fees, let alone the higher construction costs that architects' designs usually engender. Their appraisals, rather, are calculated solely by multiplying the area of the house by a per-square-foot price based on recent sales in the neighborhood. The quality of an architect-designed home is therefore its owner's to enjoy, its owner's to have paid for out of cash reserves, and its owner's to risk recoupment of upon resale at a higher-than-neighborhood-average price. It is largely for these reasons that a tiny fraction of new, single-family homes are custom-designed by architects...unless the neighborhood itself is already filled with similar, architect-designed homes.[161] Hiring an architect is a prerogative of the wealthy.

The general solution for making architects' fees more affordable (though this applies more for the single-family home)[162] is for design quality to enter into the official appraisal mechanisms used by banks and other lenders so that those fees can be as wholly financed as are the services of the contractor. In assessing the value of design quality, the standard forms used by appraisers fall far short, counting only factors like age, state of repair, materials used, code

compliance, zoning, square footage, and the price of generic comparables. The banker-lender, of course, will argue that their appraisal instruments merely reflect consumer values as expressed in the marketplace: "If consumers don't care about Design, we can't either." This, though, creates a vicious circle. Less-than-wealthy home-buyers—either buying an existing, architect-designed home or hoping to commission one—cannot afford the out-of-pocket cost premium that good design demands because that premium will not be reflected in the appraisal that lenders use to gauge their level of lending, and appraisals will not account for the increased value of good design because buyers continue to prove that they cannot afford to pay the accompanying premium out-of-pocket. Who will break the circle? Why not the real-estate appraisers? They are trained professionals after all,[163] asked to apply uncommon expertise to the assessment of a building's value at a crucial juncture in the economic process surrounding its creation and/or sale—*an assessment that can become*, if at all reasonable, *a self-fulfilling prophecy*. It is real-estate appraisers, perhaps, who ought to go to architecture school. Certainly, they ought to be at least as well trained as art or antique appraisers, and come equipped with comparable sensitivities to "intangibles" like style, function, construction quality, livability, illumination and acoustical qualities, provenance, adaptability, character, and so on. These are all things that buyers do in fact look for and would be happy to pay for—if they had the help financing it over thirty years *because* they "appraised out." Perhaps this would give appraisers too *much* power, one can hear architects worry. But consider the alternative already in place: too much power without the sensitivity or mission to be a catalyst for quality.

A second way for architects to make their fees more affordable is to take, instead of fees (or instead of *part* of their fees), a financial interest in the ongoing economic life of the project, somewhat in the way that actors and musicians can elect to receive a percentage of the "gate," or writers and artists commonly receive royalties based on sales. One of the reasons that architects' concerns during the design and construction phases are so often dismissed as pedantic, pettifogging, is that their interest in the project is ultimately limited, financially and temporally. Once their services are performed and their fees are paid, they are effectively done. what happens to the building after it is built, as long as they cannot be sued, is of no concern to architects beyond, perhaps, a sentimental one as they drive by of an afternoon with a visitor or child. For architects, this abandonment is both a liberation (they get to move on) and a problem; a problem because, insulated from risk, the architect's words necessarily carry less weight when they ought to carry more; a problem because insulated from risk and supplied with another's money, the architect

can allow herself to create environments that she has more curiosity-in-seeing-built than faith that they will serve. All of this goes unspoken, but none of it is lost on clients—as the skimpy fees that architects have grown accustomed to make manifest.

What alternative forms could an architect's financial interest in a project take? Various. If the building is to be a rent generator, then she might take a percentage of the rent in perpetuity in lieu of fees up front. If the building is chiefly, or also, an "appreciator" (i.e. one whose market value increases due to increasing land scarcity or economic growth in the neighborhood), she might take a multiple of the property tax appraised by the city each year, or a cut of the selling price every time the building changes hands.[164] Architects and developers might join in legal partnership, sharing equally in the risks and rewards of their respective investments in the project (e.g., architect 12%, developer 88%).[165] In one or all of these ways the result can be the same: (1) the architect's fees, now less a unfortunate charge than a yield on risky investment, retreat as a factor discouraging her involvement, and can be higher, (2) her desires and hunches carry real weight, (3) her income increases with the number of buildings she has designed over the years, and on their continued ability to earn and appreciate (they are her "portfolio," her "children"), and (4), having literally put her money where her mouth is, she is obliged to confront market realities as knowledgeably and, yes, creatively, as she confronts formal and aesthetic ones.

A third way for architects' fees to become more affordable to more people (and perhaps higher at the same time), but not as blatantly commercial or threatening to architects' self-image as "above-the-marketplace," is a new sort of architect-client contract I will call a "Tilted-L Fee Contract" for reasons that will soon become apparent.

Architects are most often paid in one of two ways: as a percentage of construction cost (a number which is itself estimated until a firm bid from a contractor is accepted), or by the hour, rather like attorneys, with different hourly rates being charged for the labors of different firm members. Each has its advantages and disadvantages, but both leave intact the incentive for clients to use their architect less rather than more. Both induce conflict between architects and clients of limited means, a conflict that can easily erupt when the builder comes onto the scene and costs inevitably escalate. The commonness of this eventuality induces both clients and architects, negotiating an agreement to work with one other, to dance warily and somewhat disingenuously around the issue of what the *real* costs, and the real services provided, will be.

Now consider Figure 11.6. It represents a more complex play of incentives between architect and client *vis-à-vis* money and fees than is typical in the contract between them. Here

the architect is covered if actual construction costs run up over estimated costs, but is positively rewarded if actual costs turn out to be lower than estimated costs. The greater incentive for the architect is towards saving the client money. This puts the architect and (most) clients on the same side strategically speaking: both stand to gain by economizing and both share the pain of cost overruns. Figure 11.6 illustrates the principle using dollar figures. It assumes that the budgeted, or estimated, construction cost of the building is $750,000. The architects fee of 10% is tied to that figure, so that the total cost to the client, if the building's construction cost "comes in" as planned, is $750,000 + $75,000, or $825,000. The contract between architect and client, either graphically or in a printed schedule, instates the "tilted-L" heavy line shown in Figure 11.6 as the way to re-compute the architect's fees if the budgeted figure of $750,000 is undershot or overshot. How?

Let's say that actual construction costs amount to $700,000. Then the architect's fee goes to $90,000 (a gain of $15,000, and effectively a 12.8% fee on $700,000) and the owner's total outlay drops to $790,000, a saving of $35,000. Now let's say that construction costs run up to $800,000. Because this usually involves more work from the architect (revisions of plans and specifications, negotiating with builders, etc.), it seems reasonable that she receive *some* recompense. But notice that the slope of the horizontal bar of the "L" is tipped up less than the left bar. Now she receives fee of a $78,000 (a gain of $3000 but effectively a fee of 9.7% of $800,000) and the client pays out a total of $878,000 instead of the $880,000 he would have paid had the architect charged full fees for the overrun.[166]

Figure 11.6: A graphic example of how fees would be computed in a Tilted-L Fee Contract between architect and client.

Now the reader may be surprised to see it proposed that architects ought to be as motivated to save money on construction as are their clients. Does this not run counter to everything that this chapter has urged us to do, which is to spend *more* money on the finished product that is architecture, not less? No. I would suggest that using Tilted-L Fee Contracts would have just the result we want, i.e. *more* money spent on buildings than otherwise, and with more amicable client-architect relationships to boot—a not-inconsiderable factor in achieving architectural quality. Why? Because it counters the prevalent, highly-unproductive *modus operandi* in which the client, in agreeing to a fee, plays a bargaining game with the architect. Insisting on the tightness

of the budget and his inflexibility with regard to it, the client does what any souk bargainer does: he makes a low offer. He knows full well that costs will mount as the project progresses, that the architect will want to do more, and, indeed, that *he* wants more *from* his future building than can reasonably be had for that price. And the architect knows that the client knows, and knows that she will have to battle to meet The Budget, but that if she can get started and show the client how little can be had for that money, the client himself, wisened, will raise the ceiling. And the client knows that the architect is thinking this and would gain by running up costs rather than saving...and so the budget is set too low, and the fee rate too low, and both parties know it, and neither is really happy, but just waiting to see how it will all play out when there's no going back. My claim is that the Tilted-L Fee Contract, because it aligns the client's and architect's interests at the outset, would so comfort the client that a more realistic—and higher—budget figure would be set to start with. Would you, as a client/buyer, not agree to a higher working-estimate of costs if you knew that the person most empowered to lower the final cost also had real incentive to do so?

The exact slopes and numbers used in Figure 11.6 are not the point. These can be adjusted with experiment and experience. But the principle remains: those who initiate and pay for architecture and who are rationally inclined not to *waste* money, should work with their architects and not against them, as they all too often do after the arrival of the first real cost estimate.[167] Using the Tilted-L Fee Contract will not automatically induce, in terms of quality, what a deep-pocketed and public-spirited client can accomplish with a responsible and inspired architect. But it might just produce better buildings than are the norm today. And also better-off clients (because their buildings are working well and are a source of pride), and better-off architects.

Group IV

Proposals for new legislation and/or financing methods that would help bring about better buildings and environs for all.

The proposals in this next group try to increase investment in the built environment by modifying the rules of the game by which developers, land-owners, architects, contractors, and tax-payers interact with each other and with the city. In order to be effective, however, such modifications would require supportive legislation at municipal and possibly state levels: new

ordinances, new regulations, new or different taxes and subsidies. The number of steps required to put such legislation in place—the arguing, the lobbying, the voting, the panels and commissions—would be considerable. But then, so too would be the scope of its their effect. Once again, the idea is to use marketplace dynamics as far as possible rather than unilateral, government-funded construction or control over the exact shape of what is built. I begin with two new tax/subsidy programs:

Proposal 14. A sprawl tax.

As the name implies, this is a tax levied by the city on property owners, the aim of which is to discourage sprawl and encourage denser, more efficient use of land closer to the city's center.

I shall not rehearse the national debate on sprawl, or cite the statistics that are used to prove that sprawl is (1) a bad thing, (2) not such a bad thing, or (3) a good thing. My sympathies are with (1): one need not be "against suburbs" or be a card-carrying New Urbanist to want better, smarter, use of land everywhere. This much is clear: American cities are growing in area more rapidly than they are growing in population. Farmland is disappearing at an alarming rate.[168] More and more time is being spent commuting as urban freeways continue to chew up and re-scale huge swaths of city fabric, doing more to cause traffic congestion than to ease it and making every other city block a parking lot or garage. And for all this, other than at rush-hour and lunchtime on weekdays, downtowns are largely evacuated of people, most new buildings turning inward and away from scenes of dereliction just up the street. The palpable waste of the resource that is *space* in and around most American cities has more than just economic effects, it has serious quality-of-life effects.

Growth is good, let us say; but growth need not mean spread or sprawl. It can mean the elaboration, flowering—cultivation—of the land already assigned, with architecture; it *can* and *should* mean a more complex-and-organized environment instead of a relatively simple-and-disorganized one spread thinner and further over the landscape.

Enough said. How would a sprawl tax help? And how would it work?

Imagine an idealized city, circular in form and with its center located downtown, perhaps in the city hall lobby. Average real-estate property values (in both per-square-foot and absolute terms) are apt to be much higher at or near the center than at or near the periphery. Curve-A in

Figure 11.7 represents this typical falling-off of real-estate property values with distance from the center. For convenience, the center-city's average property value is set to 100 and its diameter to 8 miles.

Figure 11.7 The Sprawl Tax[169]

Now, the vast majority of American cities assess and collect a *flat* property tax, that is, some fixed percentage of the assessed property values within the city's boundaries.[170] Following this real-world model, and looking Figure 11.7, we can see that the total amount of property tax assessed and collected on this basis by the treasurer of our idealized city is proportional not directly to the area under curve-A, but to the *volume* that the area under curve-A sweeps out when rotated 360˚ around the Y-axis (representing the center of the city). Curve-A forms a sort of conical surface, and the volume between this surface and the zero-tax plane underneath it represents the amount of tax collected. (Not surprisingly, this surface also looks roughly like the distribution of building heights in the average city.)

Figure 11.8 The surface swept out by rotating curve-A around the Y-axis

Now imagine that we were to apply a "sprawl tax rate multiplier" to the typical, flat-rate property tax (which simply tracks the property values represented by curve-A). In Figure 11.7, this multiplier is represented by curve-B. "Curve"-B rises from 0.5 at the city center to 2.5 at the city boundary four miles away, passing through 1.0 at a radius of one mile away from the city center. Owners of property inside the one-mile radius get a property tax break or subsidy (relative to the present dispensation) while those further out are steadily taxed more heavily.

The result, mathematically, is curve-C (which is the product of curve-A and curve-B). The result, physically and economically, is that the sprawl tax encourages development closer in, at higher densities, and with more efficient use of transportation, infrastructure and the rest, instead of *rewarding* developers for developing at the edge of the city, which is what the present system does, stretching the city further and further out and obliging it to pay the costs of providing physical infrastructure, schools, police and fire protection, and so on, to exactly those people who are paying proportionately less for them (through property taxes, anyway). The sprawl tax allocates city-provided costs and benefits more fairly.[171] It provides an alternative to

the solution adopted by Portland, Oregon in the 1970s, which was to draw a line around the city only inside of which development was permitted.

The sprawl tax would have another benefit. Because the *area* of a city increases as the *square* of its radius, a very slight sprawl tax can yield considerable tax revenues. Using the illustrative numbers of Figure 11.7, the volume under curve-A (rotated as in the diagram above) is 886 units, whereas the volume under curve-C (rotated in the same way) is 1,778, or twice as much.[172] The difference represents revenues that could be used to lower other taxes, to provide better services, parks, schools, roads, law enforcement, housing, and housing subsidies, as well as to carry out civic works and landscape projects that make up for what too many private land-owners and developers are naturally inclined to do, which is to exploit already-in-place public goods, like pleasing natural areas or vital older neighborhoods, while contributing positively *to* them as little as possible.

A simpler form of sprawl tax would be a *flat rate* tax indexed to the *area* of the land in question, rather than to its market value. Smaller lots would be assessed less than larger ones, and thus a intensive use of land would be rewarded and wasteful use of land punished.

The are some difficulties with the system I am proposing, whether in this simpler form or the more complex one. Here are three such difficulties:

(1) When two cities are adjacent to each other and one applies a sprawl tax and the other does not, a strange boundary condition could result between them, with edge-residents of the cheaper city drawing business from, and using the nearby services of, the more expensive city.

(2) Because property taxes account for a rather small portion of the total costs of real-estate development and revenues from sales and leasing, it might be that *no* incentive scheme based on manipulating property taxes—not even drastic ones—would have much of an effect on developer behavior.

(3) Most real cities are neither circular, nor flat, nor level. They have rivers, mountains, waterfronts, freeways, and other features that distort the idealized form we present here. And many, like Houston, have satellite mini-cities, decentralized office and shopping centers, and so forth. Any city contemplating implementation of a sprawl tax, then, could not impose a simple geometrical scheme. Planners would have to create contours, or banded zones, and associated sprawl taxation rates that had a more complex relationship to existing topography, building

density, and traffic patterns than concentric perfect circles around a single center. The process of creating such a taxation map could add a significant political dimension to what was already be a contentious idea in principle (i.e. the sprawl tax itself).

Only further study and on-the-ground experiment will tell whether these three difficulties are insurmountable obstacles to containing sprawl. The stakes are high enough to try.

Proposal 15. A ticky-tacky tax.

Libertarians who have read this far will pale further at the suggestion that city governments should become involved in tax and subsidy programs that treat different architectural projects differently depending on how well they are built, landscaped, and maintained. But this is precisely what I am suggesting. The principle is simple enough, and is based on the positive correlation between cost and quality we examined earlier (this chapter, p. 15, and in Chapter Nine, pp. 56–59). The city keeps an updated list of average, per-square-foot construction costs for different kinds of buildings in its domain. All owners of new buildings submit to the city a bone-fide accounting of the costs incurred in construction (plus landscaping and professional fees). If they are above the norm they would be given a property tax break. If they are below the norm, they would be assessed a property tax surcharge. The city has the authority to set these norms at or slightly above the average discovered, and to vary them also by neighborhood. It may also decide to set the rates so as to break even financially, or to generate revenue.

A less strenuous version of the system would offer property tax relief only for owners who could show proof of expenditure on architecture and landscape beyond the norm. All others would pay the standard rate, and need not submit expenditure reports at all.

As for enforcement: all cities already have a small army of building inspectors. They could be trained to look for more than code violations and health hazards. They could be trained to assess more complex dimensions of quality, and certainly whether the building, as built, conforms to the building approved of by the city in its plan-review and construction-permit proceedings. These same inspectors could verify the plausibility of claims as to the size of outlays for improvements and maintenance. Of course, the inspectors themselves would have to be morally trustworthy; but this is true now too.

The honesty of contractors, engineers, and architects would enter also. They *could* respond to the ticky-tacky tax by submitting higher bills, knowing that the owner-client would be

getting a subsidy that took the edge off any higher costs to him, and *not* actually provide any better quality of construction, materials, or design. I think this is avoidable. After all, the owner exerts his own quality control, as does competition among contractors, and among architects and engineers, for work. Also the tax relief offered would always remain smaller than the amount of above-the-norm money invested in the property.[173]

Physically and politically, both the sprawl tax and the ticky-tacky tax would operate at the city scale. It makes little sense for counties or states or the Federal government to administer such plans except, perhaps, for providing broad regulatory supervision and matching funds for specific projects.[174] At the smaller scales of district and neighborhood, however, similar tax and subsidy plans can work too, in partnership with, and with the authority of, the city. We have already discussed one such plan with the idea of the "neighborhood information field" whose improvement and maintenance could be the responsibility of members of the neighborhood itself *without* avoiding market competition for the provision of the requisite services. (See this chapter, p. 55, and the material leading up to it). This is not a totally original idea. Condominium owners typically pay a monthly fee to a quasi-democratically elected owners' association for upkeep of common areas like gardens, driveways, clubhouses, swimming pools, security staff and systems, and so forth; and these owners' associations are perfectly capable of acting like businesses, taking bids for services, and so on. Because they control membership and access, they are more like private *clubs*, however, with dues-paying members.

A prime example of a district-scale organization that is *not* a club is the Central Park Conservancy in New York, a nonprofit organization founded in 1980 that manages Central Park in partnership with the Parks & Recreation Department of New York City and whose contributors consist largely of the people who own or reside in property enfronting the park (and who therefore have a rather direct interest in keeping the park attractive and safe). The Conservancy provides four-fifths of the park's annual operating budget, funds major capital improvements, provides horticultural care and management, and offers programs for volunteers and visitors. By all accounts, it does a good job. Monies collected by the Conservancy are, however, voluntary (though tax-deductible), and one wonders whether the success of the Conservancy is not due mainly to the immense wealth of its contributors. Could the system work in lower middle class neighborhoods? Experiments are being carried out. Nor is it all roses at Central Park. Questions persist as to whether this arrangement in fact has directed more or less total money than otherwise

would have been directed at the Park's upkeep, and there have been complaints that the southern end of the Park has been receiving more attention than the northern end, which is bordered by relatively less-affluent property owners and residents.[175] Marketplace dynamics are beginning to show through. And what happens at the next economic downturn?

For these reasons, fees and dues and taxes from private property owners that are accountably put to use to enhance the common "cultural landscape" should be assessed and collected by organizations whose legitimacy is backed by the state, and who have the authority to enforce local (but democratically-arrived-at) measures through the municipal court system. Voluntary public-private partnerships are well and good—indeed, they are excellent—but the price is too high when every inch of a city's physical property and every event it stages must be emblazoned with commercial messages from its sponsors or when, as the economy cools—and, with it, the magnanimity of big business—public space becomes the first casualty.[176]

Proposal 16. Dampening real-estate speculation.

Commercial buildings, residential buildings, raw land, even institutional buildings...all can be bought and sold with a rapidity that is a function only of the "heat" of the free market economy. As high as transaction costs are in the real-estate marketplace, they are not high enough to ensure that those who build or buy buildings remain focussed on their value as goods, i.e. objects of pleasure and use, rather than as capital, i.e. return-producing objects of investment. There's nothing wrong with capital, of course, or with owning it, but, as I discussed at some length in Chapter Nine, when a good is drawn into this dynamic in the context of people's diminished capacity to value qualities in the good *other* than those that contribute to its possible resale or rent, then the good will evolve to serve more efficiently only the purpose of speculation. For architecture, this means more generic, cookie-cutter architecture guaranteed not to offend the majority and designed only to increase the area of its floors and the prettiness of its most-seen facade. It means more of what you see as you drive Loop-this-or-that-number around the average American city.

Contributing to this dynamic is the fact that developers need not risk much of their own money to raise a building. They risk largely borrowed money. It's called "leverage." Nor need they own the building for very long. When the very *point* of construction is profit from sale, the sooner this income stream starts to flow, the better. Consequences are for the buyer to worry

about, and the buyer after that, and after that...*caveat emptor* all the way. And what is it that the next buyer should beware of? Only his chances to sell again at a profit, given what it would cost him to re-paint, or re-roof, or re-zone.

One suggestion to counter this trend to leveraged speculation is to prohibit the owner of a building (or land) from selling it if they owe more than (say) 33% of its price (at the time they bought it) to a mortgage lender, commercial bank, or private investor. One might, alternatively or in addition, set a minimum time period of ownership before resale is legal.

This rule would not destroy the real-estate market, but it would have some interesting, and I think mostly good, effects. For one, it would discourage outright speculation with the physical environment, which is, after all, a deeply public good. Short term property speculation—"flipping"—runs up prices without adding much value, leading, at best, to higher-than-necessary prices and rents, at worst to huge losses by the last holder and his or her lenders, not to mention abandoned buildings and land. Connecting developers' actions to their longer-term consequences would motivate them to beware of themselves, since it is *they*, and not some buyer, who would reap the benefits of doing good or suffer the injuries of doing bad. As the old adage has it: How you make your bed is how you sleep in it...how *you* sleep in it. And this would be as it should be.[177]

Proposal 17. Encouraging "extended investment."

The proposal I have just made contains elements of what we are after with the idea of "extended investment," which is that entrepreneurs and investors in projects (of all sorts) should not find it easy to insulate themselves from the wider ramifications of their projects—to walk away from the table with their winnings, so to speak. (Nor, on the other hand, should they be forced to play until they lose.) The incentives we are looking for would induce entrepreneurs and investors to choose deals whose most positive outcomes for them are also the most positive long-term outcomes for others, and one way to do this is to tie their fate to the fate of those affected by their decisions. That is to say, in a more perfect world, all investments would be *extended* spatially or temporally beyond their nominal boundaries so that the benefits/costs of externalities were not enjoyed/borne only by others, but by themselves as well.[178] For example, when an architect (or actor) forgoes up-front fees in return for a percentage of the "gate," as we

thought about earlier, she is extending her investment of time and skill into the consequences of her design (or performance), making herself, for better or worse, both more vulnerable and more responsible.

Investment extension is, in many ways, the opposite of investment diversification, since the latter strategy involves spreading one's time or money over as many *independent* projects as possible, i.e. projects whose dependencies and outcomes are not causally linked, so as to minimize overall risk. Investment extension gets you deeper in. Extension, though, does not *preclude* diversification, it just means investing in eggs and expecting chickens; it means sowing in order to reap, and it means doing this with two or more projects at once.

Land developers in particular are already well trained in playing the investment-extension game. Let us start with a negative example. Imagine a street of nice, single-family homes. Their average price is $400,000 and their average size is 3000 square feet. The street has a single empty lot. One day, this lot is put on the market, and a developer buys it for $100,000. Question: how much money should, or would, the developer now put into building the house itself? $260,000 sounds like a reasonable and safe figure. It would yield the developer a 11%, or $40,000, profit on his investment if he sold the house at neighborhood average. But at present he can do better by doing less. He can safely invest less than $260,000 in building the house, because he knows that a considerable part of what will support the market valuation of *his* house is not the *quality* of his house at all, but the quality and value of the other houses on the street and of the environment—the information field, in our terms—that they provide. In other words, he will be able to get approximately $400,000 for almost *anything* he builds that is around 3000 square feet in size.

With this in mind, our builder builds an average-size house that costs him $230,000 to construct. Almost inevitably, it is worse in design, detail, materials, and finishes than its neighbors. This brings down the neighborhood average market value (with his immediate neighbors taking the greatest hit). Say it drops to $390,000. Its ugliness offset by its newness, our developer now sells his creation for $390,000. How does he come out financially? Very well indeed: it cost him $100,000 + $230,000 = $330,000 to bring to market, and his profit is $60,000 rather than the $40,000 he would have made had he done the right thing and matched his neighbors' efforts. Where did that extra $20,000 come from? Indirectly, it "came from" the losses sustained by his

neighbors. The (im)moral of the story is this: that, in general, when buying a single lot in an already developed neighborhood, it pays to build cheaper than the local average, to defect, to "free ride."[179]

Now let us consider a positive example. A developer looks at some empty or under-developed land. He buys not one lot, but many lots adjacent to, and more or less surrounding, the one or two he intends to develop. These he develops at well-above-neighborhood-average density, niceness, and expense. Aided by the fact that the land was relatively inexpensive, his project does quite well. It is not, however, handsomely profitable, being located, after all, in a new and relatively undeveloped part of the city. But then again, it *need* not be handsomely profitable—just profitable enough (or profitable-seeming enough) to raise the real-estate values of the project's neighboring lots...which he owns, and which he now can sell at a handsome profit The process is mirror image to the exploitative one described in the previous paragraph. The developer extends his investment by investing also in the externalities of his primary investment, which was the lot or two he built upon. He is entitled to reap what he sows because he literally bought property rights in the broader consequences of his actions.

In the world of real-estate, buying a large swath of land, starting things up on a part of it, and monetizing the value added to the field, is not an uncommon strategy. (It's what the average large home-builder does when he puts in a model home, a clubhouse, recreation facilities, a little lake and a stone gate...*first.*) Extended investment strategies usually require more investment capital and more confidence to pull off than isolated "pocket" investments that exploit already established field values. Nonetheless, the underlying mechanisms are the same.[180] This sets one to wondering whether there is not a better way to buy and sell real estate (and, along with it, architecture) in general, some way that institutionalizes extended investment without requiring huge amounts of capital and large swaths of fresh land.

There might be. The system would run something like this: to buy a property would necessarily, by law, be to buy a financial stake also in two or more neighboring properties. As a property owner, you would then partially own your neighbors' properties, just as they would partially own yours. Such partial ownership schemes could be implemented through a system of shares and share trading (each property issuing a certain number of them), or by contractual agreements between owners, or both. (The analogy is to corporations coming to minority-ownership of each other through mutual stock swaps.) All parcels of real estate, rather than being wholly and independently owned by discrete individuals or institutions, would be *majority*-owned by

them and minority-owned by others physically nearby. And this would form not a pin-cushion of independent ownerships, as is the present case, but a dense network of mutual interests that behaved more like a rubber sheet than a pin cushion. Now each (majority) owner, by virtue of the fact that he stands to gain by the positive externalities of his own actions and stands to lose by the negative ones, has the incentive to do the former and not the latter. For example, the developer in the first scenario described above would be less likely to exploit his neighbors because he himself would suffer financially in the lowering of the value of neighbors' properties. (The developer is the second scenario is already following the "good" pattern.) Raising capital for improvements would be as easy as issuing stock, with neighbor-co-owners being given first option to maintain or increase their percent ownership in your property (there being a legal minimum percentage).

Imagine the system in place. We would, in all this, have formalized and monetized the trade in approval tokens that presently occurs. We would be putting people's money where their mouths are when they are pleased or dismayed by what their neighbors are doing to their properties.[181] Add free trade of equity shares—and/or securitized debt—in millions of individual properties, among millions of people, and a market quickly develops that has no real precedent. Indeed, it is a totally a new way to finance architecture. The freedoms lost to new owner responsibilities—even though they appear in this system as incentives—would be compensated for in the liquidity and pace of this new market.

As of now, publicly-traded real estate investment trusts (REITs) come closest to what I have in mind, which could be expressed in the slogan "Every Property a Micro-REIT." REITs are vanishingly small, though, compared to the value of all the real-estate in America, and the properties in which REITs invest are functionally diverse, income-generating, and geographically dispersed, just as low-risk investment portfolios are supposed to be. Mortgage-backed securities are also commonly traded on the stock market, but these are highly denatured products, "made" from thousands of mortgages pooled and redivided in ways that bear no relation to geography or the fates of individual mortgagees. The complexity of the market we are contemplating exceeds these two by several orders of magnitude. So fine would be the grain of it, and so tricky the laws governing it, that, computers or no, transaction costs might be prohibitive and its large-scale behavior unstable. One might, nonetheless, try the system out by stages, first in a single condominium building or housing development, then a neighborhood, a small town, and so on.

Much remains to be worked out at small scales before such an experiment could begin in earnest. The benefits, though, would be far-reaching.

Proposal 18. Legislating historical continuity.

In 1980, at the height of American architects' interest in historicism, a book was published and applauded that should have been more influential than it was. The book was *Complicity and Conviction in Architecture* by William Hubbard, its title being a play on Robert Venturi and Denise Scott Brown's influential *Complexity and Contradiction in Architecture* of 1964.

Following a suggestion by Peter Collins in his also much-overlooked *Changing Ideals in Modern Architecture* of 1975, Hubbard proposed that architecture look to common law for a model of how it might proceed.

There are essentially three bodies of law: constitutional, statutory, and common. Common law was developed most fully in England, and is the basis of day-to-day legal practice in England and in all former British colonies, including America, to this day. In common law, judges proceed by comparing the facts of the case before them to previous cases and the judicial decisions arrived at in them, rather than to the original principles and laws that underlie them. In the statutory (or civil) law model (prevalent in Western Europe), judges refer more readily to the wordings of original statutes, laws, or other, more timeless principles; and they refer rather rarely to the decisions and reasoning of other judges and other cases, which are, in any case, not taken as authoritative.[182] Hubbard wanted architects to design and argue for their buildings not from a handful of first principles or "laws," as in civil law, but from how similar buildings in the past had been successful. Convention and tradition would hold sway *unless new circumstances*, which themselves seemed reasonable and just and unavoidable in effect, *could be shown to invalidate them.* New buildings would then *be* old-buildings-adapted-to-current-conditions. This would sometimes literally be true, as when an old building is actually restored and updated, and sometimes figuratively true, as when a new building is composed *as though* it were an old building which was modernized.

Hubbard also counseled architects to look to the art of typography for a model, and in particular to the design of new typefaces. All new typefaces are recognizably variations on old ones—old ones adapted and refreshed—this even though every designer worth his salt *could* come up with a wholly new and charming set of ciphers...which no one could read. (Hubbard

could just as easily have referred to jazz musicians, the greatest of whom are the quickest to admit their debt to other musicians. Unlike architects, such people typically rate their own contributions and innovations as minuscule, and understand that jazz is entirely an evolutionary medium.)

But let's go back to the model of the law and see if we can't add to Hubbard's account by using some of the terms we have developed in this book.

The advantage of common law is that it evolves. To be sure, as the number of precedents grows, and as technology and culture and new economic arrangements transform life, common law places ever greater demands on judges' and lawyers' ability to sift through history. But somehow, common law is able to keep up and occasionally even take the lead, becoming the basis for new statutory law. (In this keeping-up process, computerized databases have been a great help.) Indeed, the body of common law at any given time is rather like DNA—"legal DNA"—with enormous stretches of "junk" code (long racks of musty, hardly-ever-consulted books and files, like unread codons) as well as an intricate, active component. This active component "expresses itself" not as an arm or a leg, but in the shape of daily life near the edges of potential conflict. And the body of common law lengthens as it evolves, growing in complexity-and-organization, just as DNA does.

Now, how does architecture enter this picture? In two ways. We can think of architecture as itself a body of time-tested, interpreted law, that is, as the DNA-like internally-carried blueprint for the re-production of "legal"—i.e. proper, functional, right—new buildings. We can also meditate on how firmly the design and construction of buildings is *subject to* law as we ordinarily understand the term law—that is, as obeying zoning and height restrictions, health and safety regulations, and so forth. This second view is the more familiar, of course, but let us look at the first for a moment.

As I averred earlier in this chapter (p. 99), modernism was close to an extinction-event for certain "species" of architecture in the first sense of architecture = law = DNA. It was the near extinction of the species of architecture that made streets and squares and rooms, that treated adornment as hardly less necessary than support, that was *place* first and capital second, that was civic and idealizing in its intentions no matter how private or utilitarian it was in assigned function. Modernism wanted to start over, to sweep away the peacocks and elephants and replace them with their skeletons, or better, with the engineering lessons to be learned from skeletons. The opinion was that you could not actually have the "old" kind of architecture[183] *and*

have sanitation, electricity, light, air, air conditioning, fire protection, easy access, etc.—i.e., all the benefits of modern technology. But this opinion was and remains groundless, as hundreds of thousands of rehabilitated pre-modern buildings happily in use today attest. There is no technical reason why *every* benefit of modern technology could not be incorporated into long-evolved forms of architecture so as to lengthen their DNA, so to speak, and in this way make the built environment that much more life-enhancing, adaptive, and beautiful than the stripped-down and primitive buildings of the day that free-ride, still, on the rich fields created by older buildings and landscapes.

Also, the opinion was that you could not have pre-modern architecture and *democracy.* But there is no law of *democracy* that says that ordinary citizens must live in thin and noisy little boxes, modern or post-. And there are many democracies today where people live and work in pre-modern buildings, vote for their leadership, enjoy a free press, free markets, etc., etc.

I propose that architects recover the DNA they threw away with such fervor in the years between 1930 and 1970, and again since 1990, and to reinsert it into new architecture. But how?

One way is to introduce elements of the practice of common law into the practice of architecture, as Hubbard suggests. This combines the view of architecture *as* law and of architecture as subject *to* law.

For example, imagine a law that says that *you may not tear down a building*—any building, in any condition. If you want to develop a lot that is already built upon, then you simply have to find a way to go over, around, through, or into the existing structure—incorporating it, extending it, adapting it...doing anything but demolishing it. The old structure exists as a fact, a common law precedent that applies to this "case," and one of among dozens of other cases in other cities where similar buildings on similar lots and with similar purposes were proposed and built and are successful...

What a headache! What research; what argumentation! What a plethora of built complexity-and-organization would result—and what a need for architects with the requisite knowledge and who, like lawyers, know how to negotiate the complexity demanded. (Did anyone mention fees?)

Common-sense informs us that the above law is impracticable as stated. There are too many small and/or awful buildings that are not worth keeping, not worth insisting on even as the irritations that could cause architectural pearls to grow around them. But nor, at the other extreme, should architectural preservation laws apply only to the most certifiably ancient,

stylistically elaborate, and historically significant buildings in the neighborhood. Cities should simply make a judgment call as to which buildings within their precincts are good enough to keep—to keep not like some precious jewel (although some *would* be treated this way), but as provocations to "right-development," which incorporates and adapts (to) them and produces, thereby, more complex-and-organized results than any clean sweep and fresh start would be likely to. The actual *age* of the building may or may not have anything to do with it.[184]

So our law now says: "you may not demolish or remove a building that we (the city, the people) have said you may not." Of course, there would be appeals, but in the process a healthy public debate would emerge as to what would justify demolition, a debate that would, in its own way, make new case law. What would emerge alongside would be the demand for architectural solutions that obviate the need for demolition through saving and incorporating existing structures, as well as the demand for fresh designs that themselves had the complexity, quality, and historical resonance, that *could* justify taking out the old completely.[185]

But this still does not address common law's message for designing on empty land, or on properties where the city feels no need to insist on even nominal preservation. Here the architect takes on "cases" where simple statutory law (zoning, easements, and so forth) is the only constraint besides economic feasibility. Such properties are more numerous around the fringes of the city and in the countryside, and building upon them without sprawl taxes or other measures in place would continue to be cheaper than building closer to downtown and having to wrangle with laws that demand preservation, complexity, and contextuality. This cheapness would only exacerbate sprawl, of course, and give us more of what we already have. Moreover, using the common law model far from older urban cores would allow emulation of what others had legally built upon similar, effectively-empty lots in the past fifty years, and most of this architecture is exactly what we are trying to avoid perpetuating. We could easily undermine the whole purpose of our legislative proposal, which is to achieve higher complexity-and-organization in the built environment, at all scales, through insisting on historical continuity.

The answer to these problems lies in going beyond preservation law. Preservation law is already quite strong in America, offering substantial property tax incentives at the local level and income tax incentives at the federal level for the conservation and restoration of historic structures. What we must accomplish is making *knowledge* of pre-modern models context enough for development when there are no fine, pre-modern buildings on the site or in the vicinity to save or respond to. Insistence on "historical continuity" of this sort cannot easily be cast into the form of

local, state, or federal laws, i.e. laws from outside of architecture that impinge upon it and "incentivize" more complex-and-organized design. Continuity has to come from within the architectural discipline, from designing *as though* one's building were an old building updated and upgraded, as though it were no orphan but had parents and grandparents.[186]

The model provided New Urbanism would seem to agree but does not. With New Urbanism, the "historical character" of new construction is planned at the outset and legislated (locally) by tight zoning restrictions, by control over building size, height, color, and material palette, by requiring certain architectural elements (such as porches and overhangs) and banning others (such as signage and overhead wires, etc.). This degree of central design control runs counter to producing high degrees of complexity-and-organization in the environment, which depends on genuine aging, on the acceptance of accident and a certain amount of neglect, on a higher degree of autonomy being exercised by designers, and on a less single-minded and censorious view of what is aesthetic.

By contrast, a handful of adjustments in the UBC (Uniform Building Code) *could* make a difference and not create inauthentic results. UBC as DNA? For example: raising minimum ceiling heights to 9 feet (for spaces up to 1000 square feet in area, 10 feet for spaces over that); requiring all human-habitable spaces to have windows to the outdoors that are at least 15% of the area of the floor area of the room and no more than 30 feet away from the most distant point in the room; disallowing windows that are not user-operable (on floors up to 100 feet above ground level); requiring open public staircases in buildings of three floors or more, instituting new interior illumination-level, glare, and natural color-spectrum standards; requiring higher minimum fresh air standards,[187] as well as health- and environment-related building material restrictions.[188]

A detailed study of possible changes to the UBC must remain work for the future. These changes should all be in the service of "old-DNA" recovery, just as the ones proposed above are. The effort would represent a deeper, more generative way to achieve historical continuity than making architecture that imitates the final forms and materials of good pre-modern precedents, although the latter strategy would certainly be better than none *if the imitation were sincere enough.* If these last proposals emphasize the "law" that is *in* architecture, so to speak, there are still external laws to call upon, and that we have discussed, such as those that would cause developers to keep any older structures on their site, that would cause them and their architects to incorporate the past, literally as well as figuratively, in order to transcend it. This is how the DNA lengthens. Not for nothing was Norman Foster's reworking of the Reichstag in Berlin,

completed in 1999, probably his best building and one of the most significant projects of the time.

Analogies to the Renaissance would not be amiss here. It was then that architects rediscovered their classical past, which in turn, combined with the best scientific knowledge of the day and a new commitment to make the world over for Man, helped fuel a renaissance in more than just architecture. Today, an architectural renaissance must make use of history and use new science too, and not just science, but literature, and art, that can help raise what I earlier called the Atlantis of sensibility about architectural phenomena that lies slumbering around us. The spiritual and economic energies this would release are hard to imagine. Enough for a new century. •

NOTES for the Coda: *The Value of Architecture*

[1] I use the word "decent" in connection with incomes advisedly. Architects are not well paid by the standards of other professions such as law or medicine, engineering or stockbroking. In 1999, licensed architects with 3 to 5 of years experience had median earnings (including bonuses) of $41,100; licensed architects with 8 to 10 years of experience, but who were not managers or principals of a firm, earned $54,700, and principals or partners of firms had median earnings of $132,500. (Source: U.S. Bureau of Labor Statistics, *www.bls.gov/oco/ocos038.htm.*)

Architects' incomes (and job security) are also very prone to the ups and downs in the construction cycle. They also work long hours with much vexation. I call architects' incomes "decent,"nonetheless, with that word's moral overtones, because it is the kind of work that most people recognize as "good" work; i.e. modestly but not poorly paid, requiring talent but not *only* talent, responsible but not enslaving, often social in nature but at other times meditative, private, and self-guided. Although clients and builders may often not be entirely happy with their architects (what with budget overruns, schedule delays, and sometimes-surprising results), they rarely feel *exploited* by architects, or gouged—which is more than can be said of some other professions.

The command that (knowledgeable) architects have over artisans on the job site also seems natural. It is power that feels good to wield.

Architects are called in not because one is accused, abused, or sick, but to fulfill dreams and wishes, which is an essentially happy business, and this gives them a touch of Santa Claus-like authority over their clients. After all, the architect has access to a place—the "realm of the muses," of the imagination—that the client does not, no matter how wealthy or bossy he is. The architect also has at his command recipes for *excitement* in buildings, and how to provide that touch of *class*.

[2] James Howard Kunstler, *The Geography of Nowhere* (New York, Simon and Schuster, 1993), pp. 59, 60; my parentheses.

[3] Rem Koolhaas, cited by Gary Wolf in "Exploring the Unmaterial World," *Wired*, June 2000, p. 310. A fine critique, this, if overwrought, and oddly disingenuous, since Rem Koolhaas's own projects use and create new junkspace with a vengeance, the only slight improvement being tougher, cheaper materials, tilted floors, and a bit of color. Though Koolhaas won the Pritzker Prize in 2000, most architects were nonplussed by the man, not quite knowing how to reconcile the bitter-pill rhetoric he offered with his own practice on the other, which was triumphant in its embrace of the purported enemy. Wolf, in the article cited above, concludes the only way he can see how:

> 'Junkspace', I thought, was Koolhaas showing just how much pain he could take. But the (rhetoric's) extravagant brutality also suggests that just as the architect is achieving international fame, he is reaching the end of a phase of his career. Junkspace condemns everything. It's like a horror movie in which the protagonist dies along with everyone else." (Ibid.)

Samson turned temple builder? See also my remarks in Note 36 below.

[4] *Architecture* and *Architectural Record*; both specialize in showcasing significant new buildings, mostly in America.

[5] In 1998, *Architectural Record* and *Architecture*, combined, reviewed approximately 10.4 million square feet of American architecture (excluding houses, whose area contribution is negligible anyway). The number of non-residential square feet built in 1998 was around 1.5 trillion.

[6] If we take private *residential* construction into account also, these percentages would be reduced by roughly two-thirds. That is, the 0.7% figure we began with would go to 0.26%, and the final, adjusted percentage of 2% would go to 0.67%. All told, only about 0.7% of the nation's total building construction volume, including housing, would be called *architecture*.

These figures, and the ones referred to in the note above, were all derived from original research with data series provided by the U.S. Commerce Department and the Bureau of Labor Statistics. The publishing data was tallied directly from the journals involved with the help of my assistant, Rani Paul.

Some might criticize this line of reasoning by pointing out that architecture suffers no less inattention by the press than books do, since few published books are reviewed in some magazine or newspaper. (I do not have the figures, but it is surely fewer than 0.1%.) New movies, on the other hand, are reviewed exhaustively, indeed highly redundantly, every one. I would respond that buildings should lie somewhere between books and movies in the frequency of critical attention they receive, but closer to movies. Buildings are, after all, permanent and public presences, ceaselessly affecting their surroundings. They cannot be shelved in some dark place, canistered, forgotten, put out of public view until the day they are literally and expensively demolished.

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[7] State licensing and registration as an architect does not guarantee much by way of design skill, and membership in the American Institute of Architects (AIA) not much more. There are many bad architects—*bad* not in any moral sense, i.e. not venal or corrupt or especially ignorant, but rather, so harried by pressure from developers and contractors that they can do little more than produce commodity-like buildings with "a dash of flair," valued mainly for the efficiency with which they provide rentable, saleable "space." They must do so as fast as they can, for their client's short-run profit, and with a minimum of care for the impact such buildings will have in the long run, both literally, and as an example to others.

In the era of tax revolt and "small" government, architects serving the public sector are not much better off. State legislatures regularly cap construction costs and professional fees at their lowest possible level, lest they appear "extravagant" to voters. Ditto many cultural and educational institutions and their doctor/lawyer/accountant building committees. This way of thinking was unknown to our forbears.

Moreover, many building types are not graced by the personal attentions of an architect at all—most tract houses and "manufactured homes" for example, many strip shopping centers, most warehouses, "industrial park" buildings, hangars, etc. These are produced from prototypes that were perhaps *once* designed by an architect with some time and talent, but that are now overseen in their varied realizations by large engineering firms or construction companies that have their own engineers and steamrollered ex-architects.

And then there is an army of small-time builders with their own, conventional ways of speeding things along without a "guy in a bow tie" telling them they have it all wrong.

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[8] I will provide more telling statistics along these lines later on.

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[9] After all, policemen think the world is more dangerous than it is. Emergency room doctors think of motorcycles as organ donation machines. Clothiers are constantly appalled at the way people dress, book writers at how journalists write, hairstylists at how poorly people are coiffed, etc., etc. Being an architect, I have often thought, is like being a dentist...*and living in a mouth.*

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[10] Donald Appleyard, Kevin Lynch, and John R. Myer, *The View from the Road* (MIT. Press, 1964); Kevin Lynch, *The Image of the City* (MIT. Press, 1960). See also Steven Kaplan, "Cognitive maps in perception and thought," in R. M. Downs & D. Stea., eds., *Image and Environment* (New York, Aldine, 1973); K. Pezdek, and G. W. Evans, "Visual and verbal memory for objects and their spatial location," *Journal of Experimental Psychology: Human Learning and Memory*, 1979, 5, pp. 360-373; A. W. Siegel and S. H. White, "The development of spatial representations of large-scale environments," *Advances in Child Development and Behavior*, 1975, Vol. 10, pp. 9-55; B. Tversky, "Spatial mental models," *The Psychology of Learning and Motivation*, 1991, 27, pp. 109-145.

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[11] But see http://www.niaid.nih.gov/factsheets/tb.htm. In 1999, drug-resistant tuberculosis was resurging among poor, minority, aged, and HIV-positive inner-city dwellers in the U.S.

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[12] For one: in April 1999, the Boston Medical Center and Housing America issued a report on the sickness caused by substandard housing: 100, 000 children suffering from asthma due to cockroach fragments and droppings, lead poisoning from peeling paints and plumbing, and burns from exposed heaters. (See http://www.igc.org/housingamerica/report.html)

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[13] The telecommunication and computation industry—and I include software and Internet companies—will not be able to provide well-paid, meaningful work for most people, however much they grow. One reason for this is that education requirements are too high, and another is that these are precisely the industries that are most apt to automate, relying on the very machines they produce to re-produce themselves, this so as to create a capitalists' dream, i.e., workerless work producing own-able wealth. Like the proverbial oil well.

Although there is room for improvement still, and greater market penetration, the telecommunication and computation industry cannot, in my opinion, add much more to the quality of people's lives—except through purveying *more* news and *more* mediated entertainment (already near most people's level of saturation point), more-instant and pervasive personal telecommunications (already constant and intrusive), and even more choiceful and convenient shopping, banking, and investing.

I have no wish to detract, on some moral principle, from the achievements in this area over the last thirty years or so. I watch TV; I use a cell phone; I shop on-line; and I want all of these experiences to be more enjoyable or more time-efficient or both. I point out only that there is a natural limit as to how much people will spend on perfecting these services.

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[14] For an interesting treatment of this topic, see Beatriz Colomina "The Medical Body in Modern Architecture," in Cynthia Davidson, *Anybody* (Cambridge, MIT Press, 1997) 228-239.

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[15] Interesting in this story is that the European avant garde in architecture in the early 1900s were inspired by developments in *American* industrial architecture, especially its use of steel and steel-reinforced concrete in factories and agricultural facilities. Viennese architect and polemicist Adolf Loos had travelled to the Columbian Exposition in Chicago in 1893, and there met American architect Louis Sullivan, inventor of the "high rise," whose rhetoric and practice was instrumental in providing the ideological ammunition to help sweep away classicism and its less efficient use of time and land. (Sullivan himself would have been mortified by how his words were taken.) In 1910, German entrepreneur Carl Bernsheidt commissioned Walter Gropius to give his American-partnered shoe factory, Faguswerk, the requisite Modern look. Up the road, as it were, Peter Behrens was working on his plant for AEG industries, employing a young Le Corbusier, and inspiring Muthesius. (Van de Velde was still drawing more Romantic architectural inspiration from John Ruskin via William Morris.)

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[16] Germany's predicament was exacerbated by American foreign policy. Presidents Wilson, Coolidge, and Hoover insisted that war debt to the U.S. by the allied victors of the war be paid. This prevented the allies—England, France, Belgium, and Italy—from forgiving Germany its debt to them in war reparations. With no choice but to insist on repayments, the allies thus forced Germany to remain economically crippled and spiritually humiliated for more than a decade, germinating extremist social ideologies of all kinds.

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[17] In America, despite all the admiration he received from students and academics, the influence of that other giant of modern architecture, Le Corbusier, was strangely limited; at best secondary and through intermediaries. (His only building in America was the Carpenter Center for the Arts on the campus of Harvard University.) Inventor, in his younger years, of the "Domino house," a simple concrete frame with a staircase, inventor too of the immortal phrase "a house is a machine for living in," a tireless polemicist and an inspired designer, Le Corbusier's strongest influence was in Central and South America, in Greece, India, and the Middle East, not America. Perhaps this was because, especially in later life, Le Corbusier became very much an *artist*, a sort of architectural Picasso, a lover of beach and sun (and, perhaps not incidentally, voluptuous women), rather than the cool, suited servant of industry that Mies van der Rohe and Walter Gropius had become in pushing a more Protestant style of building, one that could make more of real-estate with much less vision, passion, and fuss. Good reading here is Charles Jencks's *Le Corbusier and the Tragic View of Architecture* (Harvard University Press, 1973).

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[18] I simplify the story considerably, of course. Architects of the era could always point to (and emulate) those modern masters who did not subscribe to the International Style such as Alvar Aalto, Gunnar Asplund, Frank Lloyd Wright, Le Corbusier, and later, Louis Kahn, architects who represented more complex admixtures, other ideals than efficiency and minimalism (e.g. regionalism, domesticity, emotive expression, physical warmth, convincing monumentality). But in terms of dollars spent, and the amount of space that could be produced with those dollars, the International Style swamped all other modernisms.

[19] All these figures are taken from *Statistical Abstract of the United States*, 1998, 1980, and 1970, published by the U.S. Department of Commerce. The comparable numbers appearing in my *Harvard Design Magazine* article of Spring 1999 ("Less for Less Yet") were less accurate. However, the conclusions I drew there were the same as I am drawing here with revised and sounder statistics.

[20] We are, however, spending relatively more on the mechanical and electrical components of buildings: e.g. elevators, escalators, air conditioning, sprinkler, alarm, sound, and security systems, communications wiring, lighting, water heating, plumbing, trash compactor or incinerators, electrically-operated locks, doors, gates, screens, etc., not to mention appliances like water coolers, dishwashers, microwave ovens, etc. (I have not been able to find construction cost data that demonstrates this trend.)

Now some would argue that such technological insertions contribute substantially to the quality of the "architectural experience," and would ask us to consider it miraculous that construction costs have not soared because of them. How to reply? Again, I do not want to be ungrateful for the safety, convenience, and (at least thermal) comfort they provide, but they do little, in fact, to enhance the experience of being in most buildings until and unless what they permit is rather expensively, rather "wastefully," *celebrated*; as in the tall, air-conditioned "atria" of many hotels, for example, with their exposed glass elevators, or in nice department stores with their crisscrossing escalators, sparkling light shows, and such. Mostly, the capital (i.e. money) devoted to mechanical and electrical equipment is drawn off and *away* from the architecture itself, i.e. from walls and floors, from mass in the structure, from surface materiality, from sheer volume, from natural lighting and operable windows, moldings, hand railings, and the like. Indeed, all of the technologies mentioned are more usually deployed in the service of making intrinsically *bad* space legally habitable, making more such space, and making it cheaper relative to the cost of land. I mean low-ceilinged, "deep" (i.e. far from a window, or windowless) spaces, bright with uniform, poor-quality light, and motionless, unfresh air, far from the life of the street or of nature. You've "been there" I know, and it's what you run away from with every penny of your vacation budget.

[21] Cf. Chapter Seven pp....–.... The assumption is that the good in question does not have an easily reached, easily afforded, easily assessed maximum *possible* quality, like, say, a pint of milk.

[22] In economic theory, inferior goods are those that we spend relatively less of our income on as we become wealthier, superior or (luxury) goods are those that we spend relatively *more* on as we become wealthier, and normal goods are those that we spend the same proportion of our income on as we become wealthier. See Chapter Eight, pp. 33, 32.

[23] Cited by Kunstler, op. cit., p. 80. The accompanying book was *The International Style: Architecture Since 1922* (New York, W. W. Norton, 1932, 2nd edition, 1966).

[24] Reaction from architects to Tom Wolfe's biting account of modern architecture's course in America, *From Bauhaus to Our House* (New York, Farrar Strauss Giroux, 1981), was savage. Together with Robert Venturi's books (most notably *Complexity and Contradiction in Architecture* and *Learning from Las Vegas*) and Peter Blake's *Form Follows Fiasco*, Wolfe's book could fairly be said to have launched the Postmodern movement, at least in architecture, first announced and named in Charles Jencks's *Language of Post-Modern Architecture* (New York, Rizzoli, 1977). In 1998, the editors at *Harvard Design Magazine*, editing my article for the Winter 1999 issue, asked me to drop my references to Tom Wolfe's book on the grounds that Wolfe was not really a serious architectural critic.

[25] There were some great modern architects who did not subscribe to the International Style, of course. Exemplary among them were Alvar Aalto and Louis Kahn. And of course, there was always Frank Lloyd Wright. The influence of these architects, however, on the bulk of non-residential buildings built during the middle and late decades of the 20th century, was minimal. (Wright strongly influenced American house design in the 1950s and 60s). For the decades of the 1970s and 80s in America, it took postmodernists like Robert Venturi, Robert A. M. Stern, and Charles Moore to keep alive the idea that a valid, always-*contemporary* style of architecture would be a *complex* style, reflecting rather than rejecting local history, community, geography, and sentiment, and critical rather

than embracing of economic, reductively functional optimization. But postmodernism too failed to tame the economic development juggernaut, at least in the U.S.A.

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[26] See Mark Wigley and Philip Johnson, *Deconstructivist Architecture* (New York,: Museum of Modern Art and Little, Brown and Co., 1988), and my own *Deconstructing the Kimbell: An Essay on Architecture and Meaning* (New York, Lumen Books, 1991).

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[27] It takes roughly twenty years for the style that reigns among the better students at architecture schools to make its appearance in the American landscape. (In Europe it appears more quickly because of the commonness of open design competitions.) In America, the style shows up not only belatedly, but in considerably watered-down form, this as talented designers, now in practice and finally with some seniority get the chance to see their youthful visions realized through a maze of compromise and endless rounds of economizing. Only a few manage to execute anything like the daring work they imagined they could, and fewer than that continue to grow and innovate with a string of significantly interesting and path-breaking buildings. While the bulk of construction carried on in the baseline, highly economical style of late modernism, at the time of writing, the four new styles were capturing young architects' fancy: (1) Minimalism, originating in Switzerland, and exemplified by the work of Peter Zumthor and Herzog & de Meuron (2) Liquid Architecture (using computers to generate complex, ambiguous, and curved surfaces), exemplified by Frank Gehry and Kaas Oosterhuis in real architecture, Asymptote and Marcos Novak in virtual architectures; (3) Rotterdammerung Pragmatism, consisting of Rem Koolhaas and his followers (more about whom in Note 38 below), and (4) High-tech Eco-architecture, originating in Britain with architects like Lord Norman Foster and Nicholas Grimshaw and the engineering firm Ove Arup. There were many smaller movements too—neoclassicism, hippie-ecological, postmodern vernacularism, New Urbanism—and so on) but these, with the possible exception of the last-named, New Urbanism, had not seized the imagination of many young architects.

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[28] A "fixed amount of *space*"? not exactly. The official measure of construction "volume" is "square feet" which is a measure of floor *area*. It necessarily ignores the lowering of standard ceiling heights in homes and offices since around 1945. A true measure of constructed interior building *volume* would make our figures more startling yet.

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[29] I feel sure, but cannot yet prove, that the same trends characterize landscape design and maintenance as well as urban and rural non-building physical infrastructure construction and maintenance other than highways (i.e. bridges, dams, etc.)

A personal anecdote: In 1993, when I became director of the Center for American Architecture and Design at the University of Texas at Austin, I was determined to forge some sort of cooperative relationship with the research-and-development and/or public relations arm of the construction industry. That industry's and architects' interests, I thought, overlapped: namely, improving the quality of buildings, enhancing the public's appreciation of what good buildings did to improve their lives, and taking a fair slice of the country's economic pie to carry out the mission. The Construction Industry Institute (CII) seemed a perfect candidate. Sponsored by some 43 large building-owning companies and an equal number of large construction contracting companies, the CII tracks and disseminates the research of some 37 universities in the subject area of building construction, from management techniques through technical innovations to performance evaluations. (See www.construction-institute.org for a fuller description.)

As it happens, CII is headquartered in Austin. I went to visit.

Through a long and enjoyable afternoon with CII management—refreshments, cigars, and much nodding all round—I learned a great deal. They were sympathetic with what I was trying to do. Yes, it's a pity that construction spending is not growing proportionately with the economy; yes, it's a pity that buildings aren't what they use to be, etc....but "that's because buildings today are not economical (i.e. inexpensive) *enough.*" The corporate sponsors of CII, I was told, although they might, behind a podium, call for finer and better buildings, would privately never support efforts by CII that might make them more *expensive*. Quite the opposite! Every nook and cranny, every step in the construction process, every material and every product used, was to be examined to see if it could be executed, manufactured, transported, or installed more quickly, safely, and economically. This was CII's public mission. Buildings costs had to come down, my hosts said, to increase demand, and *then*, perhaps total spending on construction might go up. Basic economics.

I suggested that they were steadily cutting off the limb they were sitting on. Demand, I reminded them, is a combination of desire and affordability. Making buildings cheaper might make them less desirable faster than it made them more affordable, as my "percent-GDP" data seemed to show was already happening. Sure, people had to live and work *somewhere*, and in this we both had, as it were, a captive audience. But people wouldn't spend any more of their hard-earned money on their living or working space than they had to *if they had better things to do with it*; and the less joy we provided in this regard the more justified they would be in diverting their attention and money elsewhere. Even purely production-oriented buildings—like factories and other "capital facilities" (which is what CII likes to call *all* buildings except houses)—could reach a limit of cost efficiency and a point of vanishing marginal returns to research. And then what? Will we not have painted ourselves into a corner? We needed, I said, to increase demand by producing a higher-quality, better-appreciated product. Buildings had to become a superior, or at least normal good, if our business was to keep its place in the economy, and avoid commodification, which is the death knell of profitability... (I elected to forgo speaking of how architecture "lifted the human spirit" and of other such idealistic stuff.)

Many hours later, with great personal warmth and professional courtesy, they wished me good-bye and good luck.

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[30] The truth of this statement depends on roughly the same degree of technological improvement in production and distribution methods being brought to bear on all of the types of goods compared. Industries that can speedily put technological improvements into place, for all their individual successes at the firm level, can easily find themselves *together* commanding a smaller and smaller part of the national economy if the *satisfaction* that their goods provide, in the absence of any effective stimulation of desire or encouragement of connoisseurship, has an easily reached "level of enough." (Cf. Chapter Six.) Architecture is one such industry, but without the advantage of significant technological innovation.

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[31] Here is economist Paul Krugman, knowingly (I think) making light of a serious problem with consumer sovereignty. What he says here of food applies very much to architecture.

> (T)he whole point of a market system is supposed to be that it serves consumers, providing us with what we want and thereby maximizing our collective welfare. But the history of English food suggests that even on so basic a matter as eating, a free-market economy can get trapped for an extended period in a bad equilibrium in which good things are not demanded because they have never been supplied, and are not supplied because not enough people demand them. And conversely, a good equilibrium may unravel. Suppose a country with fine food is invaded by purveyors of a cheap cuisine that caters to cruder tastes. You may say that people have the right to eat what they want, but by thinning the market for traditional fare, their choices may make it harder to find—and thus harder to learn to appreciate—and everyone may end up worse off. The English are often amused by the hysteria of their nearest neighbors, who are terrified by the spread of doughnuts at the expense of croissants. Great was the mirth when the horrified French realized that McDonald's was the official food of the World Cup. But France's concern is not entirely silly. ...Compared with ethnic cleansing in Kosovo and the plunging yen, such issues are small potatoes. But they do provide, well, *frites* for thought.
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> Paul Krugman, "Supply, Demand, and English Food" *Fortune Magazine*, July 20, 1998, and also at http://web.mit.edu/krugman/www/mushy.html.

Economist Robert Frank in *Luxury Fever* (New York, The Free Press: Simon and Schuster, 1999) also takes a critical view of consumer sovereignty, but at the upper end of the income spectrum. The increasing wealth of the wealthy over the period from the mid-1980s to the turn of this century, argues Frank, and the consumption of luxury and prestige goods among them in the struggle for class-like supremacy (the most expensive watch or car, the longest boat, the biggest house or diamond...), represents a misallocation of resources. Not only are such luxuries morally questionable (a Puritanical judgment Frank wisely downplays), but the rich themselves do not enjoy the *competitiveness* of it all, and would rather everyone, together, step down, compete less expensively and wastefully. Moreover, the median prices of many categories of goods are climbing simply because their upper ends are being so

severely stretched, not just by actual sales, but because the comparison group of goods facing shoppers (at stores, on TV, in the news, in catalogs, the movies) is widening from the top end and dragging the putative median—the "middle" range—up with it. This affects the spending patterns of the middle classes.

Frank assumes that much of the time and ingenuity spent making luxury goods goes unappreciated, is wasted in this sense too. Of this I am not so sure. I am leery of advocating a world in which shoes are sensible and yachts are sensible too. For Frank, all luxury goods are *positional* goods, i.e. goods whose only value lies in elevating the *relative* status of their owners (a form of legitimacy). Of this I am not so sure either. Although many of the wealthy do keep an envious eye on how much fun and privilege their even-wealthier peers are enjoying, this does not prevent them from enjoying the high-quality goods they have access to. The food really *is* good at L'Espinasse. Envy is an absolute-wealth-independent emotion, to be kept in check, but not entirely eliminated. (It is also not clear to me how lower spending on private luxuries that Frank recommends would convert *ipso facto* into higher spending on public "luxuries" (parks, education) or on more quality time with family, which he wants. The luxury consumption taxes that he proposes could all too easily be directed elsewhere.)

In the matter of environmental concern in general at the national scale, surveys show that concern for the state of environment is slightly negatively correlated with a country's *per capita* wealth—i.e. the poorer the nation, the more concerned people are with the environment. But the willingness and ability to actually devote resources to improving the environment—as measured by increased relative spending—is strongly positively correlated with a nation's *per capita* wealth. (See Anderas Dikkman and Axel Franzen, "The Wealth of Nations and Environmental Concern," *Environment and Behavio*r, Vol. 31 No. 4, July 1999 540-549.) This makes the environment is a "superior good" by definition. One hopes that architecture, as part of "the environment," is caught up in the correlation. But note: correlation does not specify causation, or its direction. *It may well be that doing something about the environment is what makes—or helps make—those countries wealthier.*

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[32] There are some who claim they regularly *save* their clients more money in construction costs than they charge in fees.

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[33] "Do not store up for yourselves treasures on earth, where moth and rust consume and where thieves break in and steal; but store up for yourselves treasures in Heaven.... For where your treasure is, there your heart will be also." (Matthew 6:19, 21) This is one of several passages, predominantly in the New Testament, that inveigh against material accumulation and the pursuit of physical pleasures in favor of inner spiritual development and invisible good works.

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[34] See Elaine S. Hochman, *Architects of Fortune*, op. cit.

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[35] One that apparently not all clients can live with, even those who begin in thrall to the idea. After costing her seven times more than an equivalently-sized Levittown or Eichler home at the time (1950, see Note 36 below), and after attempting to live in the minimalist house Mies van der Rohe designed for her in Plano, Illinois, for some twenty years, Edith Farnsworth, an enlightened and architect-adoring client if there ever was one, finally left it forever to live in Italy, there "...to move as women do in the Old Quarter of Tripoli, muffled in unbleached homespun." See Alice T. Friedman "Domestic Differences" in Christopher Reed, Ed., *Not at Home: The Suppression of Domesticity in Modern Art and Architecture* (London, Thames and Hudson, 1996) pp. 179–192.

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[36] As I write, the Motel 6 chain is making itself over in the minimalist aesthetic. White on white. No pictures or shower curtains or toilet seats....

Not that the purveyors of complex kitsch, *faux* materials, and tortured hollow things in general have no pitch of their own. They merely recall elements of upper-class life in the pre-industrial era. They too offer *what seems expensive for less.* That is, they offer to the middle class and poor what was once (and in its full reality still *is*) only for the rich. Needless to say, I have problems with the "voluntary simplicity" movement when it is a sanctimonious cover for miserliness.

During the 1950s, an enterprising housing developer-builder in California, Joseph Eichler, committed himself to modern design in a way no other builder did, ultimately producing twelve thousand units of what are now known as Eichler Homes. With their delicate framing, large glass walls to courts and yards, and family-friendly layouts, they were the epitome of affordable, simple, rational Modernist design applied to mass suburban housing.

We might even call them minimalist. Today, these houses are culturally celebrated: a museum show curated by Kevin Alter and Paul Adamson travelled to New York in 1999 to wide acclaim. Today, Eichler homes are also immensely popular as real-estate, selling from $350,000–$750,000. (See Gwendolyn Wright, "A Little Respect, Please, for the Dream House," *New York Times*, February 7, 1999, Section 2, p. 33).

If there was ever a story that could prove the value of rational modern design in the single family housing market, this would be it. With the San Francisco Bay Area climate on his side, Eichler's light, glassy, decoration-stripped houses were inexpensive *and* beautiful *and* went on to be great investments—vindication of the value of the architect's art in a marketplace that, to this day, sees no need for it.

A closer look reveals more. The middle-sized Eichler homes (1233 square feet), built to designs by Anshen & Allen, cost their first owners $12,850, or $57 per square foot (in 1992 dollars). This included the land. That same year (1950), the average retail cost of residential construction nationally was $49 per square foot (in 1992 dollars), but this figure does not include the cost of land. If we assume that land value accounted for 15% of the cost of the first Eichler homes, a not unreasonable figure for new-tract development, then his construction costs would have been equal to the national average. Eichler got better design for the same money, perhaps, but not for less, or much less.

As for Eichler homes' appreciation in value over the last forty years (a multiple of roughly 6:1 in constant dollars), one could probably show that they have appreciated more strongly and reliably than most homes of the same size in the same neighborhood. This would prove that better-than-they-have-to-be buildings, design-wise, are sounder financial investments in the long run than average or worse-than-they-should-be buildings. Wonderful! With this claim I would have no quarrel. I doubt only the assertion that Eichler homes were especially cheap to begin with.

How did Anshen and Allen do on the deal? Their fees were $27,000 per annum retainer, plus $550 a house up to 500 houses (1992 dollars). Eichler's company made $2 million (1992) dollars on the first 400 houses in less than a year. (These figures were derived from Anon., "Subdivision of the Year," *Architectural Forum*, December 1950, and "Gamble in Modern, " *Architectural Forum*, April 1950.)

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[37] Doctors as a group and lawyers as a group have it easy in this regard, since staying alive, free of physical pain, and out of jail are natural priorities for most people. Of course, *within* their respective fields, individual doctors (and hospitals) may compete with each other, as might lawyers among each other, but there is little risk that what they each do as a group, i.e. the practice of medicine and law respectively as *modes* of economic activity, will diminish in value or volume any time soon. Slightly less secure in its position is the restaurant or "food service" industry: people must eat, to be sure, but they might—just might—start cooking more at home.

Fiercest, anyway, is the implicit competition between industries that provide the more discretionary pleasures of life, its more questionable "necessities." To name some of the major groupings in this category: entertainment, education, sports, the arts, apparel, basic science, travel, and, you guessed it, architecture(/construction). Within broad limits, society as a whole could produce more or less of these goods, in quantity or quality, and keep going; it could produce different "mixes" of them and still get by. How *much* is actually spent on producing and consuming them thus depends critically on how much they are valued relative to each other during any given epoch. The very tenor of life within a given society depends on this allocation.

For a study of the economics of attention *vis-à-vis* the built environment, see Michael O'Hare, "Attention, Value, and Exchange," *Center 10: Value* (Austin, The Center for American Architecture and Design, 1997) pp. 83–92.

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[38] You may think I must only be referring to the largest and most commercial of architecture and architecture/engineering firms, the sort that build freeway hotels and the like. Not at all. Certain readers may see these remarks as questioning the ultimate effect of the directions taken by the much-celebrated architect and polemicist Rem Koolhaas of OMA, not to say the several firms founded by his ex-staff. As Koolhaas himself would admit, and as the quote earlier touches upon, OMA's architecture is brutal in its "honesty" about global urban conditions, highly "responsive" to economic and political concerns, and interested, by way of claiming to be Architecture, in exploring such new strangenesses of functional juxtaposition, geometry, and lighting as can be found in executing large-scale, quickly-done "generic" projects that use deliberately banal industrial components and construction methods, and a minimum of fussiness (read: refinement) in the details.

As for his influence on others (which was considerable in the 1990s and might still be strong as you read this), Koolhaas said in 1996:

> The whole question of influence is a horrifically tricky subject. ...I think everyone who wonders what the consequences are of his stance, by definition undermines his own authenticity. I think it's an option to ignore the entire subject of influence instead of having the pretension that it is a controllable process, which would imply that you would only want to have a good influence and that in turn would imply that you wouldn't write dangerous texts.
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> *I think the larger part of our [OMA's] influence is horrifying.* I mean, I didn't even see the exhibition in the architecture institute.* Not as a stance, but through a complete inability to relate to that subject. ... I have seen so many people destroyed by the fact that they had a position and that they were aware of their position. There's nothing attractive about that particular model.**

Spoken, one must say, like a true artist. With the support of the Dutch government, young architecture firms in Holland like MVRDV took on huge housing and urban design projects at century's end. OMA's influence is strong among them. One can only hope that the experiment with revived, if surreally reprogrammed, Modernism succeeds in delivering workable new building and land-use types—types that might then evolve in the direction of greater richness and beauty .

One has worries, though: '"The *good*,' Koolhaas remarked one evening, on a very fast drive through the rain-swept plazas near his Rotterdam office, 'is not a category that interests me.'" (Gary Wolf, "Exploring the Unmaterial World," *Wired*, (June 2000, p. 310.) Koolhaas won the Pritzker Prize in 2000.

* An exhibition of the work of 16 architectural practices founded by former OMA staff at the Netherlands Architecture Institute in Rotterdam, August–November,1995. See also: Rem Koolhaas and Bruce Mau, *S,M,L,XL* (Monacelli Press., 1995) and MVRDV, *Farmax* (Rotterdam, 010 Publishers, 1998), and Rem Koolhaas et. al. *Mutations* (Paris, Actar Editorial, 2001).

***http://www.ArchiNed.nl/welcome.html.* My italics and parenthesis.

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[39] The writings of Henry Miller and William Burroughs were seminal in this regard, as were such comic-book series as *Batman* and *Spiderman* (less so *Superman*), to be followed by *Heavy Metal.*

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[40] New Jersey, Princeton Architectural Press, 1997.

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[41] San Francisco, Sierra Club Books, 1982. In the same vein, one might add Tom Vanderbilt's more recent *Survival City: Adventures Among the Ruins of Atomic America* (New York: Princeto Architectural Press, 2002)

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[42] Cambridge, Mass., MIT Press, 1988.

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[43] In my experience, the appeal of "high-tech" and "dead-tech" is quite gendered, Sigourney Weaver's character ("Ripley") in the *Alien* series notwithstanding. In my experience, it is mainly male architecture students who respond so positively to grit, darkness, and engineering complexity. Architecture students of both genders, however, thrill to being around new buildings under construction, when all is exposed and complexly arrayed, when sunshine penetrates and puddles accumulate at unsuspecting places, when the smell of cement and sound of welding fills the air. Here the rawness is not threatening and sublime, but fresh and full of promise, beautiful.

Even stranger, perhaps, is the aestheticizing in the 1980s and '90s of especially banal and "cheesy" settings, places which, although aging, have not reached the point of visually interesting decay. In film, this preference might be exemplified by *Barfly, Trees Lounge, Clerks, True Stories, Slacker, The Adjustor, Clockwatchers, Pulp Fiction, Get Shorty, Jackie Brown, Out of Sight,* or *L.A. Confidential* to name a few. It is an art/taste/fashion trend that better architects (so far) have been unwilling to follow and that worse ones do not follow deliberately. The firm of

Venturi, Rauch, and Scott-Brown, for all its long-standing interest in popular commercial forms and tastes could not (and still cannot) produce genuine banality. Morris Lapidus stands as a lone exemplar of architecture as artfully banal.

Although looking askew at canonical 1950s suburban environments is fairly common (e.g. *The Stepford Wives*, *Dollhouse*, *Pleasantville*, and *Happiness*, to name a few), films in which bland Modernist architecture gets a sustained comeuppance are fewer and farther between: *Hurly Burly*, *Lost Highway*, *The Little Buddha*, *Gattaca*, *Alphaville*, *Mon Oncle*, *Playtime*, and *Traffic* (the last three by the French writer-director and comic, Jacques Tati, in the 1960s).

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[44] Which architects and what kind of architecture *do* I support? I would look to the work of those great architects working at the time when Modernism had not transformed into Minimalism or the International Style, and when the older Beaux-Arts and classical suppositions of building-making, together with crafts and the arts, were meeting the challenges and opportunities of high-strength materials and industrial production and had begun to create a rich and hybrid architecture, both "old" and "new." The period in question is 1859–1917, and the architects caught, in a way, in the uplift of that time were Wright, Sullivan, Olbrich, Pleçnik, D'Oronco, Wagner, Hoffman, de Klerk, Perret, and others. More latterly I would look again at Carlo Scarpa and Louis Kahn. I would subscribe to *Nest* rather than to *Architectural Record*... But this is not the place to propound upon this particular argument.

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[45] In "How the New Economy Is Transforming Theory and Practice" (Architectural Record, December 2000, pp. 74–77, Michael Speaks argues that architectural theory itself, as "practiced" over most of the late 20th century, is dead—replaced by the rhetorical and built output new young firms bent on implementing new entrepreneurial and management strategies that can keep up with the new, globalized business culture.

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[46] One should not overlook the paradox here of *commitment* to maximizing freedom. The truly free would not be committed to anything, not even to their own freedom, as Albert Camus pointed out (contra Sartre) with *L'etranger*.

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[47] Not everyone thinks that sprawl is a bad thing, and would like to change its name to "suburbanization." For a nice overview of the state of the debate at the turn of the century in the U.S., see D. W. Miller "Searching for Common Ground in the Debate Over Urban Sprawl," *Chronicle of Higher Education*, May 21, 1999, pp. A15, 16. What cost-benefit empirical data there is supports neither those who favor sprawl or those who oppose it. It comes down to "values."

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[48] What would Rome, or Paris, or even Manhattan be without massive interventions into Nature's natural course? Without rivers redirected, marshes drained, and bays filled, Holland would simply not exist. Nor Hong Kong.

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[49] On why the free market by itself might not correct this, see Note 29 above.

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[50] In saying this do not mean to overlook Jane Jacobs' several books, nor James Howard Kunstler's, Witold Rybczynski's, Ada Louis Huxtable's, William H. Whyte's, or Yi-Fu Tuan's, as examples of literature that seriously investigates architecture's role in everyday life and is at the same time accessible to a broad (reading) audience. Perhaps Sir Peter Hall, with his 1100-page *Cities in Civilization* (New York, Pantheon Books, 1998), will come to fill Mumford's shoes.

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[51] I am thinking of books like Alan Balfour's *Berlin: the Politics of Order, 1737-1989* (New York, Rizzoli, 1990) or Bent Flyvbjerg's *Rationality and Power* (University of Chicago Press, 1998, transl. by Steven Sampson), or Peter Hall's *Cities in Civilization*, op. cit. At better schools of architecture these sorts of book were read in the seminar room, but down the hall, in the studio, a different ethos prevailed. For a cross-section of the sort of theory that architects graduating from these schools and practicing today were given to read, and that did make it into serious discussions of design, see Michael Hays, Ed., *The Oppositions Reader: Selected Essays 1973–1984* (Princeton Architectural Press, 1998).

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[52] Here is Kenneth Frampton surveying the state of architecture at the end of the 20th century (in a commencement address) :

> The modern movement in architecture was once bound up with the modern project as a whole, that is to say, with the idea...that modern architecture should be inseparable from the wider social project of creating a liberative and livable environment for all. It is one of the disillusionments of our century that this promise of a new world has so far failed to materialize while modern architecture, as a result, has been left suspended between, say, the social democratic legacy of Roosevelt's New deal that has long since lost its *modus operandi*, and the ruthless economic determinism of our multinational age. We are faced then with the emergence of an all but unbridgeable gap between the original promise of the new as this was formulated between the wars and the real conditions and constraints of contemporary life. The self conscious architect cannot merely recognize this gap and pursue his or her appointed task in a state of innocence, as though this social-cultural chasm did not exist, for while there are undoubtedly many different ways of practicing architecture, the architect, as enlightened craftsman, will never be able to hide behind the value-free evasions of the technocrat.
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> Kenneth Frampton, "In Pursuit of the In-Between" *Intersight V* (Journal of the School of Architecture and Planning, State Univeristy of New York at Buffalo, 1999) pp. 62, 63.

For a survey of the dominantly formal interests of star architects in the 1990s, see Philip Jodidio, *New Forms* (Madrid, Benedikt Taschen Verlag, 1997).

For an empirical study on the mismatch between architects' lay people's perceptions of good buildings, see Graham Brown and Robert Gifford, "Architects Predict Lay Evaluations of Large Contemporary Buildings: Whose Conceptual Properties?" *Journal Of Environmental Psychology* (2001) 21, 93–99, available online at *http://www.idealibrary.com*, and Robert Giffor et. al., "Decoding Modern Architecture: A Lens Model Approach for Understanding the Aesthetic Differences of Architects and Laypersons," *Environment and Behavior* 32, no. 2 (2000): 163-187

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[53] Rem Koolhaas, public remarks at the biennial meeting of the American Institute of Architects California Council meeting, Monterey, California, April 9, 2001.

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[54] For an expanded treatment of these arguments and some conclusions drawn in preparation of this chapter and addressed to architects, see my "Less for Less Yet: Architectures Value(s) in the Marketplace," *Harvard Design Magazine*, Winter/Spring 1999, pp. 10–14. For a survey and (I think over-appreciation of New Urbanism, see James Howard Kunstler *Home From Nowhere* (New York, Touchstone Books, 1997), or Peter Katz, *The New Urbanism* (New York, McGraw-Hill, 1994). For a kind survey and review of the state of the art, see "The Promise of New Urbanism," which is Volume 13, No. 12 of *Places*, Spring 2000.

Some readers would point to the recent work of such architects as Frank Gehry and Sir Norman Foster, both of whom routinely "push the envelope" of conventional form with innovative construction techniques, and both of whose new works are eagerly anticipated and publicized. Is this work not exemplary of what architects *can* do? Yes, it is. Others would point to the New Urbanism movement. Is this not a start? Yes, it is. Such readers would not argue, however, with my claim that the overwhelming majority of buildings built, world over, are constructed with methods that are as tried-and-true and as cheap as they can possibly be without breaking the law. I believe that architects have to see this *as the problem* and not hide behind their luckiest and most talented members. It is their very rarity, after all, that give us cause for celebration.

Similarly, although one might have doubts as to the results of the innovations of a Le Corbusier, a Mies van der Rohe, a Gropius, but one cannot gainsay *their* public passion for social transformation through and with architecture. They were prophets, reformers, idealists all, as well as careerists. This passion is missing in the architectural leaders of today, who seemed to have learned the lessons of poststructuralism and late capitalism all too well.

I have, in fact, no quarrel with Modernism or minimalism in architecture—or with any other design -ism, past, present, or future—*except* (1) in so far as it supplies justifications of largeness, cheapness, efficiency, simplicity, or speed for their own sakes and thus feeds the economy's voracious appetite for "economy" at architecture's long-run expense, (2) in so far as it provides intellectual cover and a rhetorical screen for the sad actuality of the -ism's built outcomes in the hands of all but its most talented practitioners (and *their* most patient clients), and (3), in so far as it engenders a sort of blindness (in educators, mainly) to the reality of the built world by occupying them daily with developing the -ism's jargon and playing its games of who's-in and who's-out.

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[55] Of course, there are exceptions to this rule; there are public speakers about architecture who provide real insight about how buildings work and who at the same time stir the imagination. I think of Vincent Scully, Robert A. M. Stern, Lawrence Speck, Jean-Paul Carlhian and Spiro Kostoff, and of a few prominent practitioners like Antoine Predock, Moshe Safdie, and Cesar Pelli. Of course, with regard to the latter group, the lecture is likely to be one given with the purpose of securing a new commission, and here, projecting personal charm and professional reassurance overrides any truly educative function about architecture as a whole.

See also Julie Anne Pooley and Moira O'Connor, "Environmental Education and Attitudes: Emotions and Beliefs Are What Is Needed," *Environment & Behavio*r 32, no. 5 (2000): 711-723.

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[56] Indeed, as we have seen, a large part of the acceptance of the Modernist movement, in housing at least, was based on the fact that it could help eliminate the threat of tuberculosis and other diseases that were endemic in the dank and overcrowded, still-medieval back streets of the industrializing cities of Europe in the nineteenth century. When, at any time, a new kind of architecture can literally save lives, this is not an offer one should refuse. This is what I mean by the "trumping power" of survival needs (and of polemics based upon them).

Remarkably, this then-new architecture—modern architecture—was less complex-and-organized and less expensive to reproduce than what it replaced, and this would seem to undo the claim I made at the end of the previous paragraph (in the main text). Are slums not wonderfully complex-and-organized...and also bad for your health? The answer, of course, is yes. But in slums the "life" enhanced is the life of microbes, germs, viruses, bacteria, fleas, and rats—and this is life at a scale, and of a sort, that has negative value to human life, which is the standard by which value is judged *by humans*. But notice: even as slums are cleared and give over to housing projects, where human physical health is much improved by ventilation, plumbing, and easier-to-keep-sterile materials, *sterility* at a larger scale and of a different sort sets in: over -organization; too much *R*. Gone is the dense traffic in tokens, gone are the personalized spaces, gone is the community feeling, gone is the intimate bric-a-brac of homes and corners and sidewalks, gone the ad-hoc uses of semi-public spaces, and so forth. Sacrificed, in other words, is the life-enhancing complexity-and-organization of the visual, aural, and social worlds that satisfies needs higher in the stratigraphy than the bottom two or three. The best environments, of course, address and satisfy all *six* needs.

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[57] Oscar Newman's book *Defensible Space* (New York, Macmillan, 1972) brought many of these factors to public attention in the 1970s. More recent is Timothy D. Crowe, *Crime Prevention Through Environmental Design* (Boston, Butterworth-Heinemann, 1991).

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[58] This from *www.cnn.com/HEALTH/9701/27/nfm/mental.rescue/index.html*:

> 'Edenization' a tonic for young and old:
> *Nursing home residents 'hooked on living'*
>
> *CNN Online*, January 27, 1997, by John Zarrella
>
> MIAMI (CNN) -- If you closed your eyes in the hallway of the Perdue Medical Center, the chirping and warbling of birds might make you think you were in a tropical rain forest. Perdue is one of scores of medical centers and nursing homes around the country to adopt a novel approach to patient care. It comes from a doctor who says the answer to the health-care problems of young and old lies not in a pill bottle, but in what he calls "Edenization."

> Perdue Medical Center has four cats, fifty parakeets and an assortment of finches, love birds and canaries. The idea is to humanize the facility by bringing in plants, birds and animals. The idea came from Dr. William Thomas, a Harvard-educated physician who fashions himself the Johnny Appleseed of "Edenization". "I've seen them come alive and sparkle again, and I've seen their faces light up... There is no way you can get that out of a pill bottle," he says. ....Thomas says that after two years, the death rate dropped 25 percent at the first nursing home where he introduced the concept.
>
> "People were living longer," he says;"...they had a reason to live. They had gotten hooked on living again." More than 100 facilities nationwide are using the idea, and health care workers say that, while pets and plants and children are not a cure-all, they are proving to be a tremendous stimulant. Even for the most difficult cases. Marisabel Auer's son was hit by a car a year ago. He's been comatose since. "The first day the bird was here ... he opened his eyes wide open," she says. Officials at Perdue say they are going to expand the plan and add a dog or two. They say the center should not be a place that is sterile and dull, but one that is full of life.

For more on "Edenization," visit *www.slu.edu/departments/medicine/as/eden.html*. The proximity of happy and non-threatening humans has reassuring effects on us too, of course, as I discuss in Chapter Six, and the way that buildings and the spaces between them are laid out has a great deal to do with how this co-witnessing of happiness is orchestrated in space and time.

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[59] The Guggenheim Museum in Bilbao, Spain, designed by Frank Gehry, already more famous for pictures *of* it than for the pictures *in* it, became, in 1999, the logical site of Basque separatist demonstrations. One expects that the building will continue to be the locus of on-site of demonstrations and off-site remonstrations in the region for years to come, as tourist dollars pour into the local economy from the more than a million art and architecture pilgrims who visit the museum from all over the world each year.

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[60] Interesting is when buildings are named for active politicians, like the Trent Lott Leadership Institute at the University of Mississippi, the funds for which were rather easily raised from companies with stakes in then-pending Congressional legislation. (For this and other examples, see Fran Bruni, "Donors Flock to University Center Linked to Senate Majority Leader," *New York Times*, May 8, 1999, p. A1.)

Inscribing bricks, paving stones, chairs, rooms, wings, floors, etc. with contributor's names is a universal practice in fund-raising in the non-profit sector. As for going prices, Leonard and Evelyn Lauder paid five million dollars to have the fifth floor of the Whitney Museum named after them, while Samuel and Ethel LeFrak paid ten million dollars to name the rotunda at the Guggenheim in New York. At the time of writing, the Brooklyn Museum of Art is selling name labels, recognizing a contributor's "adoption" of a painting directly underneath that painting's ascription, for $500 per year. On my campus, James Robert ("Jim Bob") Moffett paid three million dollars to have his name on a new microbiology building that cost twenty six million dollars to build. Stanford named its computer-science building for Bill Gates, though Gates donated 'only' $6 million towards its $38.5 million dollar cost.

Part of the value being activated here depends on the remaining traces of the primitive belief in the vivifying power of uttering a *name*, of incantation—as though every time one said of a patient that "she's at the Aronofsky Medical Center" or of a lecture that it's "at the McDowell Auditorium," that the deceased Messrs. Aronofsky and McDowell sighed in satisfaction.

And sometimes the pattern is reversed. A school, say, will approach a statesman and offer to name itself in honor of him either for free or for a nominal contribution. The school gains legitimacy by this, of course, and can raise funds more easily thereafter. This is what happened with Washington and Lee University in Lexington, Virginia. Washington lent his name and some Virginia tax funds, and General Lee's name was appropriated upon his death. (He had been the college's president for a time.) *Http://www.wlu.edu/250th/timeline.htm* makes interesting reading.

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[61] Average American prefer not to think of all this. They prefer to imagine, instead, that they live in an egalitarian, classless, meritocratic society that runs solely on just rewards to intelligence, hard work, friendliness and good will. They are therefore distressed to have evidence laid before them of the effectiveness of social networks, especially "old-boy" networks. They do not like clubs; they are suspicious of what goes on at the other end of gated driveways; they think that people with official authority—judges, teachers, presidents—should behave like "plain folk"; and so on. At the same time, of course, they turn a blind eye to the memberships *they* have won and to the institutional sources of their *own* authority.

I bring up the topic only because understanding how architecture works must involve an understanding of how it participates in the economy of tokens of legitimacy. Perhaps, though, in proselytizing architecture's value, there is a more delicate way to approach the matter than I have found. For example, a commercial real-estate broker I know, who counts among her clients many prestigious law firms, advertising agencies, and the like, tells me that when showing clients new office space, the exclusiveness of the (new) address and all aspects of class and membership (e.g. who else is in the building) must remain *tacit*, conspicuous by it absence. Signs of legitimacy and prestige—although carefully noted by both agent and client and terribly important—are regarded as beneath mention. Only physical amenities, views, accessibility, area, and other "rational" factors can be overt "selling points."

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[62] For such is the strength of a building's claim, once completed, to being the real-est of real things, second only to Nature, that resignation—called "realism"—will inevitably set in over even the most egregious structures. We will speak more, soon, of a building's *realness.*

Immeubles is the French word for buildings: "immobiles," like mountains. Of course, most architectural interventions—and in this context the word "interventions" seems appropriate—go unopposed by the majority of those who will live in and around them. Most people do not know beforehand what is going to be built on this or that empty lot in their neighborhood, and this is especially true in commercial areas where few people think of themselves as *residents* (in spite of the fact they spend most of their waking hours at work or shopping there) and therefore as having a right or reason to care. It seems we are more interested in where we sleep than in where we are awake.

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[63] As retold by Robert Greene and Joost Ellfers, *The 48 Laws of Power* (New York, Viking, 1998) p. 133, 132:

> Louis XIV came to power at the end of a terrible civil war, the Fronde. A principal instigator of the war had been the nobility, which deeply resented the power of the throne and yearned for the days of feudalism, when the lords ruled their own fiefdoms and the king had little authority over them. The nobles had lost the civil war, but they remained a fractious, resentful lot.
>
> The construction of Versailles, then, was far more than the decadent whim of a luxury-loving king. It served a crucial function: the king could keep an eye and ear on everyone and everything around him. The once proud nobility (who were allotted apartments nestled around the king's, their closeness to him depending on rank) was reduced to squabbling over the right to help the king put on his robes in the morning. There was no possibility for privacy—no possibility of isolation.

Perhaps the most complete research project of architecture along these lines (although without using the idea of tokens, exchange, etc.) is being done in the U. K. by the "space syntax group" founded by Bill Hillier and Julienne Hanson, coauthors of *The Social Logic of Space* (Cambridge, Cambridge University Press 1984). See also Hanson's *Decoding Homes and Houses* (Cambridge, Cambridge University Press 1998). Of particular interest here is the research of anthropologist Susan Kent, which Hanson summarizes as follows:

> Kent...addresses the issue of why it is that some societies segment or partition their homes more than others. (She) describes the use of domestic space and compares...the extent of spatial sub-division of the dwelling in thirty-eight societies drawn from five sociopolitical categories. These are ranked according to their level of sociocultural evolution from nomadic subsistence hunter-gatherer bands through segmental societies based on lineage or clans, to more vertically stratified tribal societies (that) have a degree of social ranking and economic specialisation, (to) class-based chiefdoms in which rank, wealth, and social status are inherited not achieved, and finally to

> societies with a highly structured, specialised, and differentiated labor force, which is characteristic of the embryonic State. Kent concludes that the segmented use of space and the existence of a segmented architecture correlates directly with the level of social and political complexity of the society in question. In essence, increased social complexity produced increased segmentation and partitioning within homes. (*Decoding Homes..*, p. 48)

Ω, anyone?

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[64] To explore more fully the four properties "presence," "significance," "materiality," and "silence/emptiness," as they apply to architecture, see my *For an Architecture of Reality* (New York, Lumen Books, 1987).

Nature is not really natural if "natural" means always in harmony and balance, or if it means untouched by man. On the contrary, nature is in always "recovering" from one disaster or another—a flood, a fire, a storm, an infestation or disease, a tidal wave, an eruption, or an oil spill. Man's relation to nature is reciprocal. For as long as there has been "man," man has been part of nature, and nature part of man. What grows with evolution is the whole system's complexity-and-organization containing man, animal, plant and microbe, as we saw in Chapter Two. As has been noted since Heraclitus, circa 500 BC, change is the only constant.

So-called "new environmentalists" seem to understand this better than the "old environmentalists" who would have nature be left alone, to return to a somehow more natural (read perfect, holy, *pristine*) equilibrium state. New environmentalists, like Daniel Botkin, on the other hand, see no harmony in nature, no equilibrium. They accept man's valuating presence everywhere on the planet, think it rightful in a deep sense, even *natural*, and ask us to be responsible for making nature *better*—as best *we* can. This emphatically does *not* mean turning any or all wilderness into one gigantic, bug-free golf course. It means nursing nature's variety and freedom too, allowing it, if you will, the slack it allows us. See Daniel Botkin, *Our Natural History: The Lessons of Lewis and Clark* (New York, Grosset/Putnam, 1995), and A. Dwight Baldwin, Jr., Judith De Luce and Carl Pletsch, eds., *Beyond Preservation: Restoring and Inventing Landscapes* (Minneapolis, University of Minnesota Press, 1994).

In architecture, this new environmentalism finds a voice in Michael Braungart, a chemical engineer turned environmental activist and designer in partnership with "green" architect William McDonough. Braungart in interview:

> Interviewer: *You've said that buildings should be designed like trees.*
>
> Braungart: Yes, they should communicate with the surrounding neighborhood, they should be habitats for other species, they should be climatized on natural principles, they should renew natural resources, they should produce air and water rather than be merely efficient.
>
> *So eco-conscious is not synonymous with efficient?*
>
> Everything efficient tends to be ugly. Imagine for example, an efficient Mozart, or an efficient van Gogh, or an efficient Italian meal, which might consist of a tablet and a glass of water. If you make buildings energy efficient they turn into toxic gas chambers. Why should the environment be efficient? Nature isn't efficient. Efficiency means a standardized, one-size-fits-all architecture. It means a language of guilt—avoid, minimize, reduce, and prevent. Variation and diversity may not be efficient, but they're highly effective.
>
> ...We acknowledge that people like to throw things away, so we invented ...packaging that degrades within five days. It contains seeds of rare species so you act like a songbird spreading seeds as you litter.
>
> Michael Cannell, "Upcycling the World," *Architecture*, September 2000, 54.

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[65] Because these "other areas of life" do *not* always satisfy these needs adequately, neither architecture, nor any other good, service or profession, should exempt itself at the outset from satisfying as many needs as it can.

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[66] See also Note 52, above.

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[67] This argument is familiar to so-called New Urbanists.

American cities have rarely been about creating beauty or expressing power, or even about providing common amenity; they have always been about increasing access and opportunity, about creating efficient markets and offering greater individual freedom with respect to them. But the results have not been optimal, even by such self-given criteria. Automobile commuting times have become all but dysfunctional in America's larger connurbations; the poor in particular suffer crises of mobility unknown to contemporary Europeans. Freedom of movement or access is not explicitly in the Bill of Rights. Perhaps if it had been, two hour commutes and twenty minute searches for parking would be illegal.

Of course, the convenience of online shopping, entertainment, news gathering, and social interaction do siphon off the desire to achieve anything like the same convenience in the real world; and one wonders if the effect of cyberspace's filling up will be to relieve what little pressure there currently is to remedy urban sprawl. I make no predictions here. If books like this and my own earlier writings succeed, the growth of online and virtual "worlds" will *promote*, not retard, the appetite for real-world places of material quality, interesting siting, slow pace, and non-linguistic sensory richness. William Mitchell in his book *e-topia* (MIT Press, 1999) makes the same point-cum-plea.

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[68] Wright himself was influenced as a young man by the relaxed and relatively open planning typical of the Shingle Style, which was popular for homes and hotels in the 1880s. In particular, Wright drew on the Shingle Style designs of Bruce Price in Tuxedo Park, New York. Of course, we should not ignore Wright's much later Johnson Wax building in Racine, Wisconsin as exemplary of the best of what the "open office" might look like. Then there is Wright's life-long involvement with his dreams for Broad Acre City; the acme of American freedom as a style of planning.

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[69] Quoted by Andrew Delbanco, "Sunday in the Park with Fred," *New York Review of Books*, January 20, 2000, p. 56. This article was a review of Witold Rybczynski's *A Clearing in the Distance: Frederick Law Olmsted and America in the Nineteenth Century* (New York, Scribner, 1999).

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[70] Indeed, I would claim that architects' passion in the past century for talking about *space* rather than *rooms* (this in the attempt to seem as modern as physics) had the long-term effect of allowing others to "Greshamize" architecture even further than it otherwise might have been Greshamized. "Space" is conveniently generic and property-less substance. If *space* is what you are after, you don't need *rooms* with their own structure and light, color, cabinetry, and accoutrements: just a metal box or a couple of floor slabs ten feet apart. This is why our office buildings so closely resemble loafs of Wonderbread set on end, each floor a slice of whiteness, the whole wrapped in clear plastic. It will not be long before huge ads and labels appear across them, on the glass, as they do today on city buses.

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[71] Oft made intuitively, there is empirical substance to this claim. See Michael Benedikt and Clarke A. Burnham, "Perceiving Architectural Space: From Optic Arrays to Isovists," in W. H. Warren and R. E. Shaw, Eds., *Persistence and Change* (Hillsdale, New Jersey, Lawrence Erlbaum, 1984), Chapter 6.

Car designers also increase interior spaciousness by increasing "greenhouse" area, minimizing pillar widths, lowering the "waistline," and so forth.

Interesting is that while the average house has grown larger in area since the 1950s, and with more rooms, the size of the average individual workplace has grown smaller in area (and not counting lower ceilings). In the 1980s, office workplaces were around 250 square feet per person (including their share of public and service areas), while today it stands around 200 square feet, with about 80 square feet per person for white collar "sweat-shop" operations like telemarketing and customer support. Time clocks and a sea of cubicles. So much for spatial freedom at work! (See Ann Carrns, "Office Workers Rub Elbows as More Workplaces Shrink," *Wall Street Journal*, May 7, 1997, pp. B1, B10.)

One of the major benefits to building owners of using steel and glass curtain walls set to the *outside* of columns and other structural elements in office buildings is that they can calculate rentable area as that measured to the inside of the curtain wall, without subtraction of the area taken up by (or inconvenience created by) those internal structural elements. And of course, the very thinness of the wall brings inside and outside volume (area) into near agreement. The thin and scooped out doors of economy cars do the same: maximize interior volume.

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[72] In this connection we would be remiss not to make note of the enabling technology of *air conditioning*. First introduced in the 1920s, this was an architectural technology whose marketing was relatively easy since it addressed basic needs quite directly and clearly. For example, it allowed people to go to the movie theater in the summer for the first time. Before that, nickelodeons were considered sweltering health hazards. It prevented the spoilage of food; and, of course, it provided immediate and obvious relief from the discomfort of heat. To get air conditioning into homes, the Trane company urged husbands not "stop boiling" their wives. The consumer testimonial "It's much easier to be nice when you're cooler. Our friends seem more jovial" was used in the 1950s to promote the home air-conditioning, a technology without which lower ceilings, non-operative picture windows, vegetation-cleared lots, porchlessness, etc. would not have been acceptable. Indeed, without air-conditioning, the modern, glass-sheathed skyscraper, with its unprecedented land-to-rent conversion efficiency, would not have developed. Without air-conditioning Houston could not have grown to anywhere near its present size, nor Miami, Phoenix, Las Vegas, Atlanta, Dallas, or New Orleans. (See Gail Cooper, *Air Conditioning America: Engineers and the Controlled Environment* [Johns Hopkins University Press, 1998], and Patricia Leigh Brown, "Assessing the Power of the Hum Heard 'Round America," *New York Times*, May 27, 1999, p. B1, being largely a review of the show "Stay Cool! Air Conditioning America," curated by Donald Albrecht and Chrysanthe Broikos at the National Building Museum, Washington, DC.)

What air conditioning also made possible also was the windowless high school, more about which later. See also Note 19, above, about expenditure on mechanical and electrical equipment generally in modern buildings relative to space- and surface-defining elements.

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[73] The recommendations of this paragraph *vis-à-vis* love are based closely on the discussion of love offered in Chapter Three.

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[74] Equation 6.2 in Chapter Six makes clearer the difference between satisfying more needs, and satisfying needs more. A good's value is increased in either case. Figure 6.1 and the discussion surrounding it cover the idea of necessary and sufficient ("enough") satisfaction.

Ad copy to a full page Nordstrom ad in the *New York Times* (August 15, 1999) showing a slim young model leaning against a banal, vinyl-papered interior wall wearing green-gray chiffon skirt and "plum/olive" stretch top:

> it's not indulgence
> if it feels
> absolutely necessary

Note that this works whether one is inclined, beforehand, to value indulgence or necessity. The name of the line of clothes? *Necessary Objects*. Prices: reasonable to low.

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[75] If they *did* want better, buildings would be getting nicer and relatively more expensive every day, which Figure 10.5 suggests is not the case.

As another indicator of the trend towards per-square-foot relative cheapness, look not at the articles but at the *ads* in professional architecture magazines. There, large commercial projects of dubious design quality are proudly shown using precast brick, rubber roofing, or some other wonder construction technique. In the developing landscape of America, such buildings far outnumber the orchids of design on the opposite pages. Likewise the featured articles in *Professional Builder* magazine, or *Ascen*t (the journal of the Precast/Prestressed Concrete Institute), and the like, showing huge and anonymous buildings designed by architects and whose claims to approbation consist *solely* of the strict time and money budgets they met while providing "a distinctive look."

Why do firms build this way? To save money, of course, and to stay competitive with other firms. But there is more to the phenomenon than simple economizing in production. It is also public relations. Many wealthy corporations in the U.S. are going out of their way to build and inhabit cheap buildings *precisely in order to assure customers that their (hard-earned!) money is not being spent on anything but making products for them most directly and efficiently.* No fripperies, no corporate lah-di-dah, no luxury digs for the hard working people of Bamco!

Governments worldwide find themselves increasingly drawn into the same game of overtly displaying architectural frugality or indifference, perhaps inhabiting a few floors of an inexpensive local office building.* Popular democracy at work? Hardly. Handsome profits and taxes are simply being directed to less visible-to-the-public forms of indulgence: from increased executive pay to complex investment schemes and tax breaks to relocating companies; from hiring consultants and lawyers to proliferating committees and commissions; from increasing military or law-enforcement preparedness to "computerizing;" not to mention paying kickbacks, contract padding, and other kinds of corruption. There is no shortage of things to do with the funds saved by *not* spending money, profits *or* taxes, on quality architecture.

This leaves buildings as increasingly we see them: modest in size, meek in form, thin in construction, hard and minimal in landscape setting...in short displaying falsehoods about the institution's actual wealth or power. What permits it all, finally, is the diminished value of architecture itself the minds of the populace, an attitude encouraged in turn by the above sorts of companies and government bodies. A vicious circle.

*There are exceptions, of course. Here are two, notable at the time of writing: London's new Greater London Authority Assembly Building, designed by Sir Norman Foster; the efforts of the General Services Administration in the U.S. with new federal law court construction throughout the 1990s.

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[76] See Note 27 above for a nice illustration.

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[77] For example, the best reason to want a free-standing house on a quarter-acre is because so many other people want the same. The market in houses more or less demands that we ignore our differences, and indeed, that we ignore whole swaths of the potential pleasures of houses, in favor of thinking of them as "investment-" or resellable goods; the logic of which we explored in Chapter Nine.

Markets also produces "externalities." Many of these are of negative value, such as air and water pollution. Shall we classify dispiriting and ugly buildings a form of pollution—albeit *visual* pollution rather than chemical—and then search the politics of pollution control for a model? We will return to this idea later. But here we are noting that the assumption (behind attempts at control) is that people are sufficiently dissatisfied to tackle the problem in the first place, let alone feel motivated to go beyond minimum standards in its solution.

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[78] I am using the terms "coercion" and "persuasion" quite technically here. I define them in Chapter Six, pp...–.... On these definitions, the greater part of architecture through the ages—as studied by architects and enjoyed by tourists to this day—was architecture made *coercively*, that is, by the authority and power of the state (or church or city or fief) over, or on behalf of, the common man. Good, even great, civic architecture created by the modern market economy and/or by democratic processes is a fairly recent phenomenon, and is still rare. Making it *less* rare is what we are after, this without reverting to state initiative and control. Hence our interest in *persuasive* rather than coercive strategies.

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[79] And *do* they deserve extra consideration also? Yes. When Ω increases in ways the involve the increase of C_{pot} too, not everyone *wins* but everyone can improve absolutely. See Chapter Seven, pp....–....

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[80] In Britain, 9.6 million viewers weekly tune in the to ITV network show, *Better Homes*. It works like this: the show receives over 300 letters a day from home-owning neighbors wanting to be contestants. Two are chosen each week. The show puts both families up in a hotel for a week, during which time the show's designers and contractors re-design and physically remodel both homes, including structural changes. What the viewer sees

> ...is a 30-minute program that devotes 11 minutes to each makeover, including three tips relating to the featured homes. At the beginning of each show, the neighbors are introduced to the television audience, and (the show's host) takes a camera team through the two properties. A local real-estate agent evaluates the houses, and the results are kept in a sealed envelope, Oscars-style, until the end of the program. *Better Homes* then brings in its team of designers (two for each home), carpenters..., plumbers, and other workmen (up to 25 per home) to execute the metamorphosis. After the magic has been worked, the families return for what is known in the makeover-program trade as "the reveal," in which people get emotional about their new and improved rooms. While

> the families cry or squeal with delight—a part of the program that can last up to six minutes—*Better Homes*' own official real-estate agent...assesses the homes, explaining how their total worth has been affected by the various alterations. Finally there is a handing out of the cash prize. The family whose home has gone up the most in value—for the sake of fairness (the show's real-estate agent) doesn't know the original estimates—wins that amount in pounds. (Jennifer Kabat, "Telechippies," *Metropolis*, June 1999, p. 102 ff.)

Although, as of the present moment, interior designers operate much closer to the human heart than do architects, who said architecture can't be popular entertainment? The magic is real. So is the money. Could similar shows be invented for different sorts of projects, and at urban scales? I believe so.

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[81] In my view, fifty years of the Sunday real-estate sections of the nation's major newspapers have done more harm to the public's standards of domestic design than all the dumb things that architects have said and done with houses in the same period, put together. The gracelessness of the average new "builder home" in America is positively breathtaking.

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[82] This is especially true of publishing the just-finished work of top-flight firms. Like the cover celebrities of *People* magazine, well-known architects demand control over what is said about them (and their buildings) in exchange for the right to publish.

Architects generally have the rights to all drawings of their buildings, and, with their clients, legal control over access to, and photography of, the (private) grounds and interiors of them. This means that unofficial pictures of new buildings are rarely seen—and of their interiors, almost never. Facts and figures (like area, cost, materials, design features, etc.) are also hard to come by without going through the architect. Architecture editors and journalists often lament the limitations placed on them; and most would tell you that it does the profession no good in the long run.

As things stand, mainstream architecture runs with little self-criticism *or* criticism-from-without, and proceeds therefore, without the means to self-correct or *evolve*. Small wonder that becoming cheaper-per-square-foot is the only game in town. It's a kind of economic secession from the quality-competitive dynamism of the marketplace, an admission of failure, to try to win instead in the arena of price-competition. Self-immolation can be the only long term result.

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[83] Cf. my remarks about the role of enthusiast and consumer magazines in Chapter Seven, pp...–....

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[84] "Whoever commissions buildings buys me. I'm for sale. I'm a whore. I'm an artist." Philip Johnson, *Architecture Plus*, Vol. 1, 1969, cited by Elaine S. Hochman, *Architects of Fortune: Mies van der Rohe and the Third Reich* (New York, Weidenfeld and Nicolson, 1989), p. 283.

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[85] In certain circles, the architect is less a prostitute than a courtesan, or courtier, which of course the "society architect" literally was, historically, for thousands of years. To this day, "having an architect" design one's house implies considerable ego strength on the part of the client-aristocrat, who subjects the average architect to all manner of whimsical requests and who has small regard for the architect's time. Architects often characterize theirs as a *service profession*, a phrase with, to my mind, unclear if not self-contradictory meaning.

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[86] It is to Mies van der Rohe's credit that he never approved of the National Socialists' policies or *modus operandi*, joined the Nazis, or made statements that served their purposes. Mies considered himself a-political, placing the pursuit and perfection of his art above any mere social ideology. This neutrality, this self-willed blindness, served well his burning desire to build in pre-war Germany. If he could do so on his own stylistic terms, he would practice his art for *anyone*, including the Nazis, and he waited as long as he could for that opportunity to materialize. This position gave pause to many around him, just as it does us today, since by 1937 it was abundantly clear that Hitler's person, party, police, and policies were pernicious, permanent, and deadly. Half of Mies's Bauhaus colleagues had left or been taken away. All Jews were "gone," many of them artists, critics, architects. For all this, Mies finally left Germany not on principle, or in protest, or in fear of his life, but because he could secure no work there.

[87] One of many examples of what I mean here: In 1997 Mr. Howard Rachofsky, a Dallas investor and art collector, commissioned and completed a multimillion dollar private house by Richard Meier. It is arguably one of Meier's most masterful designs. While under construction and until the day of its opening, during the weeks that followed, and ever since, Mr. Rachofsky has generously allowed many civic and arts groups, school groups, and architecture students to tour his house. A special gate house serves as a purely public museum; the whole is willed to the Dallas Museum of Fine Arts. A massive "ego trip" for Mr. Rachofsky? Perhaps. But the ongoing engagement between him and his city, and between him with the art-and-architecture worlds, was his choice, very much in the tradition of "living philanthropy," and very much a two- way exchange of tokens.

At the level of public buildings, the General Services Administration (GSA) has instituted an admirable Federal Livable Communities Agenda, part of which it its Good Neighbor program, which makes the GSA "...an active participant in many downtown business improvement districts and sponsors community events in and around its buildings." For more about this, see *http://goodneighbor.gsa.gov/goodnb/mission.html.*

[88] Health and safety features perceived in binary "critical/non-critical" mode can easily come to dominate all discussions of value for a given building. Not only are the survival-level needs low in the stratigraphy, but when they are posed as climactic too—i.e. so that *with* them survival is assured and *without them* there is danger of death (or unlawfulness)—the combination is irresistible and their value almost infinite. We saw this already when we discussed the rise of Modernism in relation to the threat of tuberculosis in the early 20th century. We see it to this day with the inviolability of health, fire, ventilation, illumination, and safety codes. This also accounts for the greater weight put on engineers' recommendations relative to architects'; the former are not only more apt to be dealing with critical health and safety issues, but they are not reluctant, in a pinch, to present their concerns as make-or-break, gotta-do, life-and-death matters, even when, in fact, there is considerable latitude in, or much else that could be done other than, what they are recommending.

[89] Contrary to what value engineers might tell you, a building reduced to its essential elements only—one where every feature and every component is equally valuable *and* survival critical—is not a building you would want to spend any time in.

[90] On closer inspection, what bothers us in the idea of (being) "take(n) for granted" is not so much the action of "granting" but that of "taking," and this from the perspective of *x.* Like being taken for *dead* or being taken for *stupid*, being taken for *granted* (by other adults, anyway) is usually a hurtful, disvaluing experience. It means being treated as something one is not, or does not want to be. It is the *presumption* that hurts, as well as the characterization. (There are times, of course, when being taken for dead is preferable to the alternative, as after having faced a firing squad. Here it is better to be taken for dead and be *alive*, than be killed for sure. To be philosophically precise, one should say (1) it is acceptable to be *taken for* being *x* while actually being *y* iff being *y* has more value to you than being taken for *x,* and (2) it is better to be *recognized* for being *x* than *taken for* being *x* when *x* is virtuous, desirable, and so on, and not otherwise.) Like taking *x* to be true when it is not, taking *x* to be valueless when it is not implies that recognition of *x*'s value need not, and probably will not, be forthcoming.

[91] Put this way, we see how rich are the opportunities in our lives for extortion, and why extortion is illegal. Also how insurance marketing works. Cf. our discussion in Chapter Four, pp...–....

Avoiding being taken for granted is also part of the motivation behind the "games of dare" that some architects, through their buildings, play with our security and confidence needs, that I discussed earlier. The "possible loss" here is of our lives through falling down, or being cut or crushed. The probability of any of these things actually happening is next to zero, but their disutility is so large that the mathematical product, "expected (dis)utility," is non-trivial. This is how a decision theorist would put it.

[92] Not to mention insurance companies, and realtors who tell buyers that there is another bid on the table but they can't say for how much. Note, when persuading people of *imminent* loss, how construing the good as *climactic* serves to increase its value; all as discussed earlier.

[93] It's as if students of literature didn't read the books involved but learned of them only by three paragraphs: one about date and authorship and influence, one about plot line, and one about style and claim to fame. There are but a handful of book-length studies of great buildings; and they are very rarely read. Most published descriptions and critiques of architecture make *Cliff Notes* look exhaustive. To all this, the architect's usual retort is that "the word kills art" (to quote Philip Johnson). What can one say? There are words and there are words.

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[94] The reader may recall the work of psychologist Mihaly Csikszentmihalyi, reported in Chapter Two, pp...–... His concept of the "flow channel" coincides with the psychological balance being characterized here as lying between satisfaction-at-achievement and the knowledge that more/better *could* be achieved, which causes the level of dissatisfaction we call not "defeat" but "challenge." Sought, really, I argue, is greater Ω. Cf. also Figure 2.21.

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[95] Cf. Note 6, above.

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[96] For an extended study of this proposition, see Christopher Reed, ed., *Not at Home: The Suppression of Domesticity in Modern Art and Architecture*, op. cit.

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[97] What I mean is that the feeling of interiority—of being always *inside* a place, immersed or surrounded—can extend beyond just the experience of rooms and other indoor enclosures: to the "out-of-doors," to streets, squares, and parks bounded by trees and the facades of buildings, and also to untouched natural environments where the stars or a tree canopy are a roof, where the earth or bed of leaves is the floor, and a nearby rise or rock-face are the walls. Embeddedness is the metaphor; or immersion in a field.

Equally, and alternatively, one can feel oneself to be always *outside*, an object among objects, always in orbit around other closed *things* or on some trajectory with respect to them. These are things whose interiors are inaccessible, or that reveal, when breached, yet more outsides: smaller things with unbreachable shells, "components," jostling, poised, or whirling in emptiness.

These are two, I think very deep, orientations to human-being-in-the-world (or *Dasein*, to use Heidegger's term), and they are influential in areas far from the design of buildings. Aristotle, Leibniz, and Einstein, were "insiders," I suggest, while Plato, Newton, and Bohr were "outsiders." I am also suggesting that the two orientations are *somewhat* gendered, with women being more apt to be insiders, and men outsiders.

If I am right on this last score, then there is something to watch in architectural education. Once predominantly male, the student body at schools of architecture over the last two decades has become equally divided between men and women. Faculty composition is still predominantly male, as are the dominant ideologies, along the lines I have been discussing, (although not so explicitly stated). It has been my observation that women's approaches to architecture are "masculinized" far more readily than men's are "feminized," and this is cause for concern. Perhaps this will change over time. If so, then one major field of contestation, I believe, will be interior design. As more departments of interior design become absorbed into schools of architecture, they will begin to realize that they must *resist* standard architectural sensibility in order to preserve their own. Interior design teachers are going to have to develop their own body of theory and, yes, academic jargon, one that does *not* shrink from technicality or from articulating its extreme and "female" sensitivity to the insider, environment-dependent, view: to texture, pattern, color, style, fabric, touch, placement, propriety, nestedness, domesticity, "personality," complexity, atmosphere, and so on.

One more observation. The idea that architectural design is about *shaping space*—an idea developed almost entirely in the 20th century and made commonplace by the popularity of two books, Sigfried Giedion's *Space, Time, and Architecture* (1941) and Bruno Zevi's *Architecture as Space* (1957)—still has a strong hold on the architectural imagination and vocabulary. One would think that this would have been an essentially "feminizing" notion. After all, if architecture is properly "about space," then it is not about things or tools.

But this is to overlook the fact that thinking of space as "shape-able" by design is to think of it as a *sculptor* would. It is to transform space from something oceanic or atmospheric, fecund and field-like, into something stone- or clay-like; it is precisely to make space itself a thing that has "male" object-character, something to which to apply a tool. "The architect models in space as a sculptor in clay," wrote Sir Geoffrey Scott as early as 1915 in his *Architecture of Humanism*. Every major architect and writer has agreed since. Thus, once again, an opportunity

was passed over to read the world as "endless interiority" and densely relational—a sensibility all but driven to extinction by men's reductive, if organizing, desire to shape and command things that have no interiors that count.

In sum, and regardless of simple gender assignments (to which *numerous* exceptions can *always* be found), sensitivity to place presumes that one understands oneself to be *inside* a place and subject to its inputs, which flood in from all around. What I have called "place machismo" begins, emotionally, in delivering oneself from feelings of embeddedness in and dependency on the environment, and into feelings of independence and autonomy. Cognitively, it means construing the world not as a series of environs, each nested in a larger one, and all centered on a subject, but as a system of "atoms," sentient or not, exerting forces on each other across a void that is the scene and permitter of free motion.

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[98] Notwithstanding what I have said in the note above, there is place machis*ma* too. Among young women in high school, imperviousness to the physical environment is encouraged—or made possible anyway—by their all-consuming focus on the acceptability/desirability of their bodies and clothing, as well as on human relationships. Certainly the books, movies, and TV-shows marketed to young women revolve around these issues. Probably the only important room for young women at high school is the bathroom. With its large mirror and relaxed companionship, this is where many of the secrets of beauty and problems of sexuality are first learned about. Here is where they are safe from male eyes—otherwise everywhere—and from surveillance by authority...

Or so one might imagine. For in fact, for many young women, the women's bathroom at high school is not a relaxing place at all, but a terrifying one. These girls "tumble into the stalls and hide, desperate for privacy and an escape from judgment and ridicule." (Anon. Private correspondence.) "Girls are most cruel to each other" when among only each other and in such liminal spaces as bathrooms, dressing rooms, as so on, and this is only indirectly caused by actual competition for local beaus.

Needless to say, beyond providing the basics and a modicum of cleanliness, the *design* of average high school bathroom takes none of this into account. Nor is it expected to.

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[99] Arguably, the book that began the revolution was William Wayne Caudill's *Toward Better School Design* (New York, F. W. Dodge Corp., 1954). Certainly it started CRS/CRSS on the path to immense success as a firm.

I do not mean to impugn the intentions of CRS, or of any of the now-large firms that set *efficiency*, defined in narrow engineering and economic terms, as a major goal. After all, the connection between what Architecture should be and such efficiency goals was written into the very Constitution of modern architecture, and into all of its propaganda, albeit with a strongly socialist slant. It was not until the mid-1970s that these principles were questioned widely in architectural academe, and much later that the questioning made any inroads into the sensibilities of practicing architects, immersed as they were—and mostly still are—in a milieu where no other value system applies but meeting tight budgets with "distinctive design," whatever *that* means.

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[100] An interesting contrast, although perhaps one too personal to count as evidence or argument: I was lucky to go to a colonial British high school, King Edward School, in South Africa. Laid out around colonnaded quadrangles and abutted by gardens and playing fields, its classrooms were tall and windowed, as were its laboratories and studios. The wind blew in. One could hear distant light planes in the sky as one bent over one's Latin at a fifty year old wooden desk in perfect repair. (St. John's School just up the road, designed by Sir Herbert Baker, was more beautiful and exclusive yet; but actually *all* of Johannesburg's [white] high schools, rich or working-class, shared in ambition of architecture similar to KES's and St. John's: "a slice of old England").

However: *discipline was strict*. These were single-sex schools. One had almost no choice of subjects to study, since what choices there were (Latin *or* Geography) were rigidly tied to the school's "streaming" system in which one whole class was destined for college, another for trade school, and some neither. (Class members took *all* the same courses, and stayed together all year.) Students wore uniforms, which had to be in perfect repair. Corporal punishment was common, administered by principal, teacher, or prefect. (A "prefect" was one of a small cadre of student seniors—usually star athletes—who were given the authority to organize, lead, report on, and personally discipline any other student's wayward behavior.) After-school detentions were common for coming late, for not completing homework, for being rude or smart-alecky in class, etc., etc., etc. Every weekday started with whole-school assembly (8 a.m. sharp!) and prayer. And as if this weren't enough, on Wednesdays, the entire school

(some 800 students, and all the teachers as officers) dressed in military uniforms, underwent inspections, marched about in strict formation constantly being yelled at, stood at attention till they dropped, and shot rifles in target practice.

At this school anyway, freedoms were tiny. Sometimes they were earned but mostly they were stolen. Recognitions of prowess were few and formal. But *what helped students accept their lot was that, everywhere, the building and its grounds bore witness to a judgment of our intrinsic worth, the worth of their predecessors, and the worth of the whole enterprise, discipline and all.* During breaks, after school, or, best of all, when trusted with an errand during class time, the building's cool stone and sun-and-shadow-danced galleries made one feel, well, elated, beyond time and space and yet firmly in the embrace of a system one could love *and* hate.

American high schools, by comparison, mixing boys and girls who are free to dress how they please, who can choose from a wide variety of subjects to form and re-form classes taught by teachers who need to be liked and who hesitate to assign homework, who risk few punishments, who are unimpressed by grading, who drive cars and motorcycles and can leave campus at breaks....American high schools are *behaviorally* havens of liberty, paradises of freedom of association, belief, style, movement, and self-expression. Perhaps this, at root, is why the *architecture* of American high schools, as though to compensate, so closely emulates that of a factory, prison, or insane asylum: not just to economize, but to *contain* and withstand the onslaught of immature freedom, to absorb into *itself*, as it were, the discipline that perhaps is best located in behavior. I say "perhaps" because I cannot help but feel that a happy medium—the best of both worlds, rich in complexity-and-organization behaviorally, environmentally, and institutionally—remains out there to be found.

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[101] Why? The young are a minority. Less than that, they are not enfranchised, and they can "vote" in the marketplace only with pocket-money-like sums. This makes them doubly a minority and easy for a free market democracy to disregard and injure.

Interestingly, most people believe that America spends its tax revenues mightily on elementary and secondary education. An Economic Policy Institute report released in 1992 showed, however, 13 other industrialized countries "invest more, relative to their national economy, on elementary and secondary education than the U.S. does." The report goes on to warn, "we may get what we pay for. Given the level of investment in our pre-primary, primary, and secondary schools, it is not surprising that we are slipping behind in comparative measures of performance as well." The report was not well received by education authorities. (For more such figures, see Howard Nelson, "The Myth of High Public Spending on American Education," *Journal of Education Reform*, Vol. 1, No. 3 1992, available on-line at *http://www.aft.org/research/reports/interntl/jedref/j.htm*, and from which the above is cited.)

None of this tells us, of course, what fraction of the budget for education went, or annually goes, to school design, construction, or upkeep. But see Note 93 below.

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[102] Making my own online inquires, I have determined that construction costs for new schools during the 1990s ranged from $60 to $100 per square foot, which as Figure 10.4 shows, is about 30%–60% lower than average (non-residential) construction costs during that period. Part of the reason is that many schools expand using "temporary buildings," which of course, remain in use for decades. The cost of repairs direly needed by the nation's inner-city schools in 1999 stood at around $50 billion, not counting older suburban and country schools. (Estimate reported by Matthew Miller, see Note 94 below)..

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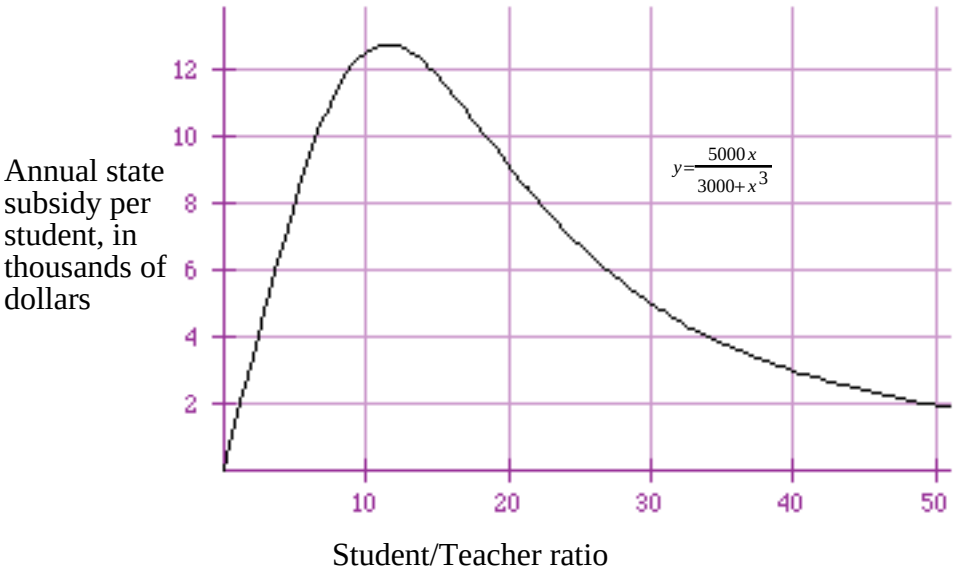
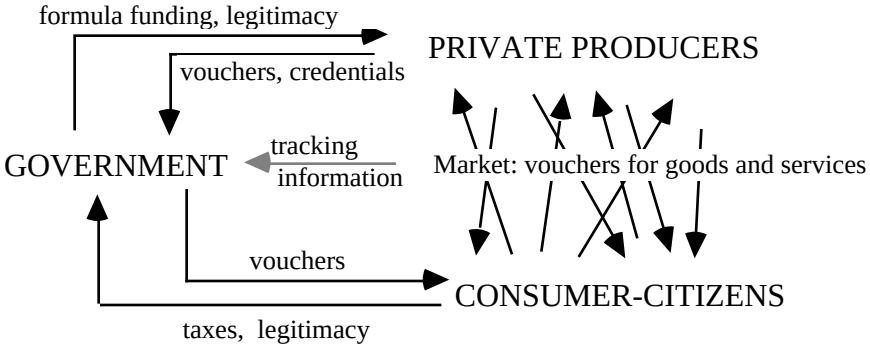
[103] I would have schools subsidized by *general* state taxes—as opposed to local and property taxes, which tend to exacerbate wealth- and geography-based differences in educational opportunity—and paid out on a per-student-head basis. An interesting variation might be per-student-head subsidies calculated with a formula that encouraged optimal student/teacher ratios, something like this:



This formula yields maximum *total* subsidy to the school at a student/teacher ratio of 18. Similar incentive schemes could be devised that would encourage investment in facilities and their upkeep, in raising academic test scores, in improving teacher qualifications and skills.*

For incentives like this to work however, schools must have the authority to control their own admissions, to hire and fire their own teachers, and to manage their own physical nature and growth. And state governments must have the obligation to fund schools adequately to meet the goals set, and as the schools meets these goals.

What form should subsidies take? I would split the total amount down the middle: 50% of it in cash assistance to schools themselves, issued directly by the state using the above or a similar formula, and 50% in vouchers given to parents to redeem at the school of their choice, issued with means testing so that the poor receive more than the rich by a factor that mirrors, in reverse, the spread in their household incomes per-school-age-child. (As of this writing, all of voucher the programs in the U.S., and all of the charter schools in operation, some 1500, serve less that 0.5% of the school-going population.) The system, abstracted and diagrammed, would look like this:



Too complicated? Game arcades and theme parks that issue redeemable coupons work very similarly. The food stamp program is simpler, since it does not fund the food providers directly too.

Again: the funding and provision of quality education in the U.S. is a complex and deeply political issue, and I do not mean to be overly facile in devising "solutions." Schools at present are far, far away from anything like I am proposing. And besides, my proposals are not *that* original. See, for example, Matthew Miller, "A Bold Experiment to Fix City Schools," *The Atlantic Monthly*, July 1999, pp. 15–31.

* In the interim, and independent of any of the programs suggested here, I would legislate and fund at the Federal level a "Windows on the World" [or similarly-named] program that would retrofit every classroom in America with operable windows in the minimum amount of 15% clear-glass area to floor area, and a minimum sill height of 36".

Independent school or district-level control over curriculum is not as important as requiring a new state legitimating/licensing mechanism for all teachers and schools as well one for creating and administering standards for graduation in at least the basic subjects of history, science, mathematics, English grammar and literature. (Such national standards and tests are common around the world.)

I would also ban commercial-financed educational television in schools, like Channel One, and allow school prayer in some form.

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[104] Perhaps imperviousness, or indifference, is not the word that best describes everyone's response. *Toleration* or stoicism might be the larger term for how most respond to the "aesthetic" of cafeterias, hospital wards, schools, public bathrooms, etc., not to mention the commercial strip mall, a feeling which, when embraced, becomes "macho." Clearly, people prefer nicer places and will go to them if they have the choice for the same expenditure. (In the meantime, their general de-sensitization makes it necessary to create ever more sensational, cartoon-like buildings—from the Bellagio in Las Vegas to the Guggenheim in Bilbao—to "get through.")

Another response, of course, is *anger*, which turns some to a destruction, and others to a determination to change things. Some of the latter enter architecture school. Yet a fourth response is *escape*. Thankfully, most college and university campus environments provide just such escape—for a few, restorative years. How today's graduates of Schools of Education can go back to work in, and worst of all work hard to perpetuate, the school-making system currently in place is almost beyond understanding.

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[105] For example, it is odd to contemplate the fact that unless you are standing against a wall, views of the back of you are just as available to others as are views of the front of you. It is one of the enormous limitations of "cyberspace" as it is currently manifested by the World Wide Web that everything seen there is intended by someone to *be* seen. There are no accidental views, no side views, no back views, no overflow of unintended information...in fact, no *space* at all, which is what this information amounts to. See my "Information in Space is the Space in Information," in Anders Michelson and Frederik Stjernfeld, Eds., *Billeder fra det Fjerne/Images from Afar* (Oslo, Akademisk Forlag, 1996) pp. 161–172, and "Cyberspace: Some Proposals," in Michael Benedikt, Ed., *Cyberspace: First Steps* (MIT Press, 1991).

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[106] In a deep and ultimate sense, *pacé* Gertrude Stein, there is no *there* anywhere. There is only "thereness" *here*. Things *are* everywhere that you experience them, not where you experience them to be. Helpful in bending my mind to this perspective was J. J. Gibson's *The Senses Considered as Perceptual Systems* (New York, Houghton Mifflin, 1966), Serge Boutourline's prescient article "The Concept of Environmental Management" in Harold M. Proshansky, William H, Ittelson, and Leanne G. Rivlin *Environmental Psychology* (New York, Holt, Rinehart and Winston, 1970; reprinted from *Dot Zero IV*, September 1967) pp. 496–50, and of course the thought of Ernst Mach, George Riemann, and Albert Einstein who saw that geometry was the science of light and time—of existence-information—not space.

See also Michael Benedikt, "To Take Hold of Space: Isovists and Isovist Fields," *Environment and Planning B*, Vol. 6, 1979, pp. 47-65; Michael Benedikt and Larry S. Davis, "Computational Models of Space: Isovists and Isovist Fields," *Computer Graphics and Image Processing*, No. 11, 1979, pp. 49-72; the references in Note 88 above; and Philip Thiel's deeply un-trendy treatise *Paths, Places, and Purposes* (Seattle, University of Washington Press, 1998.)

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[107] This is not perfectly the case. The street performer has to shout louder to entertain a larger crowd and this exhausts him sooner. A radio station has to pay for a more powerful transmitter to reach a larger potential audience. Costs of production, therefore are not completely disconnected from size of audience, i.e., number of consumers. Cable companies providing television and Internet access have a similar row to hoe: what they offer comes close to being a public utility, a part of any civilized city's infrastructure. The marginal costs of adding subscribers is very low. At the time of writing, while Federal authorities struggled to maintain an element of competition in the market for cable-fed information, some smaller towns were using tax money to provide it for their

citizens.

A note to this note: street performers whose show is such that people must stand some distance back (perhaps they are juggling chances or doing acrobatics) will tend do better than those whose show requires closeness from the audience (e.g. card tricks, telling long stories), for the simple reason that only the first encircling row or two of the audience feels they should pay for the experience (being more soaked in it and having more eye contact with the performers), and the larger this "first circle" the better, even if the crowd, in depth, is thinner. This dynamic is not lost on theater designers.

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[108] In the fifties and sixties, owners of drive-in movie theaters had to site them to avoid kids parked on a nearby rise seeing the movie for free. This could be often be done with tree lines and terrain, and, of course, by not providing broadcast sound. Producers of open-air rock concerts must fence some large area and make adequate proximity-to-the-bands the good they sell. The inverse square law makes this strategy possible.

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[109] For a recent overview and argument for the central importance of private property rights, see Tom Bethel, *The Noblest Triumph: Property and Prosperity Through the Ages* (New York, St. Martin's Press, 1998). See also Chapter Eight, pp...–..., where I discuss the prerequisites for a market.

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[110] Defection is surely one of the greatest sins of modern architecture, aided and abetted by the reflective qualities of glass. Many simple, curtain-walled glass boxes (especially in Europe but also in the U.S.), by passively mirroring complex older buildings around them and the life in the street, don't contribute to the life of the street but rather free ride on it. And what sort of triumph is it to have a forty-story glass-encased office building...reflect the clouds in the sky? Or the church or park across the street? Not just the reflective qualities of glass in large quantities but also its transparency has allowed modern architecture to secede from helping to *create* a world, to exploiting instead the one already provided by others or by nature: think of Philip Johnson's paradigmatic Glass House in New Canaan, Connecticut, *without* the landscape it is set in. (Indeed, at night, being in the house was so oppressive—the icy blackness of the glass, the reflections of the interior back into the interior—that a new lighting scheme had to be devised that would light up the grounds and so that interior lighting could be kept off. I take this to be emblematic of the whole approach to design.)

At the risk of being branded a philistine, I think something similar can be said of much modern art, especially of the abstract, minimalist kind. Few of the paintings of this genre offer, in themselves, much to look at, which is precisely their challenge and their charm. Rather, they have to be seen in *relation* to art history and art theory, to contemporary trends, to the artist's own *oevre*, pronouncements, persona, and development, and even in relation to the museum or gallery or show they are shown in, in order to become freighted with significance. That is, they require embeddedness in an art-*world*, just as Arthur Danto argues they do, in order to sustain any interest in *them*; and this to a degree that goes far beyond what was required of artworks historically. True, one had to know the Bible in order to "read" most Renaissance paintings, *but if one did not, there was still something there to marvel at*: narrativity, character, the illusion of flesh and fabric and space, immaculate craft, and so forth. Each painting was a world unto itself, a *work*. Each pulled its own weight, so to speak. To each a mirror could be held up and one would not see another painting or another mirror.

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[111] These prices can be made roughly proportionate to intensity of use. I am thinking here of how cities charge per-use fees for public swimming pools, zoos, buses, libraries, trash collection, and the like. These charges rarely cover costs, however. Bed taxes at hotels and motels, levies on conference centers, monies from parking meters and public garages and the like, also raise funds roughly proportionate to extent-of-use, and thus discourage free-riding.

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[112] The market for "real-estate" might approach the speed and fluidity of, say, the market for financial securities, because what is traded are weightless abstractions: i.e. property rights, which are merely *pointers*, as it were, to real property, and money. What we are talking about is the singular "unfluidity" of the real property that these rights refer to. Physical property is what makes and sustains the public realm, the information field at large.

Joel Warren Barna's *The See-Through Years* (Houston, Rice University Press, 1992) is the best account, I believe, of the mismatch between the efficiency of the real-estate marketplace as a system of cash and property rights trading and the *in*efficiency of the real-estate marketplace as a construction incentive system (what to build,

how much, why, and when...).

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[113] Elements of this solution are in place already: San Francisco is notorious (among avant garde architects) for having neighborhood building review committees whose task is to judge the suitability of proposed new buildings and without whose permission architects may not proceed. Design competitions for rather everyday buildings are common in Europe. Pre-leasing space based on drawings, and designer-developer's reputation, is common the U.S. and in Europe. It is the combination that has to my knowledge not been tried.

Some would argue that what I am looking for here is already fully achieved by the tract housing market. Here consumers see many candidate homes and choose the one they like best, while producers vie with each other to provide what will sell best. Part of what consumers look at before they decide is other people's houses, other people's yards, gardens, and cars, the streets themselves, the trees, the views, the neighborhood amenities, most of which are public goods generated as the externalities of other people's prior and private decisions (made in the context of the externalities, good and bad, which obtained then). People also often buy from plans. In short, there is a fairly efficient tract housing *market*.

This system works best when there is an oversupply of houses and house models, so that home-buyers really do have a choice and home builders really do have to compete. (Think of the market for cars, clothes, or electronic devices as close to ideal in this regard) But one has only to sample the actual state of the tract housing market to see that, in fact, so risk-averse are home-builders and so risk-averse are buyers when re-sale value is uppermost in their minds (cf. my remarks in Chapter Nine about resale), that consumers don't really have much choice even when supplies are, quantitatively-speaking, ample. Price rules.

Buildings are also unlike other finished goods, as I note in the main text. The ones that *do not* sell might get put "on sale," like vacuum cleaners, eventually selling at a lower price; but they do not gracefully exit the marketplace and the public realm to wind up in the back of a garage or in a recycling bin. They stay right where they are, broadcasting their ugliness, eye-sores.

Luckily, with residential developments anyway, the general growth of cities can keep their monetary value increasing, if for no other reason than that their relative closeness to the city center always increases. Over a period of decades, additions and remodellings begin to add up. Trees and greenery grow in. Younger owners replace old ones. Over time, the neighborhood environments can heal, can revivify. The same, almost-natural, restorative processes are not as likely to take hold in misbegotten commercial developments however, or in ones that go sour over time. Under single ownership and requiring large amounts of risky capital to rebuild, these tend to remain eyesores for long periods of time, especially when caught at in a declining business cycle after a period of over-building. (Cf. Barna, Note 103 above.) Nor do restorative processes take hold in *all* housing developments. Many stay as bare and as bad as the day they were built, and go downhill thereafter.

In all, one is reminded of the old saw: "Doctors bury their mistakes, but..." and we continue, "...architects make us live with them." Put another way, good buildings might be "a joy forever," but bad buildings enjoy the same longevity.

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[114] Architects need incentives to risk entering competitions. These could take the form of direct payments to enter the competition. But preferable, I believe, would be enhanced fees to the winner. The competition might be run in two stages. The first is judged by a panel of experts with neighborhood representation. This panel screens for professionalism and code obeyance only. The second stage takes the winners of the first to the people more directly, with public presentations and up-or-down, winner-take-all, voting. Here experts would have the smaller say. Designers do not get to, or need to, "work with" neighborhood committees in the design stage. Their creativity is protected. The price they pay for the privilege is risk.

There are several bases upon which the field fee could be computed and levied: on current real-estate property valuations, or on rent flow, or on square footage, with exemptions given for site or building improvements. There might also be rate *hikes* indexed to (inflation-corrected) property-valuation or rent-flow *losses*. (The latter follows the logic of the system used in Sweden, where neglected or underdeveloped property is taxed proportionately more highly with every passing year than maintained and developed property.) Fees could legally be passed along to renters as extra charges, if computed without markup. Not just property owners but also long-time renters (say, over four years) would have rights to representation.

Neighborhood field fees might also be used for certain kinds of light maintenance (e.g. litter pickup, sweeping and weeding of sidewalks), as well as for other neighborhood-specific quality-of-life issues (e.g. billboard

control, park gardens and benches, play equipment, neighborhood pools and fountains, leash laws, and the like). Infrastructural provision and maintenance would remain in the care of the city, state, and utility companies, etc., as would trash and snow removal and other heavy maintenance chores.

It's worth noting that, directly or indirectly, most people would pay three field fees: one for their home neighborhood, and one for their work neighborhood, and one for the city's commons.

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[115] For example, in economics, Coase's Theorem has been used to handle problems of negative externalities, like pollution, by establishing and trading pollution *rights*. It has not, as far as I know, been used to encourage positive externalities of the kind we are after.

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[116] These are my words. We might go on to say that the great castles, villas, and chateaus of Europe, although originally private are now semi-public. Certainly, these were built with scant regard to popular tastes in designing them or to market conditions in paying for them. They were willed into place by individuals with near-governmental power in a pre-democratic state. The Paris that is *Paris* was not designed by free-wheeling developers out to maximize their profits. If it had been, it would look like Houston! (As Paris actually does around its outskirts.)

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[117] James K. Galbraith, "I Had an Un-hard Childhood...Remarks at the Third Symposium on the Question of Economic Value, October 1996," *Center 11: Value 2* [Austin, Texas, Center for American Architecture and Design, 1999], p. 108). Galbraith goes on to assert that with rare exceptions, beautiful public buildings and cities can only be brought into being by the church or state, or some public entity with taxing authority and power over the use of land.

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[118] See Note 105 above for a start in elaborating the competition solution.

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[119] B. Joseph Pine II and James H. Gilmore, *The Experience Economy* (Boston, Harvard Business School Press, 1999). See also Michael J. Wolf, *The Entertainment Economy* (New York, Random House/Times Books, 1999) which makes many of the same points, if less comprehensively.

For the same idea in architecture and design, but without the business orientation, see Boutourline (1970) op. cit., Thiel (1998) op. cit., Lawrence Halprin, *The RSVP Cycles* (New York, G. Braziller, 1969), Sven Hesselgren, *Man's Perception of Man-made Environment: an architectural theory* (Stroudsburg, Pa., Dowden, Hutchinson & Ross, 1975), and Steen Eiler Rasmussen's once widely read *Experiencing Architecture* (Cambridge, MIT Press, 1962). All of these sought to establish with some rigor that architecture's value lies primarily in the perceptual *experience(s)* it engenders rather than, say, in its political or economic ramifications. As a theoretical orientation, it was strongly influenced by practice in modern art criticism before 1970 or so. It still forms the basis of much architectural pedagogy, especially for the earlier years.

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[120] This trend includes marketplaces themselves, as witnessed by the growth of online shopping, auction, and securities-trading websites, with their minimal transaction and inventory costs. (We touched on some of this in Chapter Eight, and again in Chapter Nine, in connection with Gresham's Law).

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[121] Raul A. Barraneche, "Rockwell's Bronx Children's Hospital Out of This World," *Architecture*, October 1999, p. 33.

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[122] With the exception of those designing hotels in Las Vegas, "old-money" homes on Long Island, upmarket shopping centers in Houston, and New Urbanist housing developments everywhere. This movement was guided intellectually by Robert Venturi and Denise Scott Brown's *Complexity and Contradiction in Architecture* (1966) and *Learning From Las Vegas* (1972, with Steve Izenour)

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[123] The oft-quoted phrase "All that is solid melts into air" was Karl Marx's (from the 1888 translation of the *Manifesto of the Communist Party*), revived in recent times by Marshall Berman in a book of the same title (New York, Penguin, 1981). Here are Marx and Engels' words:

> Constant revolutionising of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones. All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify. All that is solid melts into air, all that is holy is profaned, and man is at last compelled to face with sober senses, his real conditions of life, and his relations with his kind.

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[124] Michael Benedikt, *For an Architecture of Reality* (New York, Lumen Books, 1987). See also Michael Benedikt, Ed., *Buildings and Reality: Architecture in the Age of Information Center* Volume 4 (Austin, Texas, Center for American Architecture and Design, 1988), and *Deconstructing the Kimbell: An Essay on Meaning and Architecture* (New York, Lumen Books, 1991).

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[125] The phrase, "the direct aesthetic experience of the real," is from my 1987 book, where it plays a central role.

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[126] Cf. my earlier remarks about the travel sections of newspapers being their true architecture sections. And of course, there are many other sorts of experiences that tourism is aimed at engendering: thrills, shopping, collecting, sport, visiting family origins, and so forth.

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[127] The reader may remember my discussion of the value of benign neglect in the context of a description of the Second Law of Thermodynamics in Chapter Two; see pp....–..... As an example of such a place, I would cite Marfa, Texas. Another might be Provincetown, Massachusetts, were it not for the fact that, at the time of writing anyway , artists were having to move out of Provincetown because they can no longer afford the higher rents and real estate prices that their presence had generated. Gentrification is precisely what the policy of delicate renewal and benign neglect, which I am recommending, would *not* produce.

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[128] See Note 114 above for my writings in this area. For Alexander's, see in particular his *The Timeless Way of Building* (New York, Oxford University Press, 1979), and *The Nature of Order* (New York, Oxford University Press, in press).

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[129] "Architects may lead," Pines and Gilmore say, in the matter of creating the experience of realness (and here they quote approvingly from my 1987 book), but it is up to other producers to do the same, and different, in their fields. They go on to applaud my insistence that the fake always be presented *as* fake (op. cit., pp. 36, 37) and cite Ada Louise Huxtable making the same point in her *The Unreal America: Architecture and Illusions* (New York, New Press, 1997). On whether Disneyland or Disneyworld's failure (?) to present the fake *as* fake is a good thing or bad thing, Pines and Gilmore admit to disagreeing with each other (p. 38). I don't know why. Disney keeps all its customers well posted that what they are experiencing is safe, and fun, artificially arranged, and not the real thing...i.e. fake. Realness is not what people go to Disney to experience; and nor are they misled.

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[130] Forgive my literary use of the past tense here: Lord Norman Foster is very much alive and continues in this mode of practice. Kahn died in 1974 with his firm over $300,000 in debt. Most of that debt was accumulated debt to the engineers he worked with over a period of thirty years or so. Never once did an engineer turn down Kahn's invitation to work on a new project. (Report of Marshall Meyers, Kahn's long-time project manager, in conversation, June 24, 1999.)

Of course, the attempt at the unity of science and art in architecture has been characteristic of all periods of great architecture, since Egyptian times. Until modern times, however, that unity was also contained in one *person*, the architect or master-builder, with guilds preserving the complexities of construction and craft. Modern specialization—the division of labor—has made the unity more difficult to pull off, as has the progress of science into areas no longer explanatory, or exploratory, of everyday experience.

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[131] See Acentech, *Architectural Acoustics Release 1.0* (New York. McGraw-Hill, 1999), a CD-ROM that let designers "...select the type of space, materials, and dimensions—then modify the virtual space for preferred

acoustical results. Features hundreds of examples of spaces...." (from the McGraw-Hill architecture catalog, 1999–2000). I have not used this product. See also *CATT-Acoustic* package at *http://www.netg.se/~catt.*

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[132] American architecture firms identified as "hi-tech" make more money per employee, per principal, and per project, than conventional firms—this according to an American Institute of Architects Firm Survey 2000–2002. (Anthony Mariani, "High Returns for Hi-Tech Firms," *Architecture*, December 2000, p. 29.) I suspect that the effect is due entirely to production efficiency rather than design quality gains.

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[133] Writes critic Tony Scherman of the impact of digital technology on music composition as well as production: "[M]usic is an industry as well as an art, and once an industry finds a more efficient way to make its product, the clock doesn't turn back. It's as true of pop music as it is of the car business. And if something as fragile as taste is implicated, if the onrush of capital pushes performers, styles, genres into the margins—well that's just too bad." (Tony Scherman, "Strike the Band: Pop Music without Musicians," *The New York Times*, February 11, 2001, Section 2, p. 1.) Scherman could have included pop or quotidian architecture. Gresham's Law redux.

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[134] Gehry actually designs using pencil sketches. His assistants produce dozens of elaborate wood and metal models, the last and most evolved versions of which is finally digitized and given over to engineers and to his own staff for further development. In this way his forms retain the tactile, sculptural, and accidental quality of their origins. Eisenman is apt to use cartographic and Cartesian foundations, letting form derive from the clash and intersection of mathematical surfaces and maps. More adventurous in their use of the computer compose form are Marcos Novak, Greg Lynn, and Hani Rashid (Asymptote).

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[135] One might recall Kant's Categorical Imperative, which can be paraphrased thus: "act only according to principles that you would have all others, in a similar situations, act according to as well." If Kant is right, then the architecture of design genius, premised on, and judged positively for, its blatant exceptionalism, cannot be a moral way of making cities. When buildings make information fields that overflow their lots, as we have discussed, and when the combined field of all buildings (plus other elements, of course) is what conditions the experience of the city, "pulling something off" or "getting away with" something on a single lot by exploiting rather than contributing to the fabric of the whole, cannot deserve architecture's highest accolade, no matter how brilliant the design. See also Note 51 above.

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[136] You might think that a reputation for creativity could also be used to *empower* architects. After all, when the impasse is critical, can they not *withhold* their creativity, or threaten to, and thus *increase* its value? Sometimes they can. But more often than not, the impasse is critical in the eyes of the architect only. It is the *architect* who cares most about the quality of the result. It is the architect who sees the impending loss most vividly. Others around the table are happy to go on with some inferior solution ("heck, we'll just leave out the..."). And so who leaps up saying "let me see what I can do" or accepts the charge to "come up with alternatives?" Who accepts too that she will not be paid for it? That her reputation for creativity is on the line?

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[137] Journals: *Environment and Behavior*, the *Journal of Environmental Psychology*, the more formalist *Environment & Planning B*, and *Places.* All have online versions and subscription access. For more on EDRA, see also *http://telepath.com/edra/home.html.*

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[138] find Ittelson Proshansky statement to this effect.

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[139] Of course, there are many experiments in social psychology and in economic psychology where manipulation of subjects' prior beliefs and expectations are at the very heart of the experiment. This tends not to be true of environmental psychology, in part, one supposes, because the place/person structure of most environmental psychology experiments, in which (inanimate) place does the "effecting;" this in contrast to the person-to-person, more dialogical structure of social-psychological experiments.

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[140] The proponents of *feng-shui*, the ancient Chinese art of geomancy, knew this. They had a theory that was universal of how the flow of invisible "life energy", *ch'i*, around and through the earth and all things affected

one's health, one's fortune, one's happiness in the short and long run. Science? Hardly. But nonsense? Not at all. Follow its prescriptions and your world will look and feel better to you. You will more likely prosper. Part of the effect is due to *feng-shui*'s basis in the functional and aesthetic benefits of felicitous placement, be it of houses in the landscape, of furniture in a room, or flowers upon a table. But no small part of *feng-shui'*s effect is due to the altered state of the mind of the one who follows its metaphors and prescriptions. Detecting *this* effect invokes science of a different order to astronomy or physics. It does not matter what planets and particles "believe;" but it matters a great deal what humans (and some higher animals) believe about them. Among people (and again, some higher animals), imaginary causes can have real effects, which in turn makes those causes more than "only imaginary." Could this be the real basis of the freedom that we feel humans are born with?

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[141] The happy phrase "ask not what's inside your head, but what your head's inside of" originates with ecological psychologist William Mace of Trinity College, Connecticut. (Cf. Note 52 of Chapter Two.)

J. J. Gibson, the founder of ecological psychology, insisted that the everyday perceptual world is rich with structured information, and no results from a laboratory in which "the world" is reduced to a diagram flashed, a buzzer, and a light, can teach anyone very much about normal perception. All one learns under these circumstances is what the brain does when it's *doesn't* have enough to go on. (For example, all of the classical optical illusions evaporate when the stimulus is not a few lines on a printed page but a three-dimensional, textured, actual object.) The eye, ear, brain and nervous system are evolved to cope with copiousness, not the privation that experimentalists require to link stimuli unequivocally to responses.

As a consequence, environmental (and ecological) psychologists face problems that physiological and even clinical psychologists do not. It is difficult, on the one hand, to reproduce in a controlled, experimental setting the sensory luxuriance that is very likely *essential* to the phenomenon studied, and difficult on the other, when doing in-the-field studies or succeeding, somehow, in getting an interesting world squeezed into the bottle of the laboratory, to identify *what* in the experimental environment is causing *what* in perception and feeling of subjects. Ingenuity of a high order is required. One hopes that computers will soon be fast enough to make virtual world analogs of the real world, perhaps sweetened by digital photography, detailed and fluid enough to offer experimenters both the complexity and the control they need. One also hopes that such research gets the funding it deserves.

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[142] "As I discovered when I was trying to teach Jane Austen, the case for the most complex pleasures has to be made freshly for each generation." David Denby, *Great Books* (New York, Simon and Schuster, 1996), p. 374. I have only anecdotal evidence that architecture's best patrons more-often-than-by-chance once went through a few years of architectural training, or "always wanted to be an architect."

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[143] In 1996, the AIA and NAAB commissioned Ernest L. Boyer and Lee D. Mitgang to study architectural education. The report was called *Building Community: a new future for architecture education and practice* (Princeton, NJ , Carnegie Foundation for the Advancement of Teaching, 1996). Using no language not already familiar to architects, it too called for a greater connection between education, practice, and the general public. The report's effects have not, as of yet, been assessed.

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[144] Here are some already at work in North America: the Center for American Architecture and Design at the University of Texas at Austin (*http//www.ar.utexas/center*); the Temple Hoyne Buell Center for the Study of American Architecture, at Columbia University, NY; the Canadian Center for Architecture in Montreal, Canada (http://cca.qc.ca/), the American Architectural Foundation (http://www.aafpages.org/) and the National Building Museum (*http://www.nbm.org/*) in Washington D.C., and the Chicago Athenaeum *(http://www.chi-athenaeum.org/about.htm*). As for critical publications, there is so far only *Off-Center /On Line* (*http://www.ar.utexas.edu/off-center/*).

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[145] I am aware of possible objections here from enthusiastic AIA members, who would point out how much discussion, education, and self-improvement goes on at state and national AIA meetings. In my own experience, however, self-congratulation, salesmanship, and networking by far dominate the proceedings...together with the functions of a trade show. To be fair, the meetings of doctors, economists, or engineers may or may not be any different in this regard.

The AIA's CES (continuing education system) requires that architects accumulate 36 LUs (Learning Units) per annum from AIA-accredited suppliers, many of them schools, in order for members to remain in good standing. Self-report is the mode by which the LUs are claimed, and the range of activities that satisfy the CES requirement have very little to do with exposure to criticism. Most LUs are earned at AIA meetings, which is a pretty good way of ensuring attendance at them. For more on the CES program, see *www.e-architect.com.*

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[146] One hopeful recent development has been the annual Mayor's Institute on City Design, a "partnership between the National Endowment for the Arts, the U.S. Conference of Mayors, and the American Architectural Foundation." (*Architectural Record*, February 2001, p. 38). These are often held at architecture schools with some faculty and student participation.

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[147] Given what we have learned about markets in the previous three chapters previous to this, we can remain respectful and more skeptical as to the synonymity of market idealness with market efficiency thus defined. Nevertheless, the economists' concept of market ideality (or efficiency) provides a useful framework of discussion of present-day market realities, based as they are on broad acceptance of that very concept.

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[148] I touched on this subject earlier in the chapter, when I discussed the experience economy, and then again when it was suggested that the use of computers could promote commoditization of architectural drawings and specifications for large and whole oft-built building components, from bathrooms to auditoria to entire buildings. In Chapter Nine we looked at the effects on home design of considering resale value, explored the effect Gresham's Law on the evolution of goods and markets generally, and so forth.

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[149] *United States v. American Institute of Architects*, No. 992-72, U.S. District Court for the District of Columbia, 1972, p. 2 (ref: Lexis/Nexis legal database).

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[150] *United States v. National Society of Professional Engineers*, No. 2412-72, U.S. District Court for the District of Columbia, 1974 (ref: Lexis/Nexis legal database).

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[151] *Mardirosian v. American Institute of Architects,* Civ. A. No. 77-1297, U. S. District Court of Columbia, 1979 (ref: Lexis/Nexis legal database).

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[152] Interestingly, federal and state government agencies are immune from prosecution under the Sherman Antitrust Act, and are able to use the pre-set, professional fee schedules "suggested" by the professions. See also the next note.

Thanks for checking and enhancing my research of this topic go to Carl M. Sapers of Hill & Barlow, Boston, who also teaches professional practice law at the Graduate School of Design at Harvard University.

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[153] Typically, fee *maxima* are set by the state for state-commissioned and funded work. In Texas at the time of writing, architecture or engineering fees for "prime design" responsibilities were set at between 6% and 8.5%, in half-percent increments keyed to cost and type of project. Public works projects in Texas may *not* be awarded to architects (or engineers) based on competitive bidding procedures, this even though architects and engineers are themselves enjoined from prohibiting each other from securing work by competitive bids (by the two judgments listed in Notes 137 and 138 above). The state courts here appear wiser than the federal courts:

> To hold that the (competitive bidding) act would require that the services of a (person) belonging to a profession such as that of the law, of medicine, of teaching, civil engineering, or architecture should be obtained...only through competitive bidding would give a ridiculous meaning to the act.... Such a construction would require the selection of attorneys, physicians, school teachers, and civil engineers by competitive bids, the only test being the lowest bid for the services of such (people). Such a test would probably be the best that could be conceived for obtaining the services of the least competent....

Hunter v. Whiteaker & Washington, 230 S. W. 1096, 1098 (Texas Civil Appeals, San Antonio 1921), upheld through Attorney General Opinion JM 940, 1988. For more, visit *http://www.tsaonline.org/society/practice/laws/*.

All of this is moot, of course, for privately funded and commercially financed projects. Here people may use architecture firms, or A-E firms, or A-E-C turnkey firms selected on basis of price or competence, neither, or both. If we accept that all buildings are public goods, however, we must be distressed by this state of affairs. The information field that "magnetizes" the space beyond the limits of the site lies on public property, *is* public property, belonging to all citizens of the city, the county, the state, the nation. When it comes to architecture, "externalities" are the rule, not the exception that economists take them to be. Our laws do not recognize this principle.

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[154] The same has been occurring to other professions, like the legal profession: the elimination of "ethical" injunctions against price competition and advertising, the parcelling out of certain functions to less expensive suppliers, paralegals, and the commodification of certain routine contracts and instruments by consumer-available software. As of this writing, medicine is undergoing much the same process.

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[155] For an explication of Gresham's Law, see pp...–...

An interesting parallel might be drawn here to popular democracy. People regularly vote for (and against) politicians whose performance they are in no position to judge. In thirty-nine states, for example, judges at various levels are elected by popular vote. Set aside the problem of influence-peddling by financing judicial electoral races. The fact remains that there is simply no way that the public can accurately assess the quality of a judge's record or legal knowledge, even if they paid a hundred times more attention than they currently do to the information technically available. Why does the system persist? Partially because of tradition (in small towns, the public *did* know of a judge's temperament, fairness, moral rectitude, etc.), partially because of the assumption that, in a large city, any victims of an incompetent incumbent would make it their business to get him unseated through informing the public, and partially because systems for *appointing* judges are open to equal or greater abuses, such as cronyism and lack of accountability.

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[156] Far simpler is a government that builds everything according to experts' plans, that can ride roughshod over private property in the name of a higher cause. Far simpler too is a free-for-all market with ignorant, price-sensitive consumers herding themselves from one cheap thrill to another, leaving trash in their wake. Neither of these solutions are any good, of course. We came to a similar conclusion in Chapter Nine, when we discussed at some length how Gresham's Law is defeated.

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[157] Room for improvement remains, however. For example, a house or apartment listed on a broker's website could contain far more detailed photography of the property than it commonly does now, including video clips of grounds, interiors, and neighborhoods, as well as plan-drawings or diagrams annotated with points to click-on that deliver a corresponding 360˚ view, aerial photographs, and so on; also detailed data about size, age, quality, energy performance, repair records; also "experience" and information about properties recently sold, comparables in other cities, etc., etc. Unbuilt buildings could have rendered CAD models to facilitate their pre-leasing. Access to competitive financing, city records, and legal advice could also be "a click away"; access also to design, shelter, furniture, architecture, and life-style magazines; to moving, utility, and telephone companies; contractors, hardware stores, repair services... As I write this, many these ideas for improving the real-estate buying and selling experience are becoming a reality. (See, for example, *www.bamboo.com.*) As you read this, they are likely to have become common, awaiting only greater communication bandwidth and computer processor speed to advance yet further in richness and efficiency. Larger buildings than houses will fall into the system's ambit (as they already have on several sites).

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[158] But this offers yet other opportunities for design and "inhabitation." See my edited volume, *Cyberspace: First Steps* (MIT Press, 1991) for an early start at visualizing such a future. Also Neal Stephenson's *Snowcrash*, and any of William Gibson's first three novels.

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[159] One looks forward to the day when cities compete for corporate "immigrants" ten times harder than they do already not in the tax breaks, cheap labor, infrastructural support, or environmental concessions they offer, but by what they offer in quality of life—i.e. good schools, transportation, culture, safety, cleanliness, vitality, civic beauty, etc. This first set of incentives is precisely what ruins a city's chances of ever being able to offer the second set, which depend a great deal for their provision on the city's ability to collect property and other taxes from businesses. Of course, the hope of mayors and city councils who induce large employers to relocate through tax breaks and so forth is that the city will *later* be able to raise such companies' tax burdens, and that the new jobs provided will yield new residential property taxes, sales taxes, bed taxes, and so on that compensate for the initial losses. To my mind, this is taking the low road instead of the high, and is ultimately short-sighted, because somehow there are always better uses for those taxes when they finally come on line, and the damage has been done, at least environmentally. Besides, a company that makes a town ugly because it exploits rather than contributes to its whereabouts (and was indeed *invited* to do just that) can just as soon relocate again—move on to greener pastures—once the quality of life of where it is degrades beyond a certain point and higher taxes are called for. It is unlikely that the "pasture" consumed during their stay will soon recover.

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[160] I am excluding from discussion here individual architects who are salaried by developers or other architects, or by governments, and so on. By "architect" I also mean "architecture firm."

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[161] It is also why "signature" architects continue to get and do house design work for substantial fees (15%–20% of construction costs): their "branding" lowers the risk of value loss on resale.

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[162] Although the commercial developer, if he wants a lender to share in his risk, is well-advised not to depart too radically from local averages in style, construction costs, rental rates, and so on, the fact is that commercial real estate is by nature *productive capital* under active management, and thus makes lenders more amenable to business plans that include departures from the norm and that participate in longer-term, larger scale strategies (for example buying all the undeveloped land around intensive new development). Commercial properties *earn* as well as appreciate. Houses only appreciate. This makes it easier to treat a commercial property's architecture as a property of the property that helps it earn money—and therefore easier to treat the architect's fee as a simple cost of doing business.

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[163] For information about the National Association of Real Estate Appraisers (NARAE), and also the National Association of Review Appraisers & Mortgage Underwriters (NARA/MU), visit *http://www.iami.org/*.

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[164] In California and in Europe, artists may avail themselves of *le droit de suite* (the right of continuation), meaning that they can contract to receive fresh royalties every time their work sells again. On architects using patents and copyrights of their designs to generate income, see Shaila Dewan, "Bring on the lawyers," *Architecture*, December 1999, pp. 128–130.

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[165] I know of no quantitative survey of how many architects already operate in this mode, but anecdotal evidence suggests that it is extremely rare. A notable exception and example of an architect-turned-architect-developer is John Portman of Atlanta. From his Web Site *www.portmanholdings.com*: "The creativity, vision, and entrepreneurial spirit of John Portman took a two-man architectural practice in Atlanta, Georgia in 1953 to a group of real estate-related companies that today serve clients throughout the world."

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[166] Another layer of complexity is added to this scheme when cost estimates change, as they usually do until the project is complete, and the architect is paid in stages for work-to-date.

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[167] Of course, the most penny-wise clients would not enter into a Tilted-L contract with an architect in the first place. They would take their chances that they could keep their architect—duty-bound to be creative and easily made to feel guilty—working hard to meet the originally-agreed-upon budget and fee, even as complications emerged and the costs of construction went up as everyone knew they would.

For what?

Look at Figure 10.6 again. Imagine (for the same project as we have been discussing) a budget of $700,000 and a fee of 9%. Cost estimates climb. The architect successfully claims fees on the increases until, say, $750,000 is reached and then—with the client showing great vexation and the architect's guilt setting in—the architect stops making fee claims on the cost overruns. Her fees level out at, say, $70,000 and stay there even as final construction costs reach $800,000. The client thus pays out $870,000. He has saved $8000 over what he would have paid using the Tilted-L Fee Contract and the higher fee rate. $8000 is 0.9% of the total cost of the project. And for this money: (1) he probably didn't enjoy himself or grow one bit for the duration of the project, (2) the building he got was probably the worse-designed for all the conflict, (3) the building he got was probably more expensive than it would otherwise have been (because his architect's financial incentives were reversed most of the time*), (4) the building he got probably doesn't earn him as much, in rent or resale, because of (2) and (3).

*Of course, the unscrupulous client will threaten not to pay the architect's fees at all unless they meet the budget, and use this as a way to point the architect in the "right" direction.

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[168] Between 1982 and 1992, 50 acres of farmland *per hour* were lost to development, making over 4.3 million acres lost over the whole period. (American Farmland Trust, as reported in "Harper's Index" by *Harper's Magazine*, August 1998, p. 13). The population between 1982 and 1992 grew by 23 million, making the "farmland consumption rate" roughly one-fifth of an acre per person born, which is about as much land as is needed for a large single-family house. Put more strikingly perhaps: for every 200 babies born in this period, a new regional shopping mall was built on a cornfield somewhere. I doubt the statistic has changed much.

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[169] For readers curious as to the actual formulas used to make these curves, and perhaps wanting to experiment themselves: Curve-A is given by $y = 100e^{-\sqrt{x}}$, curve-B by $y = \frac{x+1}{2}$ and curve-C by their product, $y = 50(x+1)e^{-\sqrt{x}}$.

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[170] In my city, in 1999, the flat rate is 51.42 cents for every $100 of value, as appraised annually by city officials based on actual sales. This applies everywhere except the Downtown Public Improvement District (where it stands at 10 cents for every $100 of assessed value) and for structures that are designated historic. It has also been reduced or forgiven to induce a number of large businesses to locate in Austin. The pattern is typical across America.

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[171] Complementary would be a tax on undeveloped urban land that escalates with the amount of time it remains undeveloped. Sweden has just such a system. Very un-American!

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[172] One way to think about why the total tax yielded is so much greater for curves like curve-C than curve-A is because the distance to the *centroid* of the area under either curve is what determines the effective diameter of the rotation around the Y-axis that sweeps out a volume. The further out this centroid, the greater is the "volume yield" of the same under-curve area.

Note that, lowered and with a gentler slope, curve-B could be adjusted to yield no more or no less *total* property tax revenue than curve-A, while still retaining some of the incentive structure of curve-C.

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[173] These need not be symmetrical around the norm; the bonuses and penalties could follow a pattern rather like the Tilted-L Fee Contract of Figure 10.6.

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[174] Actually, it is becoming increasingly common for city governments and public-private partnerships seeking to carry out urban renewal projects to use Federal highway funds to dismantle old urban freeways and replace them with pedestrian scaled environments. Providence's Waterplace Park is one such example. San Francisco reclaimed land from the broken Embarcadero highway; Boston buried the part of I-93 than ran through the center of Boston; and Louisville took out an exit ramp of I-64 to increase pedestrian an vehicular access to its downtown. (See Jane Holz Kay, "Nurtured by a Canal, a Downtown Desert Blooms," the *New York Times*, July 25, 1999, p. E1)

[175] See Alice E. Ingerson,"Public-Private Partnerships for Central Park," a report by the Institute for Cultural Landscape Studies at Harvard University, readable at *http://www.icls.harvard.edu/places/centrpk.htm*. In 1998, the Conservancy took over complete control, agreeing to raise at least five million dollars for spending on upkeep and programs.

[176] Taxes should not be used to subsidize private projects that ought to be profitable in themselves, like sports stadiums, unless clear public benefits, in the form of positive externalities, can be demonstrated. Most such externalities cannot be proved.* Nor, as I submitted earlier, should city monies be used to give tax subsidies to attract companies to relocate inside their city limits and to exploit, therefore, the physical, cultural, and civic capital built up by other people's taxes. On the contrary, cities should do everything they can to make themselves so attractive physically, culturally, "civically," and, yes, economically, that companies wishing to relocate, especially around the fringes, would be willing to pay a *premium* in sprawl taxes or other payments to be allowed to relocate there. What to do with the premium? Make the city more attractive yet.

* See Robert A. Baade "Is There an Economic Rationale for Subsidizing Sports Stadiums?" *The Heartland Institute* Policy Study No. 13, February 23, 1987, available online at *www.heartland.org/studies/sports/baade1.htm.* See also Mandy Rafool, *Playing the Stadium Game* National Conference of State Legislators, at *http://ncsl.org/programs/fiscal/lfp106.htm.*

[177] See also Chapter Four, pp...–..., where we discuss *akrasia*, or "weakness of will," especially as this regards our proclivity for making short-term decisions that we *know* are wrong, morally, and/or that will bring long term harm to us.

[178] Some readers may see a similarity here to John Rawls's principle of distributive justice; which suggests that people in the "original position," and thus behind a "veil of ignorance" as to *who they* themselves would be in the future, would make rules and arrange dispensations that maximized the minimum that anyone would receive. This, for us, is a form of extended investment.

[179] This dynamic is well known to realtors, who will always counsel home buyers to buy the worst house on a good street rather than, for the same price, the best house on a bad street, for the simple reason that improvements made to the lesser property will be easier to recoup in resale, and even profit on, than improvements made to already top-tier properties.

There is also an *extra* incentive to building cheaply on pockets of land in already developed neighborhoods. This is because the person *selling* the land often tries to capture for himself *all* the value of the neighborhood field. For example, the ratio of land price to building price on open land is standardly around 1:4. But it is not uncommon for isolated lots in established neighborhoods to go on the market for a *half* of the market price of the average neighboring lot-plus-building. If the lot buyer accepts this high price, he will be faced with having to build something whose total price will be well above neighborhood average (and therefore that much harder to re-sell) or he will have to build in draconianly cheap fashion a building that is above average only in total area. Look at the new construction in any nice old neighborhood in your city, and you will see this logic played out.

Neighborhoods that understand that they are in possession of an exploitable public asset often organize themselves to resist new developers by imposing legally-instituted growth limits together with conservative "good design" standards. But as Mancur Olson notes, the very *defense* of a public or collective good is prone to defectors of two kinds: people who would "sell out" to developers on the grounds that their small defection would profit them much and hurt the group little, and people who believe that their own individual efforts to protect the public good count for very little. Under these conditions, typically, a small group of zealots will form, people who work on behalf of the larger group, if only to protect their own interests. Moreover, this smaller group will need to instate mechanisms of coercion that apply to all, typically in the area of awarding and denying tokens of legitimacy, such as the right to build at all.

[180] Underlying both narratives is a law that runs deeper than the "laws" of social or economic exchange. It is mathematical, and can be stated pithily thus: *Averages move more slowly than instances*. Friedrich von Hayek called its economic manifestation "the comparative stability of aggregates."*

To explain: Let x_i be any one number in a collection of n numbers (i = 1,2,...n), and let $\boldsymbol{X}_{(n)}$ be the average value of those n numbers. Now let us add another new number/member to the group, namely x_{n+1}. We compute a new average $\boldsymbol{X}_{(n+1)}$. It is always the case that if $x_{n+1} \neq \boldsymbol{X}_{(n)}$, i.e. if the new number is not equal to the old average, then $|\boldsymbol{X}_{(n+1)} - \boldsymbol{X}_{(n)}| < |x_{n+1} - \boldsymbol{X}_{(n+1)}|$, that is, then the absolute difference between the new and old averages is always less than the absolute difference between the new number and the new average.

We do not need to add a new number to the group to get the effect. If any x_i should "break away" from the average value in either direction, up or down, then the average will follow in that same direction, only more "slowly"—indeed, the larger n, the more slowly. It is as though the quantity called "the average" defined on a set of numbers had *inertia*, a sort of lethargy, proportional to the number of its unit-"mass" elements.

What developers do is exploit the natural difference in speed between instances and averages. Large traders in the stock market try to do the same.

*Friedrich A. von Hayek, "The Use of Knowledge in Society," *American Economic Review* XXXV, #4 September 1945, p. 519–530, reprinted in Nishiyama and Luebe, eds., *The Essence of Hayek* (California, Hoover Institution Press, 1984)

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[181] For example, if you didn't like what they were building down the street, you would sell your shares, perhaps try to start a run, and thus do your part to bring down the offending property's market value.

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[182] Common law dominates today in England, the U.S., and other once-British colonies. Civil law dominates in Europe (and at the state and federal levels in the U.S.).

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[183] ...as though our bodies were not old, four-million-years-of-cumulative-evolution old...

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[184] With Los Angeles as a notable exception, most cities that have preservation laws use a sliding or relative age scale. Typically, buildings 50 years old or older are automatically eligible for protection, property tax rebates, or listing on the National Historic Register, which offers great federal tax relief, and so on. As you read this, hundreds of thousands of exceedingly mediocre buildings of the post-WWII era are becoming eligible each year for such privileged treatment. An alternative formulation would use a fixed completion date; e.g. 1936. All buildings completed before this date then receive special consideration. This is the system I prefer if one is going to use age as a datum at all. The idea that by 2030, all buildings built in 1970 will be subject to preservation law gives me pause.

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[185] Of course, using the common law model, one could also refer to similar cases in the past where demolition and starting afresh *was* accepted.

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[186] In as much as it conceives of an alternative to the International Style, some readers may see an affinity here to Kenneth Frampton's call for "Critical Regionalism," i.e. new buildings that respond to local climate, materials, history and culture, but in an original, modern, interpretative—i.e. "critical"—way. (Kenneth Frampton, *Modern Architecture: A Critical History* [New York, Thames and Hudson, 1992] p. 314 ff.)

My notion here, though, is both more conservative and more progressive. It leaves less room for architects to make their every project a demonstration of possibilities or the taking of a "position" *vis a vis* local culture. It asks them instead to concentrate their efforts on technological and phenomenological refinements that could well be "international" in the meaning and pleasure they give, i.e. common to all humanity.

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[187] From *www.trane.com/commercial/issues/iaq/laws01.asp*:

> ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) establishes minimum ventilation rate standards for the industry based on the consensus of the HVAC design community. Over the last century, the amount of outdoor air deemed necessary for

> acceptable ventilation changed several times. Occupant tolerance, industry knowledge of indoor air contaminants, HVAC system operating costs, building envelope permeability, and the growing number of contaminants generated within the building prompted these changes.
>
> During the 1980's, the building industry identified many of the causes of poor indoor air quality and took steps to correct them. ASHRAE responded by revising a key standard: ASHRAE Standard 62-1989, "Ventilation for Acceptable Indoor Air Quality." This revision increased the minimum per-person outdoor air requirement to 15-20 cfm for occupied spaces and 60 cfm for smoking areas. (The exact ventilation rate for occupied spaces varies by space type, e.g., operating rooms require a higher outdoor airflow per person than auditoriums, 30 cfm versus 15 cfm.)

Aside from noting the industry's reluctance to set high standards of air quality in the first place, there is less wrong with these recent standards than there is with enforcing them. Newly-built buildings and new HVAC-retrofitted ones are checked once by engineer, contractor, and architect, but never again thereafter, or until a building starts producing sickness in its inhabitants that is traceable to indoor air quality. To save energy bills, it is common for building owners to later block fresh air intake vents—it just takes a piece of cardboard—and thus increase the amount of conditioned air that is recycled.

In a more perfect world, there would also be enforceable standards for the speed and *coherence* (i.e. non-turbulence and evenness) of airflow in buildings.

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[188] Note that this would not restrict building height "across the board," or require ornament of this or that sort (or indeed of any sort), etc. Let there be glorious new megastructures: I am after a new and more highly evolved architecture derived from the best of the past, not a wholesale return to it. In this I respectfully differ with Christopher Alexander and his *Pattern Language* (, 1977) and The *Nature of Order* (London, Oxford University Press, in press).
