

Historian, critic, and sharp-witted essayist **Reyner Banham** trained as an aeronautical engineer during the Second World War before coming under the tutelage of art historian Nikolaus Pevsner at the Courtauld Institute in London in the late 1940s. There he completed a dissertation that would be rewritten and published in 1960 as *Theory and Design in the First Machine Age*, revising the *sachlich* narrative of modern architecture rendered by Pevsner in his classic *Pioneers of the Modern Movement* of 1936. In the postwar period Pevsner would himself retrench from the Gropius line of his earlier book, rediscovering the perennial virtues of English empiricism and Townscape picturesque, which he promoted as an editor of *Architectural Review*, and later acknowledging the importance of "antirationalist" currents, especially Art Nouveau and German expressionism. Meanwhile, Banham, who began contributing regularly to *Architectural Review* in 1952 and would become assistant editor in 1959, was increasingly concerned with the relationship between architecture and technology, in particular the symbolic or aesthetic interpretation of technology by modern architects. This would lead him to an "other" genealogy of modernism giving primacy to Italian futurism—*une architecture autre*, as he put it in 1955.

Banham was also involved during these years in the activities of the Independent Group and the inception of the New Brutalism, a tendency propounded by Peter and Alison Smithson which Banham did much to explicate and promote through an article in *Architectural Review* in 1955 (reworked as a book in 1966). Banham's exuberant endorsement of popular culture, industrial design, the American way of life, and new technologies, and his dislike for traditionalism and aestheticism of any kind, subsequently led him away from the Smithsons—whose work, he felt, took a regressive and formalistic turn with their "archaeological" Patio and Pavilion installation at the *This Is Tomorrow* exhibition of 1956—and to embrace the work of Buckminster Fuller as a radical populist response to social needs and prophetic embodiment of a Marinettian future.

The following essay, accompanied on its original publication by a vivid set of drawings by François Dallegret and published the same year as the Plug-in City of Archigram (a group with whom Banham preserved strongly paternalistic relations), reflects the Banham polemic at its most visionary and at the same time most satirical. It proposes an architecture of ultimate antimonumentality: the house as a minimal membrane of enclosure, dematerialized of all but its essential mechanical services. Inspired by Fuller's Dymaxion with its central service core and later geodesic designs where all space-defining elements were coterminous with the structure's skin, Banham's "unhouse" was "an extension of the Jeffersonian dream beyond the agrarian sentimentality of Frank Lloyd Wright's Usonian Broadacre vision . . .," as he put it, "power-point homesteading in a paradise garden of appliances." Banham was to return to this "gas-powered pastorate" and the advantages of the portable life-style in "The Great Gizmo," published in *Industrial Design* in September 1965.

After a stay in Chicago in 1964–66, Banham eventually moved permanently to the United States, teaching at New York State University in Buffalo and then the University of California at Santa Cruz. His prolific writings and books—including *The Architecture of the Well-Tempered Environment* (1969), *Los Angeles: The Architecture of Four Ecologies* (1971), and *A Concrete Atlantis* (1986)—reflect his passionate commitment to advancing a pragmatic technology for the controlled environment.

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## A Home Is Not a House

Reyner Banham

When your house contains such a complex of piping, flues, ducts, wires, lights, inlets, outlets, ovens, sinks, refuse disposers, hi-fi reverberators, antennae, conduits, freezers, heaters—when it contains so many services that the hardware could stand up by itself without any assistance from the house, why have a house to hold it up? When the cost of all this tackle is half of the total outlay (or more, as it often is) what is the house doing except concealing your mechanical pudenda from the stares of folks on the sidewalk? Once or twice recently there have been buildings where the public was genuinely confused about what was mechanical services, what was structure—many visitors to Philadelphia take quite a time to work out that the floors of Louis Kahn's laboratory towers are not supported by the flanking brick duct boxes, and when they have worked it out, they are inclined to wonder if it was worth all the trouble of giving them an independent supporting structure.

No doubt about it, a great deal of the attention captured by those labs derives from Kahn's attempt to put the drama of mechanical services on show—and if, in the end, it fails to do that convincingly, the psychological importance of the gesture remains, at least in the eyes of his fellow architects. Services are a topic on which architectural practice has alternated capriciously between the brazen and the coy—there was the grand old let-it-dangle period, when every ceiling was a mess of gaily painted entrails, as in the council chambers of the U.N. building, and there have been fits of pudicity when even the most innocent anatomical details have been hurriedly veiled with a suspended ceiling.

Basically, there are two reasons for all this blowing hot and cold (if you will excuse the air conditioning industry's oldest-working pun). The first is that mechanical services are too new to have been absorbed into the proverbial wisdom of the profession; none of the great slogans—form follows function, *accusez la structure*, firmness commodity and delight, truth to materials, *wenig ist mehr*—is much use in coping with the mechanical invasion. The nearest thing, in a significantly negative way, is Le Corbusier's *pour Ledoux, c'était facile—pas de tubes*, which seems to be gaining proverbial-type currency as the expression of profound nostalgia for the golden age before piping set in.

The second reason is that the mechanical invasion is a fact, and architects—especially American architects—sense that it is a cultural threat to their position in the world. American architects are certainly right to feel this, because their professional specialty, the art of creating monumental spaces, has never been securely established on this continent. It remains a transplant from an older culture and architects in America are constantly harking back to that culture. The generation of Stanford White and Louis Sullivan were prone to behave like *émigrés* from France, Frank Lloyd Wright was apt to take cover behind sentimental Teutonicisms like *lieber Meister*, the big boys of the thirties and forties came from Aachen and Berlin anyhow, the pacemakers of the fifties and sixties are men of international culture like Charles Eames and Philip Johnson, and so too, in many ways, are the coming men of today, like Myron Goldsmith.

Left to their own devices, Americans do not monumentalize or make architecture. From the Cape Cod cottage through the balloon frame to the perfection of permanently pleated aluminum siding with embossed wood-graining, they have tended to build a brick chimney and lean a collection of shacks against it. When Groff Conklin wrote (in "The Weather-Conditioned House") that "a house is nothing but a hollow shell . . . a shell



is all a house or any structure in which human beings live and work really is. And most shells in nature are extraordinarily inefficient barriers to cold and heat . . .," he was expressing an extremely American view, backed by a long-established grass-roots tradition.

And since that tradition agrees with him that the American hollow shell is such an inefficient heat barrier, Americans have always been prepared to pump more heat, light, and power into their shelters than have other peoples. America's monumental space is, I suppose, the great outdoors—the porch, the terrace, Whitman's rail-traced plains, Kerouac's infinite road, and now, the Great Up There. Even within the house, Americans rapidly learned to dispense with the partitions that Europeans need to keep space architectural and within bounds, and long before Wright began blundering through the walls that subdivided polite architecture into living room, games room, card room, gun room, etc., humbler Americans had been slipping into a way of life adapted to informally planned interiors that were, effectively, large single spaces.

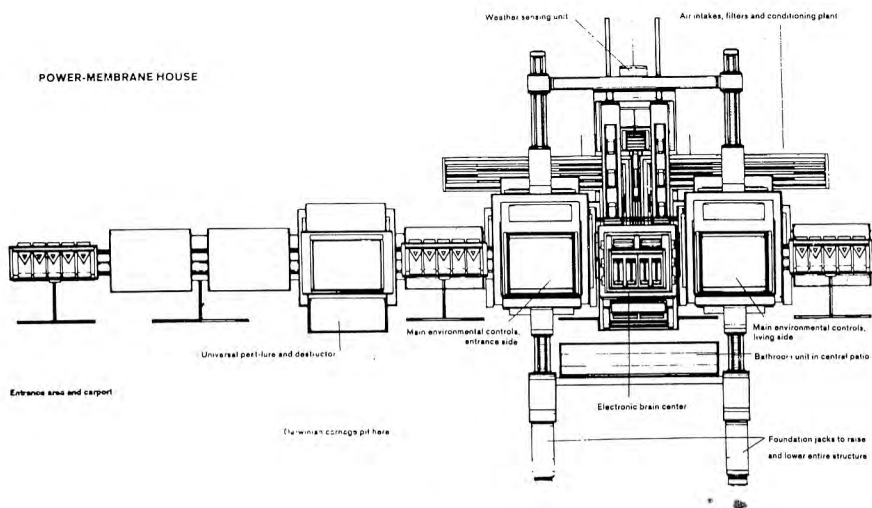
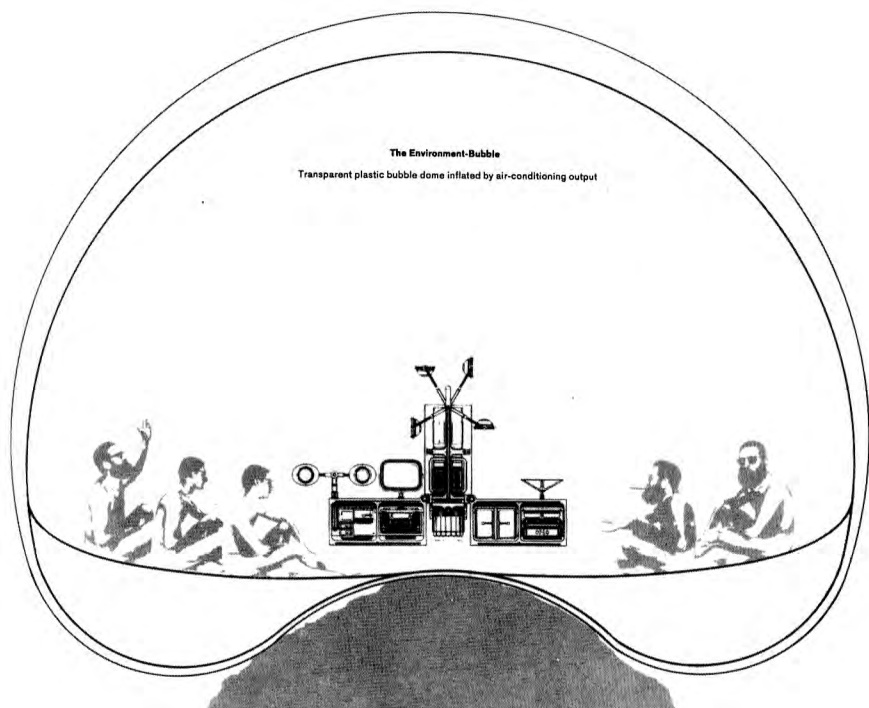
Now, large single volumes wrapped in flimsy shells have to be lighted and heated in a manner quite different and more generous than the cubicular interiors of the European tradition around which the concept of domestic architecture first crystallized. Right from the start, from the Franklin stove and the kerosene lamp, the American interior has had to be better serviced if it was to support a civilized culture, and this is one of the reasons that the U.S. has been the forcing ground of mechanical services in buildings—so if services are to be felt anywhere as a threat to architecture, it should be in America.

"The plumber is the quartermaster of American culture," wrote Adolf Loos, father of all European platitudes about the superiority of U.S. plumbing. He knew what he was talking about; his brief visit to the States in the nineties convinced him that the outstanding virtues of the American way of life were its informality (no need to wear a top hat to call on local officials) and its cleanliness—which was bound to be noticed by a Viennese with as highly developed a set of Freudian compulsions as he had. That obsession with clean (which can become one of the higher absurdities of America's lysol-breathing Kleenex-culture) was another psychological motive that drove the nation toward mechanical services. The early justification of air-conditioning was not just that people had to breathe: Konrad Meier ("Reflections on Heating and Ventilating," 1904) wrote fastidiously of " . . . excessive amounts of water vapour, sickly odours from respiratory organs, unclean teeth, perspiration, untidy clothing, the presence of microbes due to various conditions, stuffy air from dusty carpets and draperies . . . cause greater discomfort and greater ill health."

(Have a wash, and come back for the next paragraph.)

Most pioneer air-conditioning men seem to have been nose-obsessed in this way; best friends could just about force themselves to tell America of her national B.O.—then, compulsive salesmen to a man, promptly prescribed their own patent improved panacea for ventilating the hell out of her. Somewhere among these clustering concepts—cleanliness, the lightweight shell, the mechanical services, the informality and indifference to monumental architectural values, the passion for the outdoors—there always seemed to me to lurk some elusive master concept that would never quite come into focus. It finally became clear and legible to me in June 1964, in the most highly appropriate and symptomatic circumstances.

I was standing up to my chest hair in water, making home movies (I get that NASA kick from taking expensive hardware into hostile environments) at the campus beach



at Southern Illinois. This beach combines the outdoor and the clean in a highly American manner—scenically it is the old swimmin' hole of Huckleberry Finn tradition, but it is properly policed (by sophomore lifeguards sitting on Eames chairs on poles in the water) and it's *chlorinated* too. From where I stood, I could see not only immensely elaborate family barbecues and picnics in progress on the sterilized sand, but also, through and above the trees, the basketry interlaces of one of Buckminster Fuller's experimental domes. And it hit me then, that if dirty old Nature could be kept under the proper degree of control (sex left in, streptococci taken out) by other means, the United States would be happy to dispense with architecture and buildings altogether.

Bucky Fuller, of course, is very big on this proposition: his famous nonrhetorical question, "Madam, do you know what your house weighs?" articulates a subversive suspicion of the monumental. This suspicion is inarticulately shared by the untold thousands of Americans who have already shed the deadweight of domestic architecture and live in mobile homes which, though they may never actually be moved, still deliver rather better performance as shelter than do ground-anchored structures costing at least three times as much and weighing ten times more. If someone could devise a package that would effectively disconnect the mobile home from the dangling wires of the town electricity supply, the bottled gas containers insecurely perched on a packing case, and the semi-unspeakable sanitary arrangements that stem from not being connected to the main sewer—then we should really see some changes. It may not be so far away either; defense cutbacks may send aerospace spin-off spinning in some new directions quite soon, and that kind of miniaturization talent applied to a genuinely self-contained and regenerative standard-of-living package that could be towed behind a trailer home or clipped to it could produce a sort of U-haul unit that might be picked up or dropped off at depots across the face of the nation. Avis might still become the first in U-Tility, even if they have to go on being a trying second in car hire.

Out of this might come a domestic revolution beside which modern architecture would look like Kiddibrix, because you might be able to dispense with the trailer home as well. A standard-of-living package (the phrase and the concept are both Bucky Fuller's) that really worked might, like so many sophisticated inventions, return Man nearer to a natural state in spite of his complex culture (much as the supersession of the Morse telegraph by the Bell Telephone restored his power of speech nationwide). Man started with two basic ways of controlling environment: one by avoiding the issue and hiding under a rock, tree, tent, or roof (this led ultimately to architecture as we know it) and the other by actually interfering with the local meteorology, usually by means of a campfire, which, in a more polished form, might lead to the kind of situation now under discussion. Unlike the living space trapped with our forebears under a rock or roof, the space around a campfire has many unique qualities which architecture cannot hope to equal, above all, its freedom and variability.

The direction and strength of the wind will decide the main shape and dimensions of that space, stretching the area of tolerable warmth into a long oval, but the output of light will now be affected by the wind, and the area of tolerable illumination will be a circle overlapping the oval of warmth. There will thus be a variety of environmental choices balancing light against warmth according to need and interest. If you want to do close work, like shrinking a human head, you sit in one place, but if you want to sleep you curl up somewhere different; the floating knucklebones game would come to rest somewhere quite different from the environment that suited the meeting of the initiation rites steering committee . . . and all this would be jim dandy if campfires were not so

perishing inefficient, unreliable, smoky, and the rest of it.

But a properly set-up standard-of-living package, breathing out warm air along the ground (instead of sucking in cold along the ground like a campfire), radiating soft light and Dionne Warwick in heartwarming stereo, with well-aged protein turning in an infrared glow in the rotisserie, and the icemaker discreetly coughing cubes into glasses on the swing-out bar—this could do something for a woodland glade or creekside rock that *Playboy* could never do for its penthouse. But how are you going to manhandle this hunk of technology down to the creek? It doesn't have to be that massive; aerospace needs, for instance, have done wild things to solid-state technology, producing even tiny refrigerating transistors. They don't as yet mop up any great quantity of heat, but what are you going to do in this glade anyhow; put a whole steer in deep freeze? Nor do you have to manhandle it—it could ride on a cushion of air (its own air-conditioning output, for instance) like a hovercraft or domestic vacuum cleaner.

All this will eat up quite a lot of power, transistors notwithstanding. But one should remember that few Americans are ever far from a source of between 100 and 400 horsepower—the automobile. Beefed-up car batteries and a self-reeling cable drum could probably get this package breathing warm bourbon fumes o'er Eden long before microwave power transmission or miniaturized atomic power plants come in. The car is already one of the strongest arms in America's environmental weaponry, and an essential component in one nonarchitectural antibuilding that is already familiar to most of the nation—the drive-in movie house. Only, the word *house* is a manifest misnomer—just a flat piece of ground where the operating company provides visual images and piped sound, and the rest of the situation comes on wheels. You bring your own seat, heat, and shelter as part of the car. You also bring Coke, cookies, Kleenex, Chesterfields, spare clothes, shoes, the Pill, and god-wot else they don't provide at Radio City.

The car, in short, is already doing quite a lot of the standard-of-living package's job—the smoochy couple dancing to the music of the radio in their parked convertible have created a ballroom in the wilderness (dance floor by courtesy of the Highway Dept., of course) and all this is paradisaical till it starts to rain. Even then, you're not licked—it takes very little boosting, and the dome itself, folded into a parachute pack, might be part of the package. From within your thirty-foot hemisphere of warm dry *Lebensraum* you could have spectacular ringside views of the wind felling trees, snow swirling through the glade, the forest fire coming over the hill, or Constance Chatterley running swiftly to you know who through the downpour.

But . . . surely, this is not a home, you can't bring up a family in a polythene bag? This can never replace the time-honored ranch-style trilevel with four small boys and a private dust bowl. If the countless Americans who are successfully raising nice children in trailers will excuse me for a moment, I have a few suggestions to make to the even more countless Americans who are so insecure that they have to hide inside fake monuments of PermaStone and instant roofing. There are, admittedly, very sound day-to-day advantages to having warm broadloom on a firm floor underfoot, rather than pine needles and poison ivy. America's pioneer house builders recognized this by commonly building their brick chimneys on a brick floor slab. A transparent airdome could be anchored to such a slab just as easily as could a balloon frame, and the standard-of-living package could hover busily in a sort of glorified barbecue pit in the middle of the slab. But an airdome is not the sort of thing that the kids, or a distracted Pumpkin Eater, could run in and out of when the fit took them—believe me, fighting your way out of an airdome can be worse than trying to get out of a collapsed rain-soaked

tent if you make the wrong first move.

But the relationship of the services kit to the floor slab could be rearranged to get over this difficulty; all the standard-of-living tackle (or most of it) could be redeployed on the upper side of a sheltering membrane floating above the floor, radiating heat, light, and whatnot downward and leaving the whole perimeter wide open for random egress—and equally casual ingress, too, I guess. That crazy modern movement dream of the interpenetration of indoors and outdoors could become real at last by abolishing the doors. Technically, of course, it would be just about possible to make the power membrane literally float, hovercraft style. Anyone who has had to stand in the ground-effect of a helicopter will know that this solution has little to recommend it apart from the instant disposal of waste paper. The noise, power consumption, and physical discomfort would be really something wild. But if the power membrane could be carried on a column or two, here and there, or even on a brick-built bathroom unit, then we are almost in sight of what might be technically possible before the Great Society is much older.

The basic proposition is simply that the power membrane should blow down a curtain of warmed/cooled/conditioned air around the perimeter of the windward side of the un-house, and leave the surrounding weather to waft it through the living space, whose relationship in plan to the membrane above need not be a one-to-one relationship. The membrane would probably have to go beyond the limits of the floor slab, anyhow, in order to prevent rain blow-in, though the air curtain will be active on precisely the side on which the rain is blowing and, being conditioned, will tend to mop up the moisture as it falls. The distribution of the air curtain will be governed by various electronic light and weather sensors, and by that radical new invention, the weathervane. For really foul weather automatic storm shutters would be required, but in all but the most wildly inconstant climates, it should be possible to design the conditioning kit to deal with most of the weather most of the time, without the power consumption becoming ridiculously greater than for an ordinary inefficient monumental type house.

Obviously, it would still be appreciably greater, but this whole argument hinges on the observation that it is the American Way to spend money on services and upkeep rather than on permanent structure as do the peasant cultures of the Old World. In any case, we don't know where we shall be with things like solar power in the next decade, and to anyone who wants to entertain an almost-possible version of air-conditioning for absolutely free, let me recommend "Shortstack" (another smart trick with a polythene tube) in the December 1964 issue of *Analog*. In fact, quite a number of the obvious common-sense objections to the un-house may prove to be self-evaporating: for instance, noise may be no problem because there would be no surrounding wall to reflect it back into the living space, and, in any case, the constant whisper of the air-curtain would provide a fair threshold of loudness that sounds would have to beat before they began to be comprehensible and therefore disturbing. Bugs? Wild life? In summer they should be no worse than with the doors and windows of an ordinary house open; in winter all right-thinking creatures either migrate or hibernate; but, in any case, why not encourage the normal process of Darwinian competition to tidy up the situation for you? All that is needed is to trigger the process by means of a general purpose lure; this would radiate mating calls and sexy scents and thus attract all sorts of mutually incompatible predators and prey into a compact pool of unspeakable carnage. A closed-circuit television camera could relay the state of play to a screen inside the



dwelling and provide a twenty-four-hour program that would make the ratings for *Bonanza* look like chicken feed.

And privacy? This seems to be such a nominal concept in American life as factually lived that it is difficult to believe that anyone is seriously worried. The answer, under the suburban conditions that this whole argument implies, is the same as for the glass houses architects were designing so busily a decade ago—more sophisticated landscaping. This, after all, is the homeland of the bulldozer and the transplantation of grown trees—why let the Parks Commissioner have all the fun?

As was said above, this argument implies suburbia which, for better or worse, is where America wants to live. It has nothing to say about the city, which, like architecture, is an insecure foreign growth on the continent. What is under discussion here is an extension of the Jeffersonian dream beyond the agrarian sentimentality of Frank Lloyd Wright's Usonian Broadacre version—the dream of the good life in the clean countryside, power-point homesteading in a paradise garden of appliances. This dream of the unhouse may sound very antiarchitectural but it is so only in degree, and architecture deprived of its European roots but trying to strike new ones in an alien soil has come close to the anti-house once or twice already. Wright was not joking when he talked of the "destruction of the box," even though the spatial promise of the phrase is rarely realized to the full in the all-too-solid fact. Grass-roots architects of the Plains like Bruce Goff and Herb Greene have produced houses whose supposed monumental form is clearly of little consequence to the functional business of living in and around them.

But it is in one building that seems at first sight nothing but monumental form that the threat or promise of the unhouse has been most clearly demonstrated—the Johnson House at New Canaan. So much has been misleadingly said (by Philip Johnson himself, as well as others) to prove this a work of architecture in the European tradition, that its many intensely American aspects are usually missed. Yet when you have dug through all the erudition about Ledoux and Malevich and Palladio and stuff that has been published, one very suggestive source or prototype remains less easily explained away—the admitted persistence in Johnson's mind of the visual image of a burned-out New England township, the insubstantial shells of the houses consumed by the fire, leaving the brick floor slabs and standing chimneys. The New Canaan glass house consists essentially of just these two elements, a heated brick floor slab, and a standing unit which is a chimney/fireplace on one side and a bathroom on the other.

Around this has been draped precisely the kind of insubstantial shell that Conklin was discussing, only even less substantial than that. The roof, certainly, is solid, but psychologically it is dominated by the absence of visual enclosure all around. As many pilgrims on this site have noticed, the house does not stop at the glass, and the terrace, and even the trees beyond, are visually part of the living space in winter, physically and operationally so in summer when the four doors are open. The "house" is little more than a service core set in infinite space, or alternatively, a detached porch looking out in all directions at the Great Out There. In summer, indeed, the glass would be a bit of a nonsense if the trees did not shade it, and in the recent scorching fall, the sun reaching in through the bare trees created such a greenhouse effect that parts of the interior were acutely uncomfortable—the house would have been better off without its glass walls.

When Philip Johnson says that the place is not a controlled environment, however, it is not these aspects of undisciplined glazing he has in mind, but that "when it gets cold I have to move toward the fire, and when it gets too hot I just move away." In fact, he is simply exploiting the campfire phenomenon (he is also pretending that the floor

heating does not make the whole area habitable, which it does) and in any case, what does he mean by controlled environment? It is not the same thing as a uniform environment, it is simply an environment suited to what you are going to do next, and whether you guild a stone monument, move away from the fire, or turn on the air conditioning, it is the same basic human gesture you are making.

Only, the monument is such a ponderous solution that it astounds me that Americans are still prepared to employ it, except out of some profound sense of insecurity, a persistent inability to rid themselves of those habits of mind they left Europe to escape. In the open-fronted society, with its social and personal mobility, its interchangeability of components and personnel, its gadgetry and almost universal expendability, the persistence of architecture-as-monumental-space must appear as evidence of the sentimentality of the tough.