Spring 1998

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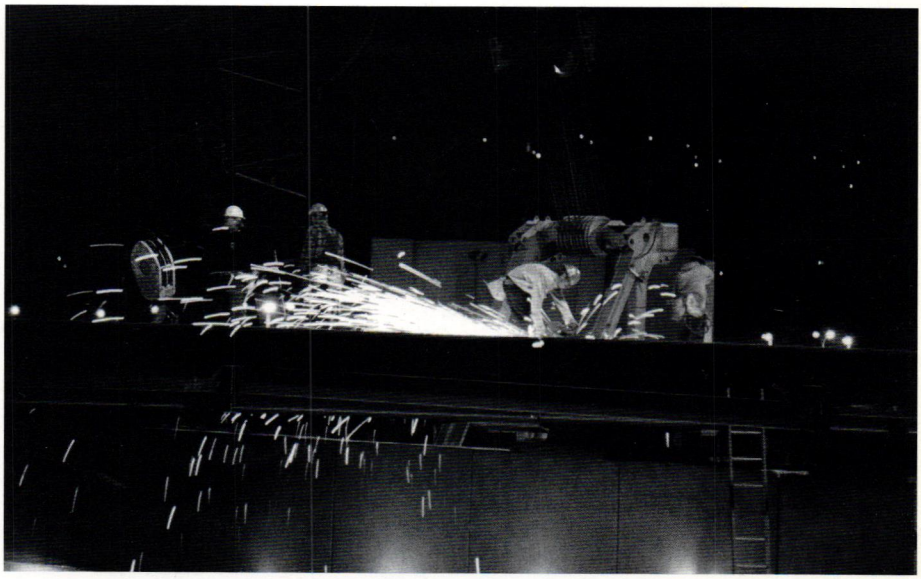

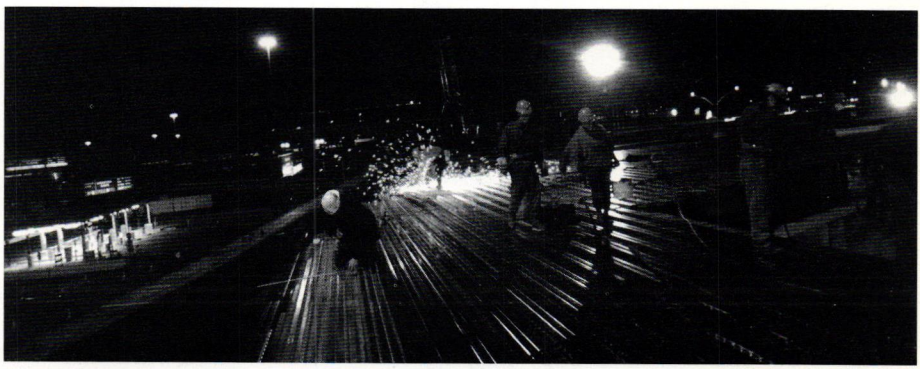

Midnight Shift, San Francisco International Airport, 1997 (Photography: Kirit Sedani, Joint Venture Architects)

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Cover Layout: ELS/Elbasani & Logan Architects, Images provided through the generous permission of Michael Schwab Studio Illustration ©1998, logo ©1998 GGNPA, Golden Gate National Parks. North and south of the Golden Gate are some of the most beautiful national parklands in the world. The Marin Headlands, Muir Woods, Olema Valley...these places define the wild and windswept character of the Bay Area. Illustrated by Michael Schwab and art directed by the Golden Gate National Parks Association's design department, the Park's identity images help bring awareness and interest to the national parks of the Bay Area. Visit our Park store, One Embarcadero Center where you'll find maps, books, park information and all our identity logo products. For information, call 415/984-0640.

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Bridges and Connections

this way

From the Editor: Bridges & Connections

This issue of *Architecture California* is about connections which bridge our services, our practices, our education, and our professional community to new challenges and unexplored opportunities. Ronald Altoon, FAIA, current president of the American Institute of Architects, selected "Bridges" as the theme of the 1998 National Convention of the Institute. The theme was inspired by a commitment to constructing an understanding of "The Bridge to Education, Leadership in the Community, The Global Marketplace and Sustainable Values." The set of articles in this issue are linked to critically accessing the implications of making these "Bridges" to our everyday lives as architects, planners, designers, managers, writers, and administrators. These articles are about optimism and harsh reality, about leadership and stewardship, about the human spirit, and about survival and prosperity. The articles are written at a time when peoples of the world actively seek a new order—one that provides a chance to create a new life that has both purpose and possibility, a life that has hope.

The architectural community finds itself as a part of this new order. An order which is questioning our role in the building process, redefining the way we work, increasing the ways in which we deliver our services. It is asking the questions, "Who are our clients, and what is the scope and responsibility of our actions?" There is little in our profession that has not been questioned. In the typical architectural tradition, these conditions are not seen as dark, gray clouds, but as opportunities to practice what we do best, the art of design thinking. This form of thinking bridges and connects the "what is with the what ought to be." Design thinking for the architect, as in any profession, is grounded not only in the mastery of a body of knowledge and skills, but, at its best, honors the social contract to advance basic human values. The writers in this issue explore these basic human values from several perspectives. The first set of writings illustrates views of the major projects which are shaping the regional dialogue about the architectural profession. These issues are posing challenges to local communities dealing with and creating places which provide the set for our everyday lives of working and playing. The second set of articles is a series of five, short writings which record alternative paths that have bridged architects' education to their current professional agendas. The intent of these pieces is to confirm our understanding of the breadth of the application of skills and knowledge of the architect. The final set of articles is a selection of the "best pieces" in the Journal library of submittals. Each of these articles talk tough about major issues facing our future as design professionals and citizens of a larger society.

Ernest Boyer and Lee Mitgang in their recent publication, *Building Community*, present a compelling message: "We became convinced that the core elements of the architectural education—learning to design within constraints, collaborative learning, and the refining of knowledge through the reflective act of design—have relevance and power far beyond the training of architects." The stories presented here, confirm this view.

W. Mike Martin, AIA
Editor

Taking the Subway to Lunch in Los Angeles

Martha Welborne, FAIA

> *"I think that the role of the architect is to propose possibilities. If the architect loses this characteristic, he ceases to be an architect. We've been blessed with this ability by our training. It's important that we fulfill our role as professionals, because it's only by proposing that things are changed." (Jaime Lerner quoted from: Susan Di Giulio, "Architect, Mayor, Environmentalist: An Interview with Jaime Lerner,"* Progressive Architecture, *July 1994.)*

One evening in April of 1993, I succumbed to the insistence of a friend and fellow architect that I join her in attending a lecture at M.I.T. Little did I know that, several years later, the impact of this lecture would lead me on an unexpected professional adventure.

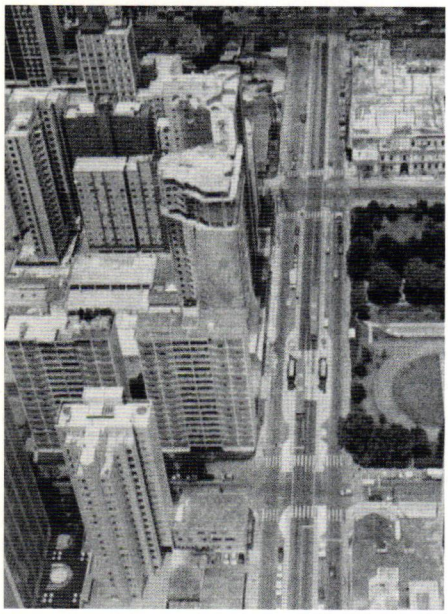
The lecture was given by Jaime Lerner, an architect and planner, who then was the Mayor of Curitiba, Brazil. Mayor Lerner described the amazing transformation that he and his staff had brought about in their city of 1.3 million over a twenty-year period. Once only a provincial center of commerce for a largely agricultural region, Curitiba recently has been called the "most innovative city in the world."* Unemployment levels are among the lowest in Brazil, and residents enjoy an unusually high level of services and amenities provided by the government.

What intrigued me the most, however, was the mass transit system that Mayor Lerner and his colleagues had developed for Curitiba. Unable to afford a subway system, but anticipating an enormous growth in population, the government designed an extensive bus system to solve the city's long-term mass transit needs. The Curitiba system is organized around five exclusive-lane bus routes that radiate out of the city center like spokes of a wheel. These exclusive-lane routes are fed by local bus routes that operate in the neighborhoods.

The exclusive-lane bus routes mimic a subway system, although the buses run in the existing streets. Boarding time is reduced because riders wait on raised platforms, allowing easy access into the bus. Boarding time is further reduced because riders pay their fares as they get onto the platform rather than paying inside the bus. Many doors are located in the side of each bus to allow quick entrance and exit of passengers. To serve the high demand (75% of Curitiba's commuters take the bus on the average workday) the city worked with Volvo to create an eighty-foot long bi-articulated bus, which carries up to 270 people. As with light rail in U.S. cities, traffic signals are prioritized to allow bus traffic to keep moving through intersections. In essence, this is a bus system that has all the attributes of light rail except for the rail.

At the time that I attended this lecture at M.I.T., I was overseeing the urban design of a light rail system proposed for Chicago. Knowing what we

were going through to accommodate rails, poles, wires and extensive regrading and repaving of streets in the Loop, the simplicity of the Curitiba system amazed me. But it wasn't until several years later, after I had moved to Los Angeles that I saw a possible application for a Curitiba-like transit system in the U.S.



Curitiba: High density uses located alongside the transit lines

In Los Angeles in 1996, it was becoming increasingly clear to many, including the Board of the Los Angeles County Metropolitan Transportation Authority (MTA), that there would not be sufficient funds to complete the extensive rail system (including both subway and light rail) that had been in the planning, design and construction phases for nearly twenty years. Construction costs and estimates on the subway alone had risen to approximately $300 million per mile for 22 miles of rapid transit. The reaction by the MTA Board to the rising costs was simply to push completion dates of planned extensions of the subway out further and further into the future, using the money at hand to complete the projects already underway. Naturally, most politicians were fighting to get projects started in their districts before the money ran out.

Although I had no professional role at the time in the transit work that was underway, I became increasingly frustrated simply by reading in the *Los Angeles Times* and the *Daily News* about all the political bickering over the remaining rail funds. With a few exceptions, no one seemed to be interested in focusing on the overarching problem. The fact of the matter was that the region would still be left with significant transit problems even if all of the subway extensions were built. Without these extensions the system would be seriously inadequate.

The first segment of the subway, which opened in 1993, was built in the heart of downtown Los Angeles. Starting at Union Station, it proceeds three miles west to MacArthur Park. A common reaction among office workers in the downtown after the completion of this segment was, "Great! Now we have new places to go to lunch." This segment, in other words, does not extend far enough to help commuters get to work from their homes, but it did

Bus-only center of major streets

allow them to take a quick excursion in the middle of the day to La Golondrina on Olvera Street for a tostada or to Langer's Delicatessen on Alvarado Street.

The second segment, completed in 1996, extended the subway by two miles, adding three stops and ending at the intersection of Wilshire Boulevard and Western Avenue. Most workers still couldn't commute to work, but they could now also go to lunch at Cassell's, a famous hamburger spot, several blocks from the Vermont station. To be fair, some commuters do travel to work by subway, most of whom first drive to, or are dropped off at, Metrolink commuter rail stations, then travel by train into Union Station, then catch the subway to their offices.

The third segment of the subway, now well into construction, branches off the second segment at Vermont Avenue and heads north passing through Hollywood and ending on Lankershim Boulevard in the San Fernando Valley. It is this segment, which cuts through the Santa Moncia Mountains, that has sent construction costs skyrocketing. Eight more stops are included along the approximately twelve-mile length of this segment. While this is a critical addition to the developing high-speed mass transit system, and while this extension will move riders farther than just to new lunch destinations, the entire subway system will just barely cross into the expansive San Fernando Valley in 2000 when this segment is completed.

These three segments of the subway were not the primary subjects of the political bickering in 1996, however. Neither were the two light rail lines that by then had been completed. It was the extensions beyond all these lines that were in question: subway extensions both east and west of downtown, a light rail extension to Pasadena, and a rail extension across the San Fernando Valley. Since different economic and ethnic groups were to be served by each of these extensions, the political debates became demands for equal treatment regardless of the appropriateness or cost of the proposed solution.

In the meantime, one million people a day were riding the bus system. It is a little known fact that Los Angeles has the second largest bus system in the country. While many Angelenos love their cars, many others ride the bus. Cultural as well as economic factors seem to influence the

Quick entrance and exit of passenger platforms at level as same bus floor height

choice of mode. The large immigrant population in Los Angeles is, generally speaking, accustomed to using buses. The current bus system, however, travels at relatively low speeds and inadequately serves those riders who live far from their jobs. Commute times can be up to three hours in each direction.

By 1994, after seeing billions of dollars spent on new rail and after watching the buses deteriorate, the bus-riding public decided they had had enough. They sued the MTA. A coalition of groups representing the bus riders, including the NAACP and the Bus Riders' Union, accused the MTA of spending a disproportionate share of transit dollars on the rail system at the expense of low-income and minority bus riders. For the transit-dependent, bus fare increases and extreme congestion on the deteriorating bus fleet were simply unacceptable. Helping pay for a rail system that does not serve them added fuel to the fire. In general terms, the bus riders demanded reduced fares, more buses, and increased security on the buses. Two years later, the Court agreed with the plaintiffs and ordered the MTA to reform.

In 1996, with transit headlines in the local papers nearly every morning, it finally dawned on me that the very simple and creative use of buses in Curitiba may also be a solution for Los Angeles. If a Curitiba-like system could be built in Los Angeles, the performance of the bus system would improve, a goal of the bus riders, and less money would be spent on each rapid transit extension, a goal of the MTA.

The Curitiba model provides a very cost-effective alternative to subways as trunk line routes. In Curitiba, the exclusive-lane routes were built for $2.5 million per mile in 1994 dollars. This figure represents less than 1 percent of the going price of the Los Angeles subway. Even if Curitiba's price were doubled to $5 million per mile for construction in Los Angeles, 1,200 miles of exclusive lane routes could be built for the current price of our proposed 22-mile subway. (Ironically, the Pacific Electric Red Cars that once served Los Angeles traveled, at their peak in 1926, on 1,200 miles of city streets.)

Newly inspired, I set off to find funding for my effort to inform the MTA, political leaders, bus riders and community activists about the Curitiba approach to transit. My purpose was simply to let them know about it and to see if I could generate enough interest

Small ramp bridges allowing easy access and egress for all passengers including the physically limited

to initiate a study of how this approach might be applied to Los Angeles. To make a very long story short, the W. Alton Jones Foundation has funded my efforts for the last year and a half. In May of 1997, I took a group of political and community leaders to Curitiba. As a consequence, a great deal of interest has been focused on the possibility of building busways or transitways, as they are sometimes called, throughout Los Angeles County.

The MTA is currently studying four corridors to assess the possibilities of building busways Curitiba-style.

My goal of raising awareness about busways as an alternative approach to serving the mass transit needs of Angelenos has certainly been met. I freely admit, however, that my effort is like frosting on a cake consisting of twenty years of reports, studies, op-ed articles, and testimony at public hearings by true transportation planners who knew that, as a dispersed region of low density, Los Angeles was never going to be able to generate sufficient ridership to justify expensive rail transit modes. The appeal of trains, however, is strong, even when the numbers don't pencil out. And the dislike of buses is equally strong. To be able to even imagine buses as a clean, comfortable means of transport that don't get in the way of cars, but do show up on time, takes an enormous mental leap for most Angelenos. Nonetheless, many of us are beginning to think that buses are the future.

While the MTA's study is not yet complete, the study already has raised some issues relating to the possible application of the Curitiba system to Los Angeles. With many more cars on the streets of Los Angeles, prioritized traffic signals, combined with frequent bus headways, are likely to result in unacceptable congestion on heavily traveled cross streets. This will lead to the need for grade-separated crossings at the busiest intersections. This will, in turn, result in higher construction costs. Also, because of the variety of existing street and sidewalk conditions, it seems likely that it will not be possible to use high platforms throughout the length of many routes. However, by utilizing low-floor buses, this issue can be addressed easily, and the cost of the raised platform can even be saved. Sidewalks or medians can be used for waiting areas, assuming, of course, that the

Double-wide doors allow for simultaneous entrance and exit of passengers

sidewalk is wide enough to accommodate both pedestrians and waiting passengers, and assuming the sidewalk height matches that of the low floor of the bus.

An additional, and significant, issue is that of transporting bus riders to the proposed exclusive-lane routes. This issue relates to population density. In Curitiba, all high-rise development is located along the five transit routes radiating out of the city center. This high density ensures ready access by pedestrians to the five trunk-line bus routes. Also, neighborhood feeder buses deliver a steady stream of passengers to the Curitiba trunk-line routes.

In the U.S., however, it is likely that many busways will be built, for a variety of reasons, in areas of low density. The Los Angeles study, for example, is considering two abandoned railroad rights-of-way for busways. Both of these rights-of-way travel through neighborhoods of single family homes as well as low density commercial and industrial areas. Both a neighborhood bus feeder system and an auto feeder system, with park-and-ride lots and kiss-and-ride drop-off areas, will be needed to bring passengers from low density areas to the proposed trunk-line busway routes. Busways located along higher density corridors in Los Angeles would generate riders more easily, but the political battles of removing auto lanes in preference for bus-only lanes will be difficult to win.

Curitiba one of the most livable cities in the world–the results of innovative planning and informed action strategies.

While there are many issues yet to be resolved in the attempt to build an efficient and affordable rapid transit system in Los Angeles, it is instructive to remember both the simplicity of the Curitiba approach and its goal of serving as many people as fast as it can. I often wonder what Jaime Lerner might do if he were faced with our dilemma in Los Angeles. I imagine that he would immediately identify the busiest existing bus corridors, close those streets over the weekend, and build his busways in the middle of the street using temporary barriers separating cars from the buses. He would give immediate gratification to his bus riding public by getting them to work faster and more comfortably. No mayor in the United States has the power to close down and reorganize a major street over a weekend. Nonetheless, I am convinced that we can learn from the Brazilians' simpler and faster approach.

Busways can be used to set the stage for rail by establishing routes and ridership that can later be converted. Alternatively, busways can be built as a permanent solution in corridors where ridership cannot support rail. In either case, busways can provide a simple and quick response to a critical need. In describing why so much was accomplished in a relatively short time in Curitiba, Jaime Lerner has said: "First, it was the determination of an idealistic team, fantastic people. Second, I think, is the simplicity of our approach. Cities are not as complicated as the merchants of complexity would have us believe. Third, is getting started. We don't ask for all the answers, because if you want all the answers, you are always postponing the possibility of the intervention. You can always do better studies, you can always do better projects, but sometimes, you just have to start."**

Footnotes

* Wally N'Dow of Gambia, Chairman of the United Nation's Habitat II Summit quoted from: Robin Wright, "The Most Innovative City in the World," *Los Angeles Times*, June 3, 1996.

** Jaime Lerner quoted from: Susan Di Giulio, "Architect, Mayor, Environmentalist: An Interview with Jaime Lerner," *Progressive Architecture*, July 1994.

Martha Welborne, FAIA, is currently funded by the W. Alton Jones Foundation to explore affordable alternatives to serve the mass transit needs of Los Angeles residents. Previously, she was the managing director of the Los Angeles office of Skidmore, Owings & Merrill.

Cheap (conceivably) and Temporary: In Praise of Mobility

Jennifer Siegal

Viewing wall. From the book entitled *Mobile Laboratory: Limitations + Invention*. A Design/Build project I completed with students at Arizona State University

Precedents and Parameters

Portable building solutions in a fluctuating world are a response to a society which expands, contracts and shifts depending on its needs. The inspiration of mobile and portable architecture is the premise for a paper which explores building inexpensively, flexibly and creatively in the next millennium. Portable structures are not only impermanent but are also unaffected by burdensome emotional ties to the environment and communal responsibilities. Relocatable and demountable constructions address the issue of the affordable transient dwelling.

According to the Bible, over 4,000 years ago Noah was called by God to build an ark which would be capable of transporting the natural world and its creatures to safety when the apocalypse struck. This may have been the first portable and relocatable structure whose purpose was self-sufficient housing. And, later, another sort of ark also proved mobile. I recently visited Capernaum near the Sea of Galilee in Israel, thought to be the site of the first, and possibly only, mobile ark on wheels (where the Torah scrolls are stored). Built during the 1st century, the synagogue is designed with an internal rectangular colonnade and surrounded by a generous stone bench which provides seating and close proximity to the center for observers and worshippers. Carved on the stone entablature is the image of the synagogue's facade with large wheels underneath, evidence of mobile support. It is said that this is a depiction of the ark which was placed at the center of the space and moved about for purposes of discussion, debate and accessibility.

In mediaeval Europe, mystery plays were performed as populist

parables that related to Biblical stories. The plays were staged in demountable theaters called 'mansiones,' which were platforms or booths set up in the town market place, or sometimes in an existing building. Additionally, "from the Basque sheepherder tent/coat and Bedouin woven goat-hair 'blacktent' to Mongolian yurts and American Indian tipis, human ingenuity has created an astonishing array of portable dwellings."[1]

Historic examples such as these describe a preindustrial world which was not bound to place but possessed an ideology of itinerant and nomadic responses to permanence.

Evolution of Mobile Typology

"Only in the Old World, with its dream of permanence, does the deserted house or the deserted field invariably speak of human tragedy."[2]

History has shown that exhibitions have been used as architectural petri dishes for cultivating new design ideas. It is here that the wildest of dreams may be legitimized as genuine contributions to advancing building technology. In an effort to be on the cutting edge of technology, entire countries will display (and financially support) the unimaginable and give shape to the metropolis of the future.

With the Great Exhibition of 1851, Great Britain provided an international forum for display of manufacturing and industry, much like the present day World Exposition. It was here that the way was forged for a new type of mobile building material. Joseph Paxton's Crystal Palace, built in six months between 1850-51, exemplified the use of cast-iron, which was designed specifically for demounting and reassembly. The structure set a precedent for using a component system in building manufacture and site assembly which established itself on the forefront of lightweight, movable building systems. Unlike its predecessors, "every item of the building's construction was meticulously planned for reuse in the new structure, even the temporary timber fencing was reused as floorboards inside."[3] The system was successful in its innate logic and economy which allowed for rapid assembly and reassembly, and could be erected in locations remote from its manufacture.

Some years later, with similar concerns, Buckminster Fuller was working on the development of methods for producing high-quality, affordable housing. Like Paxton, his primary concerns for portable structures were focused on the implementation of mass production, lightness of materials, and determining the minimal weight. Fuller's proposal, the Dymaxion House (dynamic/maximum/ions: Dymaxion), was patented in 1928 and was to be built for the 1933 World's Fair. The design was influenced by technology borrowed from boat building and fishing work, and the house was light enough to be deployed by aircraft. If the house had been put into production in 1933, it was estimated to have cost $1,500, when the average cost for a new home in the US was $8,000.

In 1940, Fuller designed the 'Mechanical Wing,' which first appeared in Architectural Forum's special issue 'The Design Decade.' The first prototype for 'plug-in' self-sufficient mobile housing, the trailer contained a compact kitchen, bathroom and generator, and was towed behind an individual automobile. Coupled with the Butler Bins, a circular steel container used for storing grain, the DDU (Dymaxion Deployment Unit) was the first cheap and portable dwelling, originally intended to be used for military and factory worker housing.

The advantages of the prefabricated system were becoming increasingly popular; their promise offered greater economy, speed of erection, reduction in need for skilled labor on the site, and a higher quality product due to factory manufacture.

Other designers and pioneers were investigating similar concepts. Walter Gropius and Hirsch Kupfer were engaged in the evolution of 'knockdown buildings that can be easily assembled'[4] developing and later building the Copper House. The Berlin Growing House exhibition of 1932 exemplifies Gropius' design for a factory-made, flexible system, which combined standardization with variability.

A fascination with an automated, machine-based process was already of interest to Ray and Charles Eames in 1948 when they designed their Case Study house for John Entenza's (editor) *Arts and Architecture* magazine. The use of prefabricated, commercially available products made up the component pieces which were used as a palette from which 'good design' could be composed and efficiently constructed.

Unique responses to various conditions because of convenience or necessity have employed the need for pre-manufactured buildings. When there is a sudden unforeseen demand and no local resources or materials, such as during natural disasters, they are transported to a site for assembly. In 1787, Samuel Wyatt built 12 movable hospitals which could be dismantled and re-erected within an hour without using tools. More recently, in Vietnam and the Gulf Wars, portable and demountable units known as MUST (Medical Unit, Self-contained, Transportable) have been developed by and for the military and are used around the world where speed of deployment and immediate proximity to areas of conflict are necessary.[5]

Economy of Movement: Form Follows Necessity

mobile home/ trailer 'park'

Le Corbusier states in L'Esprit Nouveau that it was "impossible to wait on the slow collaborations of the successive efforts of excavation, mason, carpenter, joiner, tiler, plumber...houses must go up all of a piece, made by machine tools in a factory, assembled as Ford assembles cars, on conveyer belts."[6]

"The mobile home is a factory-built building ranging in size from 2.5 meters by 10 meters to 7.5 meters by 25 meters. On average, it takes 100 hours and a single working day to build a single mobile home unit. It is generally transported to its site on its own chassis and wheels, though some of the larger units, called 'double-wides' are transported in sections and assembled by specialists. Nearly half of all homes are placed in mobile home parks of which there are 24,000 in the USA the average size is 150 to 175 spaces."[7]

A notable image and historical precedent for the mobile dwelling was the covered wagon or Conestoga Wagon, used by the American settlers heading West during the nineteenth-century. Initially mass-produced for moving goods to the new frontier, the Prairie Schooner was quickly converted and accessorized to become a dwelling for the mobile pioneer family.

During the 1920s, when the automobile was relatively affordable, a new type of domestic traveler began to emerge, and the pleasure of short-term travel and overnight excursions was popularized. Images such as the Aerocar Land Yacht, designed and made by Glenn Curtis, combined the streamlined images of the train and aeroplane, making a convincing argument for the independent and freedom-bound traveler.

In 1935, The Airstream Company was founded by Wally Byman, fostering a new dreamscape for America. With its aerodynamic appearance, the Airstream's sleek silver body was designed to move through the air like a bullet; it still remains a timeless icon for mobility.

As the Great Depression began to affect job opportunities in the large cities, and the country entered into World War II, people moved where they could to find work, and the demand for instant or emergency housing was required. During these years, over 200,000 trailers were mass-produced, with more than 60 percent of them located in defense-production areas. Colleges and universities also responded to the need to accommodate the many soldiers returning from the war, and the corresponding increase of married students, by introducing the trailer to campuses.

Concurrently, early itinerant and migratory factory and farm workers were providing new examples of self-fabricated housecars and wagontrain caravans. These structures, based on an economy of movement, where form followed necessity, were responding to the immediate environment, which needed to be adaptable and flexible. The cinema later evoked these images, from the traveling evangelist/miracle curer to the circus/entertainer, as depicted in such films as Arthur Penn's 1970 *Little Big Man* and Frederico Fellini's 1954 *La Strada*. These films take on a nostalgic yet realistic portrait of the nomad who lives in places for brief moments of time, constructing the novelty of the spectacle before rolling on.

In 1991, the now defunct *Progressive Architecture* sponsored a competition to increase the quality of affordable housing, and turned to the industrialized housing sector. The task was to design and build a nuclear family home for under $65,000. The winning scheme, by Abacus Architects in Boston, developed the assembly line prototype by using a combination of the module, built on its chassis, and the flat-pack, designed to sit on top with a collapsible roof which would lie flat when being transported and unfold to form a conventional pitched roof. Built in less than a month, the modules were erected in one day. With an emphasis on contextuality, the shotgun-style house slips unassumingly into a preexisting neighborhood.

Referred to in the building industry as Manufactured Housing, 97 percent of these dwellings will move only once, from the factory to a new trailer 'park', and remain permanently sited. Typically the building material is a lightweight, wooden superstructure which is built on its own chassis with a permanently fixed set of wheels, making the mobile process simple. While marveling at the remarkable efficiency of the mobile dwelling, it would be unrealistic not to mention the critical position that many people take toward these structures. There are certain social stigmas associated with living in a trailer park, where class distinction and unfavorable preconceptions determine aesthetic judgments. As stated by J.B. Jackson, "the trailer has no real attachment to place."[8] Its anonymity, disregard for regional contextualism, and inability to work with the contours of the natural landscape force the mobile dwelling to remain on the periphery of blue-collar society, making the argument for acceptance arduous.

Flat-pack

"...pre-joined hinged strategy in which most of the components are arranged in simple surfaces such as walls, floor and roof, which, when opened in a predetermined manner, fold into place and, after simple fixing, into a rigid volume."[9]

The end of World War II brought with it a housing shortage and a need to develop a flexible approach to industrialized building. The Acorn House was designed by Carl Koch (with Huson Jack and John Callender) in 1945. Designed specifically with truck transportation in mind, this narrow unit made from 37 factory-made and assembled component parts, had folding panels that opened to form living space and folded back in on itself for transport. Delivered to a site in a collapsed form, their condensed size makes them advantageous for long distance delivery and efficient when size, weight and volume are restricted modules.

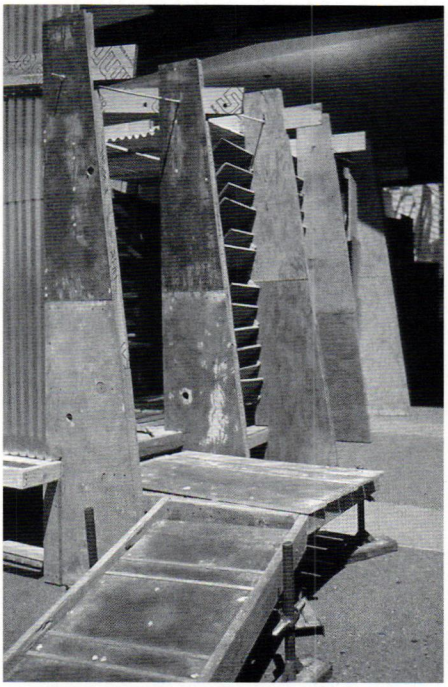
The most familiar manufactured building form, the module units are delivered to a site in their completed state relying on an external source for movement. These independent building units are ready for use, most commonly built from wood and steel or a composite skin panel of metal and plastic based insulation, and sometimes made of GRP or vacuum formed plastic.

TRUCK CULTURE

In the late 1930s, the truck had become an accepted form of commercial transportation. As a mobile enterprise, the workplace expanded to include 'delivering, collecting, hauling, distributing, as well as making repairs.'[10]

With the introduction of the transit shed and soon after the highway, the loading dock became an integral part of building design, and the trailer-tractor truck evolved. Replacing small immobile businesses, the truck enticed the mobile entrepreneur, giving rise to a 'new industrialized landscape.'

Social interaction had moved on to the streets, incorporating the drive-



Threshold and detail of telescopic passageway

From the book entitled *Mobile Laboratory: Limitations + Invention*

in (franchise restaurants, banks, liquor stores, package stores, car washes, dry cleaners, libraries) into a mobile culture. The mobile specialist or business sector, had become a fixture in society.

Materiality

"Perhaps we really enjoy wood's temporary quality; that is what makes it seem alive and responsive."[11]

The specificity of the material palette is essential to the body of work represented. Historically, people moved whole villages and hamlets when soil was exhausted or there was threat of an enemy attack. As J.B. Jackson points out in *The Movable Dwelling and How It Came to America*, "For all their squalor medieval peasant dwellings had a remarkable flexibility and mobility—not only in that they could be taken down and reassembled elsewhere, but in that they could easily change function and change tenants.... the temporary nature of the dwelling, its negligible material value, meant that it could be lightheartedly abandoned when crops failed, when war threatened, or when the local lord proved too demanding."[12]

Materials spoke of what was considered to be mobile and immobile, where the flimsiness of the construction protected the family from dangers of staying put. The use of wood was a language of impermanence, while the use of stone was a symbol of solidity or immovability. Wood, a modest and abundant material, could be separated from the operation of the farm or detached and rapidly reassembled elsewhere. This was preferred over stone which had lasting endurance, but not suitable for transport.

The American pioneers had a readily and seemingly unlimited material palette at their disposal. Wood was abundant and could be easily manipulated to provide material for simple structures which could be erected with minimal labor and in a short time. Sears and Roebuck offered enticing visual images creating a market for the ready-cut or mail-order house. Concurrently, the development of the box house emerged, constructed from single planks of wood nailed together vertically with no internal framing. The proliferation of these buildings was evident. Used as slave quarters on plantations and in mobile lumber towns and camps, they were inexpensive and easily relocatable by railroad and later automobile. "The real novelty was that these dwellings were built, occupied, and eventually disposed of as commodities, merchandise designed and produced to satisfy a definite market."[13]

Mass-production and The Ad Hoc

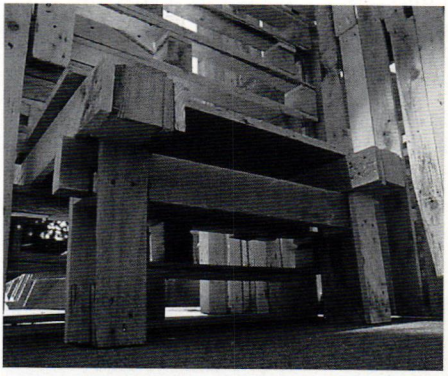
Mass-production started with John Manning, a London carpenter and builder who in 1830 designed the 'Manning Portable COLONIAL cottage.' Designed to break down into component pieces which were then small enough to be stowed for shipping, "the Manning dwelling can be seen as the beginning of the prefabrication industry which produced products that utilized standardized interchangeable components and dimensional coordination to form easily erected flexible structures."[14] Although the Manning cottage created new possibilities for the mobile building industry, the monotony by which mass-production evolved incited such responses as Edgar Kaufmann Jr.: "Within the great impersonality of the world of mass-production and new disposability there becomes clear for the first time the possibility of an intense personalism as a proper balance and as a proper enrich-

ment of life. The future of design lies in situation design and not in product design; products merely implement the situations."[15]

Such a situation is exemplified in my recent article (co-authored with Todd Erlandson) which documents the collage of pre-fabricated parts in a Mexican village. "In Northern Baja California, traveling south on Route 1; Mile Marker #73 indicates Campo Rivera, where an unschooled, fanciful ad hoc trailer park is located. Similar to the conventional trailer park, each compound stakes out an individual plot, here in arid desert terrain. The Airstream trailer is the keystone for these land plots, the central element, and this wagon gives rise to a train of disparate parts, synthesized through an ingenious and adaptive use/reuse of materials. The given programmatic modules are those of the trailer, the addition, the outhouse and the water tank...This is the primary datum of each construction. Inventiveness comes through the manipulation of the modules, while maintaining individual identity using a limited palette of components and materials."[16]

Temporary Works

All construction projects make use of a palette of temporary of materials. New freeways, bridges and buildings using poured-in-place concrete rely uniformly on plywood formwork which is used until the material fails or is no longer valued in its present scarred and unsightly state. Increasingly, scaffolding is the most common form of temporary works used in the construction industry, whose modular system makes it first easy to expand and demount. The use of scaffolding as a simple assembly procedure was used most notably by Tadao Ando who designed the Karaza theater, built in 15 days in 1987. Renown for his permanent buildings constructed with the use of pure concrete slabs, Ando designed the theater to be portable with a vast majority of its structural elements made from locally sourced standard components. Additionally, one the most well-known portable buildings is the Teatro del Monde designed by Aldo Rossi for the Venice Biennale in 1979. Based on sixteenth-century floating pavilions, this temporary structure was built from steel scaffolding supported underneath by a large steel barge.



Bench for waiting and personal contemplation

Mobile Laboratory

In the Spring of 1996, I had the opportunity to develop a third-year undergraduate design and build architectural studio at Arizona State University. The premise was to explore design and construction in a studio/laboratory which could develop with regard to issues of portability. As stated by Sant'Ellia in his 'Futurist manifesto' catalogue for the Citta Nuova exhibition: "We no longer believe in the monumental, the heavy and static, and have enriched our sensibilities with a taste for lightness, transience and practicality...We must invent and rebuild ex novo our modern city like an immense and tumultuous shipyard, active, mobile, and everywhere dynamic, and the modern

building like a giant machine."[17] The incorporation of a defined material palette (specifically that of donated cast-off plywood formwork from a new Antoine Predock Science museum under construction) fostered experimentation and invention.

The program offered was initially posed as a theoretical question. Students were asked to propose, through typical design methodology (writing, drawing, modeling), a critical programmatic response to the public area between the old and new architecture buildings, connected by a spacious yet uninhabited pedestrian plaza/corridor. Initial individual solutions were evaluated and expanded through an accumulative procedure. Students then broke into smaller groups and explored various solutions with similar portable agendas. In the later weeks of the semester, the studio evolved into full-scale construction.

Interior Space. From the book entitled *Mobile Laboratory: Limitations + Invention*

As a laboratory, they were given a workyard adjacent to the studied area, and directed in the use of skillsaws and screwguns, rather than more meticulous hand carpentry methods. This type of construction would enable the students to do more with their limited knowledge of conventional construction and limited abilities and provide the opportunity for review and re-construction. The workyard, shared with the drama department, was truly used as a working laboratory. Pieces were developed, standardized, mass-produced and tested on site.

Programmatic issues as described by students were:[18]

- We used modes of transportation as metaphors for arrival and departure. Our project redefines the passageway between the two architecture buildings as a telescopic hallway that leads individuals past points of temporary waiting to their ultimate destinations beyond the site.
- Our project, a gallery, has been defined within a physical framework of temporal instability, of flux and change both in methodology and formal manifestation. The design is composed of component parts which were made to be (re)assembled in various forms.
- Our project suggested a parallel relationship between the pedestrian corridor and the transition of the student through the university/educational system. Both are about movement and time in which a journey is experienced. By creating moments to sit and fixing specific views of the site, we heightened the experience of time by providing places for personal contemplation.
- We created an object that uncovers multiple views and understandings of a site. The object was a tool for site analysis, in the sense that it records aspects of an area and in-

teractions between human, site, and object. The object was not site specific and could be placed anywhere. Due to its scale, mobility, and weight, it became a probe that was compatible with any surface.

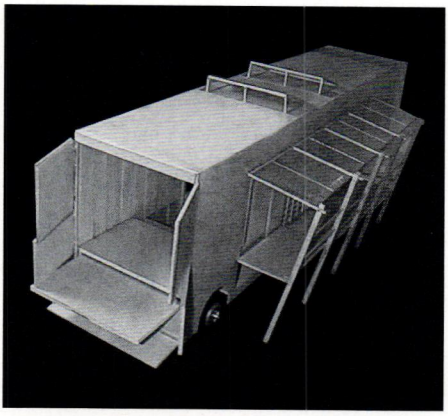
The adopted studio language conveyed a fresh, pro-active design process that responded to the challenge of building for mobility. The final constructs, responsive to Sant' Ellias' 'Futurist manifesto' and the pioneer mobile Citta Nuova, were built as lightweight temporary structures: economic, experimental, and flexible. The work from the studio was documented and reproduced in the concurrent book *Mobile Laboratory: Limitation + Invention.*

Interior Model "Eco Lab"

Next Steps

Learning by Building Design and Construction in Architectural Education

The collaborative spirit found in Jennifer Siegal's design/build architectural studios emphasizes economy of means, construction techniques and the adaptive re-use of materials and building components. Hands-on experience provides students with a fresh perspective on what is 'appropriate' design at full scale. Architects-to-be learn to rely on their personal experiences, their innate sensibilities and the ultimate resolution of their own work. Students find that pre-determined notions of design solutions are circumvented when faced with a diversity of construction strategies, thus leading them to a more informed architecture.



Exterior Model "Eco Lab"

Models are of a Mobile ECO-LAB presently under construction at Woodbury University's Hollywood Community Design and Urban Research Center. The 8 x 35 foot trailer represented here will travel throughout Los Angeles County to inform K-12 school-aged children about the importance of saving and protecting the environment.

Special thanks to Woodbury University students Larry Cheung, Thomas Cohen, Tinifuloa Grey, and Chayanon Jomvinya. The Mobile ECO-LAB has been sponsored by The Hollywood Beautification Team;

trailer and building materials have been donated by Carlson Industries and Re-Sets; photovoltaic panels have been donated by DWP.

Conclusion

"The Generic City is always founded by people on the move, poised to move on. This explains the insubstantiality of their foundations. Like the flakes that are suddenly formed in a clear liquid by joining two chemical substances, eventually to accumulate in an uncertain heap on the bottom, the collision or confluence of two migrations—Cuban émigrés going north and Jewish retirees going south, for instance, both ultimately on their way someplace else—establishes, out of the blue, a settlement."[19]

Our current culture produces a wide variety of portable, relocatable, and demountable building types ranging from health care to educational and commercial facilities. The portable culture has roving access to blood donor stations, medical check-ups, libraries, banking and portable sanitary facilities. Through mobile deployment of these facilities, the infrastructure is expanded.

Presently, the pre-fabricated mobile home, the metal Airstream trailer and the deployable Dymaxion House share the essential traits of the early American box house dwellings: the portability, the frailty, the lightness of construction, the temporary quality, the loneliness, and the absence of a solid foundation. These dwellings offer an alternative and possibly a solution for the inhabitants of the next millennium's new 'generic' landscape.

Notes/References

I would like to thank and acknowledge the students from Arizona State University who participated in the Design/Build studio in which this paper is based.

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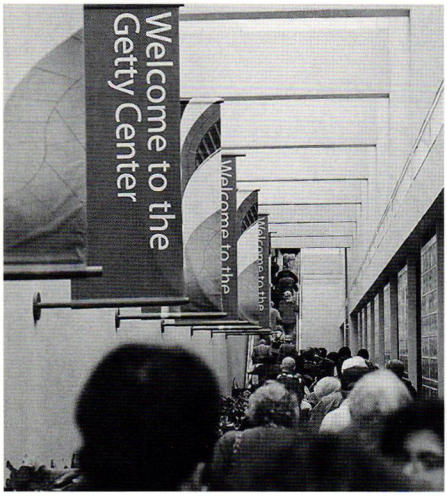
Tale of a Trust That Mistook a Hat for a Bridge

Lian Hurst Mann, AIA

As I filled my daypack to load in my car to drive for the bus to stand in the aisle and ride to the queue to wait for the tram, to arrive at the funnel to enter the rotunda to locate the library to learn that it isn't open to the public, I reached for a hat. The *Los Angeles Times* advised a hat and sunshades to protect from exposure to "Getty glare." This day, however, it was raining. And I needed a different kind of hat, probably no shades. A brimmed hat, water repellent, but also rollable to fit into my pack. I was not sure which I would want so I selected three—one black, one white, one architect's gray (that is, black and white). An umbrella? Yes. (The LA Times didn't say that the Getty is not only free, it has free umbrellas!)

Two hours later, lugging camera, coat, hats, umbrella, I stood under a roof in the breezeway looking toward East LA. Dismayed, I wondered what I could do since I couldn't go to the library, and the line to sit down and get a bite to eat out of the rain was winding around the food bowl. Maybe I would visit the Conservation Institute; no public invited. The Education Institute, surely; no public. Information Institute? No.

What could I do? An architect, I could always take pictures. My eyes wandered over the pristine rails that circled the stair in front of me. The sun came out, and I squinted while I reached for one of my hats. My mind's eye soared. Suddenly the fat and thin, silver and white rails looked like ribbons wrapping the crown of a crisp, white, broad-brimmed Panama. Ribbons on a Panama? I thought, maybe it's a Borsalino, brushed, blocked,



Welcome

Entry Stair

East LA

Italian with a satin band. But, look again, this one is covered with Fabergé charms that glistened as they totter in the rain. Suddenly the charms turn into dollar bills, billions of them covering every surface, tacked ajar so that the light creeps through—a colonial Pilgrim's hat! But it wants to be Robin's hood. No, that long, flat plane, it's a mortarboard.

Beret to constrain the disparate personalities of the Getty entities. Helmet to protect the complex from attack. Fez to keep out the cold blows of the real world. Sombrero to shadow the art world. Bonnet tied tightly to the massive body of Los Angeles. Crown for the queen of angels. Top Hat for the greatest show on earth.

Startled, I turned as a uniformed guard rushed toward me from the building, then halted to speak into his walkie-talkie, "Turn off the alarm, it's just a lady who set her hat on the rail." I was sure he had scanned my constricted pupils, and I remembered that LA Times critic Nicolai Ouroussoff had described this place as "a gated community for art, closely-guarded, albeit open to all." So that's where I was.

Pick your metaphor, and the new Getty Center transforms before your eyes.

Architects suggest many building types as precedents for the Getty design that shape our understanding of this new institution: villa, palace, castle, acropolis, campus, hospital, even ranch house. Meanwhile local pundits offer other referents with greater semantic impact—Cal State Paradise, Getty Pharmaceuticals. I see the Getty

Tram

Bridge

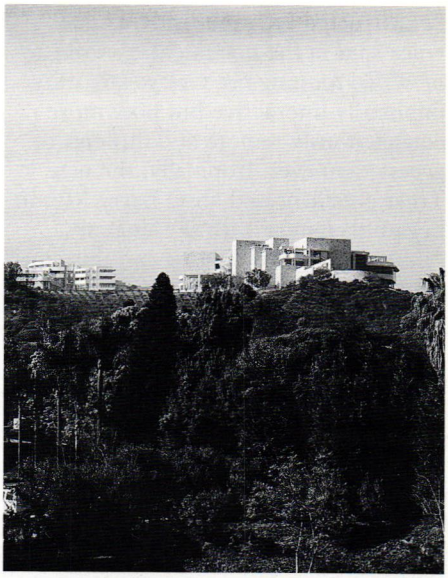
complex as a hat. But the metaphor that best captures the Getty Trust's stated mission is "Getty as Bridge"—bridge between art and everyday life, between the museum, five institutes, and a grant program; bridge between East and West, between international and indigenous, high art and popular cultures, between yours and ours; bridge between art and architecture, between centuries past and future.

Bridge Between The Worlds Of Art And Everyday Life, Between A Museum, Five Institutes, And A Grant Program?

The Getty Trust is dedicated to "the diffusion of artistic and general knowledge." As a "private operating foundation"—the nation's wealthiest foundation devoted to the arts and humanities—the Trust must annually spend 4.25 percent of the value of its assets on programs. Despite only a 4.9 percent investment return in fiscal 1995-96 due to the failure of the greedy hedge-its-bets strategy known as a "collar," the Trust returned 21.8 percent in the recent fiscal year so that its assets now measure more than $4.5 billion. The tax requirement to spend means finding a variety of ways to build bridges between this temple of high art and the vitality of everyday life. Toward this end, the Trust has evolved far beyond its role as caretaker for J. Paul Getty's unpedigreed art collection. The Malibu Museum drew whispers around the world for its 1974 construction of a faux Italian villa—a recreation of the Villa dei Papiri—in Los Angeles to house the collection. But thousands cheered as the Trust formed institutes to distribute funds for scholarly research, conservation projects, art education, and information technology and located them in a variety of sites that spread investment and employment around the city.

The proliferation of projects undertaken by the Getty Trust enriched its mission by attempting to actually contribute to knowledge through the Research Institute, and the diffusion

process began—until the Trust decided to move the Museum from Malibu to Brentwood. It sought to bring its art "closer to the population" to "attract a broader audience," build bridges between all the programs, and unify them within one grand facility so that they could "interact." The plan for their juxtaposition presumed the benefit of adjacent attraction, and bridges set in stone now cobble together the complex entity, the Getty Center. A few prescient staff members understood that the bridge work of the various institutes would be subsumed by the Museum's conceit. The trust whose greatest contribution lies in putting its dollars to work, deftly executed by the disaggregated projects of the Institutes, has managed to diminish the stature of these very projects by binding them to the less than fine but richest in the world Museum (the Getty legacy's weakest project). The bridges already built were reaching outside the Getty; these new bridges tie the entities within the plantation's gardened wall. The Getty programs—perched together on the crest of the Brentwood Olympus,

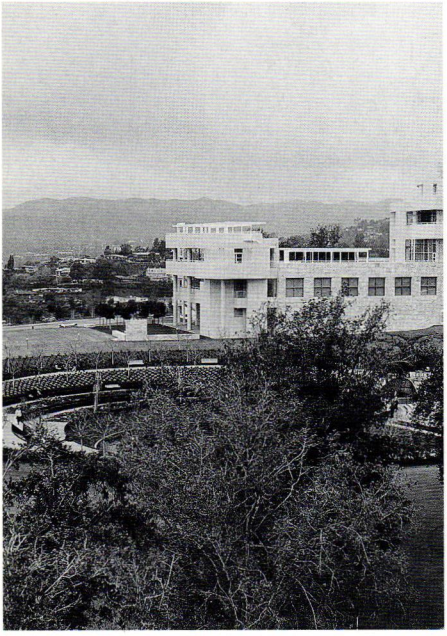


Olympus Vertical

Beyond Beauty

Plantation Workers

"constructed on a pinhead" as one voice said in the documentary *Concert of Wills: Making the Getty*—are only minimally interactive but now more conspicuously remote and difficult to access than ever. Ironically, the new Trust president and CEO Barry Munitz began his tenure with the slogan: "move off the hill." How can this couture chapeau be a bridge to the marketplace of ready-to-wear caps?

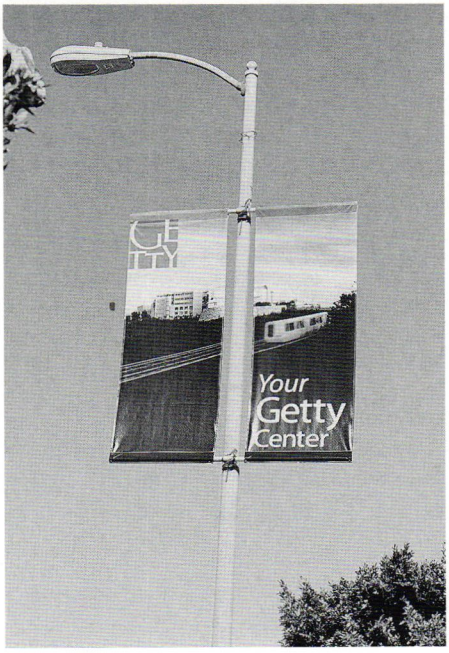


Scholar Pods

Bridge Between East and West, Between High and Low, Yours and Ours?

The corporatization of this art institution helps the Education Institute promote programming in schools and offices across the country, the Conservation Institute launches 130 projects in 35 countries, and the Grant program supports nearly 1,500 projects in 135 countries. Yet, as William Montalbano said in the *Los Angeles Times*, "it is the Getty Museum on which the Getty Trust's international image turns." The Getty's purchasing power has allowed unparalleled expansion, amplifying its initial collections—antiquities, European paintings, French decorative arts—and starting new collections of manuscripts, drawings, and photographs. The new Museum battles resentment from directors of public art institutions around the world who can never amass the funds to compete when their "national treasures" come out of private collections for auction on the open market. "The insouciance about money is astonishing," the director of a major European institute told Montalbano, "fortunes being thrown at the walls." A corporate transnational NGO (non-governmental organization), this nouveau-riche private art connoisseur wants the crown jewels of Europe. Inevitably, what makes the Museum world-class is its power to purchase not the power of the art it has amassed.

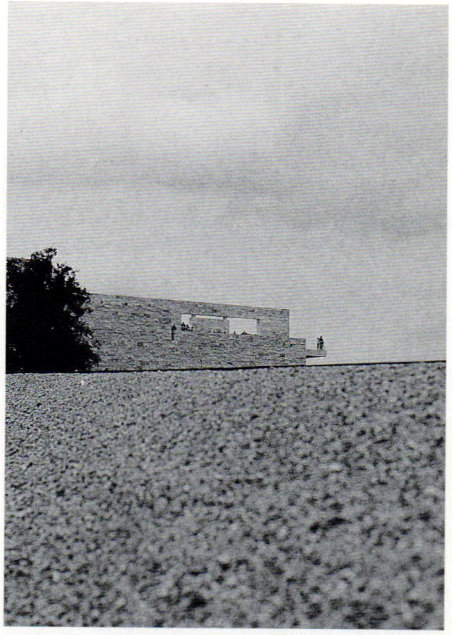
In step with the Museum, the benevolent despotism of the Grant



Our Getty

enterprise is illustrated by the comment Timothy Whalen, Senior Program Officer for Getty Grants, gave *Architecture* magazine: "[Getty] grants become sort of a Good Housekeeping Seal of Approval," marking particular projects for further funding. The insidious character of global NGOs is constituted by the power they inevitably exercise to draw the line between inside and outside, in this case to determine what is deemed art the world over. Similarly, the sheer size of this new princess in LA town, giving party invitations to those who will wear a Getty hat stamped "approved," necessarily delimits the opportunities for individual artists as well as smaller institutions of art. Harold M. Williams, the Trust's master-mind of the new Center, said to the Times, "I think of the Getty as adolescent and hopefully always adolescent." An adolescent takes risks and makes mistakes, yet this one, however ignorant, is a billionaire: a claim of innocence cannot mask the Trust's

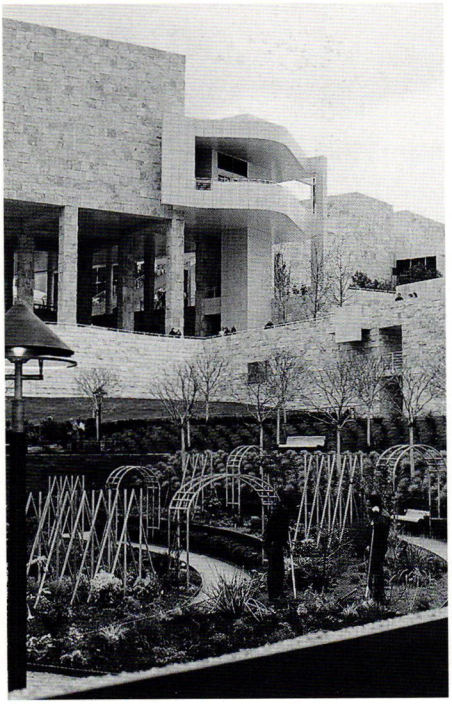
Your Getty



Monastic Retreat

planned and conscious strategy to establish authority. Williams' disingenuous seduction continued, "The Getty Center is for everyone. We would like everyone to feel a kind of ownership, to feel that it is theirs." At the opening ceremonies, Los Angeles Mayor Richard Riordan, who is dedicated to corporate welfare in the name of civic pride, accepted the Getty as a "gift." And architect Richard Meier iterated the slogans of the populist ad campaign—the Getty would not be a monastic retreat where one asks "Who am I?" but "a place where one asks, 'Who are we?'"

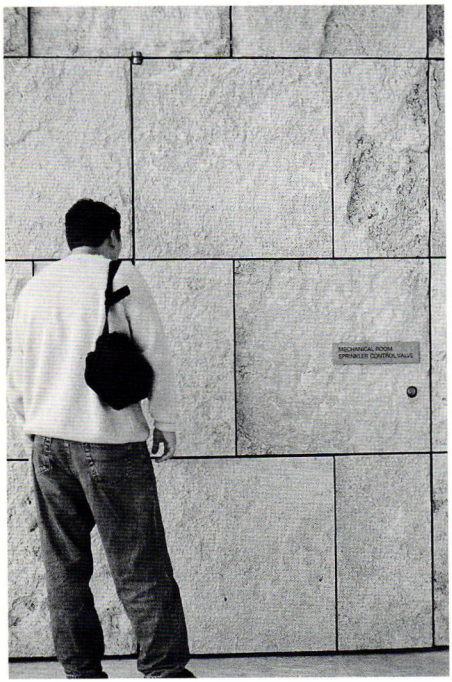
Whose voice is this? Tell me who at the enterprise labeled by a PR agent as "a museum, five institutes, and a grants program" cannot comprehend the ideological power of the institutional posture "we"? The streets of Los Angeles are bedecked with banners advertising "Your Getty." Is it simply irony that the ad campaign, presumably calculated to counter the image of the scholarly retreat as "ours," urges



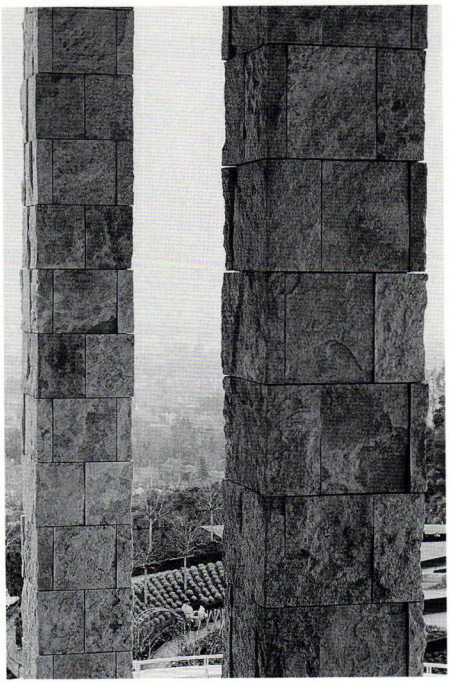
Out-class

Angelenos to go to a facility that they cannot reach. Who in auto-driven LA plans trips to the museum three months in advance (the lead time for a parking reservation)? Who among the transit-dependent public will ride two hours to the Getty to be turned away because the site has closed early—and call it fun? What could be more frustrating than a free amenity that you can't get to? Alas, the preferred transportation is the public bus system. The cities of Los Angeles and Santa Monica now subsidize "choice rider" bus service to this private world at a time when the MTA kicks and screams at federal court pressure from the civil rights consent decree—Bus Riders Union v. MTA—requiring new service for the "transit-dependent" work force of LA.

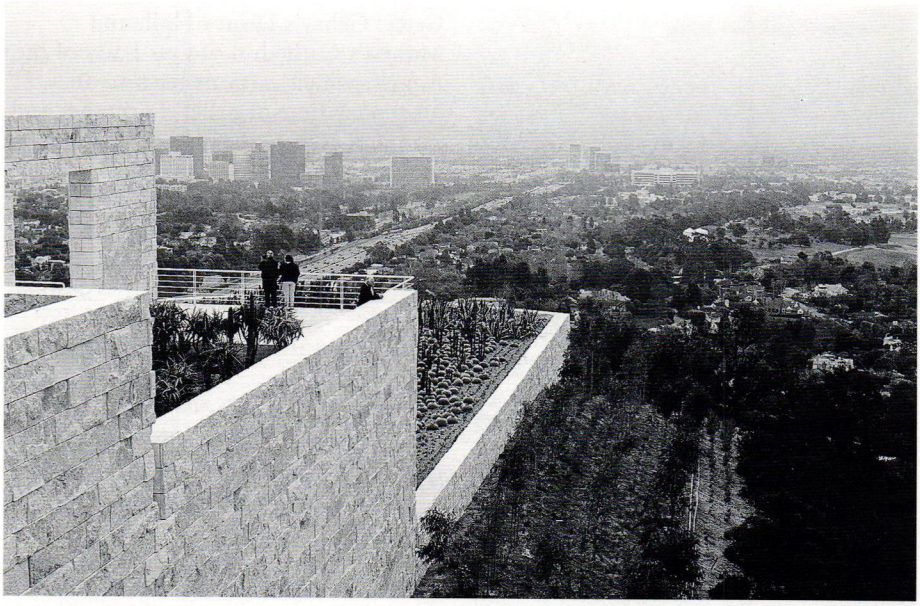
The Getty simply was not designed to be popular. Now forced to fend off the public stampede, the Getty Trust has done itself a disservice by exhibiting such psychic grandiosity, calling the



Mechanical Door



Clad Columns



Top Hat

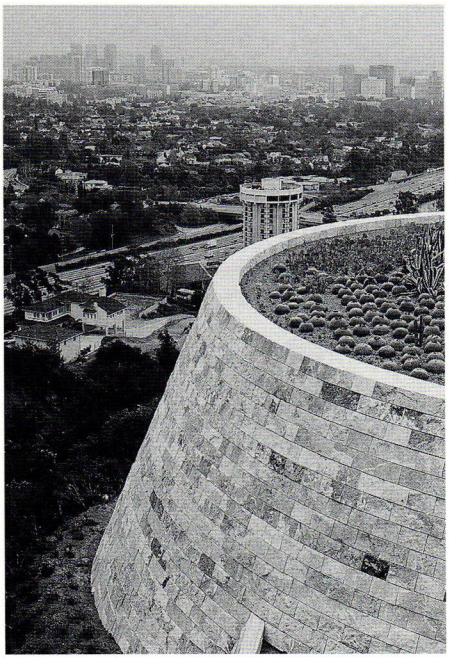
fort a "gift" and asking a population that is disarmed by its bold seduction to say "thanks." Isn't this phantom bridge really the emperor's new hat?

Bridge Between Art and Architecture, Past and Future?

Perhaps the most achievable objective undertaken by the Getty Trust was to bridge the abyss that has developed in recent decades between "museum as collection" and "museum as object."

Richard Meier's proven determination to distinguish artifice from its natural environment has extended in other projects to a determination to distinguish museum as collection from museum as built environment. His struggle with this logic is nowhere clearer than on the Brentwood plateau where he must attempt to give distinction to a relatively undistinguished art collection that his luminous galleries and garden courts will inevitably outclass. The Trust's decision to commission this sculptor of light, space, and form as architect of the complex has had a predictable effect: the container is now more significant art than its contents. The best contents, for my taste, is the reinstallation of Claude-Nicolas Ledoux's neoclassical reception room that fits hand-in-glove into its sensuous surround. But unless you have somehow missed the centrality of Christianity in the evolution of European history, this art will not have the profoundly "civilizing" impact upon native Angelenos that the Trust hopes.

The globally advertised trek to the acropolis draws the public to an ancient lure—architecture is the art. Though not the bridge the Trust wished, this putting of architecture on display is no minor achievement. Yet what does the public learn about architecture's bridge to the past and the future? The realization that stone no longer a structure makes. Rather, stone is a wallcovering; the covering can also be aluminum or scarlet satin damask. Alas, the public learns that 295,000 rough cleft blocks of travertine—quarried from geological formations more



Jester's Hat

than 8,000 years old, cut by guillotine, shipped in 100 voyages from Italy, hoisted into place by cranes, bolted onto the now-invisible structure—make for a nice decor. It is in this sense that architecture gives away its claims to honesty and the decorative art collection dominates the project: this faux medieval citadel, decorated with satin, enamel, flowers, and stone, sets the stage for a state-of-the-future park themed on the past. Blocked and appliqued with the precision of a master artisan, this feathered cap puts folly on display. A bridge to whose future, what past?

To Top It Off

From the neck up: this courtier's wig turns LA's head, asking it to recenter its focus of attention. Meanwhile bowels churn as the new infrastructure for the 21st Century Los Angeles is being constructed out of sight of the public eye. Distracted by the delights of Meier's Getty, Gehry's Disney Hall, and Moneo's Cathedral of Our Lady of the Angels, which carry us back to an imaginary time of order, harmony, and common culture that Los Angeles in fact has never known, the populous of Los Angeles is not watching the giant links, the actual bridges, that are being forged in the underground—the Pacific Pipeline, the Alameda Transportation Corridor, the expansion of LAX, the mutation of the great Los Angeles World Port. These bridges bring a massive leap of scale to the physical fabric of the city that reveals the amenity promised by the Getty Center as just another tilt of the Jester's Hat.

Lian Hurst Mann, AIA, is editor of AhoraNow, Los Angeles, Lecturer in the School of Architecture at UCLA, and former editor of Architecture California.

SFO in the 21st Century: The New Bridge to San Francisco

Allison G. Williams, FAIA

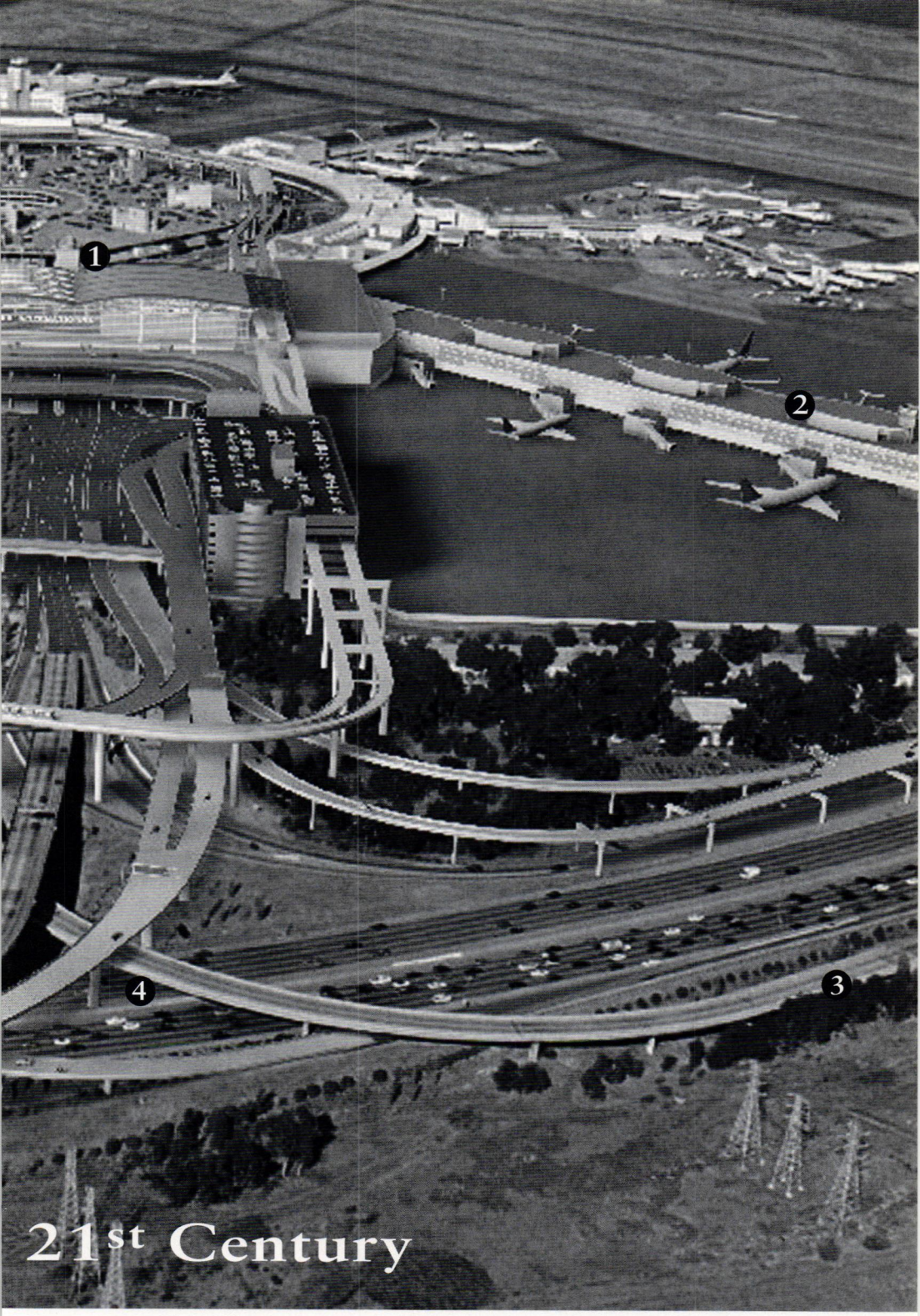
The new San Francisco International Airport (SFO) is not only a 21st Century Gateway to the City of San Francisco, but it provides a major port for people, goods, services, and information to the Bay Region and Northern California. Construction of the SFO International Airport 2.4 billion Master Plan is well underway with substantial progress clearly visible. Designed to accommodate increased domestic and international passenger and cargo traffic growth, the Master Plan includes a new international terminal, an airport light-rail system, new elevated roadways, new parking facilities, a consolidated rental car facility, and a BART station.

SFO is currently the fifth busiest airport in the United States and the seventh busiest in the world, welcoming over 40 million passengers annually. By 2006 that number will reach 51 million, including a projected 70 percent increase in Pacific Rim travelers.

It is evident that the project represents a major construction effort with numerous contracts, sub-contractors, and suppliers involved in its creation. The process responsible for the planning and design of this state-of-the-art facility is a unique service delivery framework. Eighteen architecture and engineering firms have participated in this process. Seven project architects and joint venture collaborators have come together to provide planning, design, and construction oversight for the major project components of the Master Plan. The following is a list of each project and the architects/joint venture groupings. (See the adjacent photograph for location of each the listed projects).

Project	Architects/Joint Ventures
• [1] International Terminal	Skidmore Owings & Merrill DelCampo & Maru Michael Willis & Associates
• [2] Boarding Area A	Gerson Overstreet
• [8] Boarding Area G	Hellmuth Obata & Kassabaum Group 4 Robert Wong
• [6] Concourse H (BART Station & Int'l Parking Garages)	ED2 International MBT Architecture
• [5] [Airport Rail Transit System (Guideways)	Transit Guideway Consultants Parsons Brinckerhoff MG Engineering Manna Consultants
• [7] Airport Rail Transit System (Domestic Terminal Stations)	Kwan Henmi Architecture Gordon H. Chong & Associates LDA Architects and Planners
• [4] Airport Rail Transit System (Maintenance Facility)	Robert B. Wong Hertzka & Knowles
• [3] Airport Rail Transit System (Remote Stations)	Murakami Associates

Image provided courtesy of The Joint Venture Architects and The San Francisco International Airport



21st Century

Following is a brief overview and the status of each of these major components of the Master Plan.

New International Terminal: The SFO International Terminal is on target to open in Spring 2000. The new two-million square foot terminal will provide 24-26 additional gates with increased baggage handling and expanded Customs facilities to expedite passenger traffic. This terminal will double the amount of ticket counter space and provide additional first-class restaurants and retail stores.

Airport Rail Transit System (ART): It is scheduled for its first run in late 2001. The SFO Airport Rail Transit system will include nine stops throughout the airport. ART will provide fast, easy travel between airport terminals, parking lots, and airport hotels to be developed at the current site of the Airport Hilton. ART's free service will also reduce roadway traffic by 23 percent and eliminate half of all commercial vehicle trips on the terminal roadways.

New Parking Facilities: Thirty-two hundred new parking spaces will be provided in two new parking garages adjacent to the new international terminal. To ease traffic congestion in public parking areas, a new employee parking structure has been already built and another is in the planning stages.

New Roadways: Entrance roadways to access the airport complex will be completed in May 2000. The three-level interchange will separate domestic and international passenger traffic before entering the airport, delivering travelers directly to their terminal.

Rental Car Facility: By December, 1998, travelers will have "one-stop shopping" at the Airport's new rental car facility. Travelers will pick up and drop off all rental vehicles at one centralized location. The ART system will take passengers directly to and from the terminals, eliminating shuttle buses from airport roadways.

BART Station: Scheduled to open in 2001, BART's 8.7 mile extension to SFO and Millbrae will provide direct access to SFO from downtown San Francisco and the East Bay Region. It will take approximately 29 minutes to reach SFO from the Powell Street Station in downtown San Francisco.

In summary, the integrated transit systems at SFO, along with the new technologies for servicing the traveller of the 21st Century, makes this master-planned project and the process which created it, a bridge to the future—one that can be celebrated by all of Northern California.

Allison G. Williams, FAIA, is the managing principal of Ai in San Francisco and current Architecture California *Editorial Board member.*

Is Green Sustainable?

Kenneth Caldwell talks with Lynn Simon, AIA

Kenneth Caldwell: *Is the green movement sustainable or is it a passing fad like the energy movement of the 1970s?*

Lynn Simon: First of all, the energy movement was not a passing phase. It just did not go far enough. Now we have an opportunity to talk about an integrated approach, the whole building approach. There is a growing dialogue about the interrelationship of issues and about implementing sustainable ideals through policy and practice. Although the movement is not being driven by a lot of people, we have accomplished a great deal in a few years. The larger question is where is it going?

Can you define sustainable design?

Commonly, we think of energy and resource efficiency. Beyond that, like architecture itself, it depends on the client, site, and the user group. This means we are always refining the meaning of sustainability. What is sustainability to a single mother of four living in public housing in East Los Angeles? Is it lower utility bills, which are the second largest bill after rent for low-income families? No doubt, increased energy efficiency will mean lower utility bills, but there are also issues of safety and security that are about sustaining life.

Are you saying to make sustainability endure, you have to redefine it culturally?

Yes, education is central to sustainability. It is important we educate architects, manufacturers, bankers, politicians, developers, but also we have to be open to being educated. Working within a low-income community on affordable housing issues will help one redefine sustainability real fast.

Recently we have been inundated with information about green architecture and the environment. How do we not feel helpless or just numb about the imminent destruction of the planet?

It's hard not to be overwhelmed, but each cultural shift consists of steps, sometimes small steps. A client considers a green building and thinks: "I can't do a green building. It's too much hassle. I don't understand the issues. I don't know where to get the information. And, it costs too much." I try to explain that it is important to develop priorities. As an architect, I try to explain sustainability with tangible issues such as site planning, material selection, waste prevention, energy efficiency, and sustainable landscaping. These are concepts that developers, architects and users can understand rather than this vague overwhelming concept of "sustainable building."

But about the audience beyond a single project? How can we make sense of this?

There is a parallel between educating the people involved on a single project and educating the wider public. You have to develop a strategy.

Do you think Paul Hawken's book "The Ecology of Commerce" offers a model? He says, "nature is not the experiment, that the economic system is." He argues that the economy should mimic nature, and he appears to argue against government regulation. Do you agree?

Paul's book had a significant impact on linking commerce and sustainability, but the answer to your question goes back to how you define sustainability. We need to address the corporate community differently than a low-income community. We are not going to get there with just regulation and policy—but, once again, we get there through education. I don't mean only college education, I mean elementary grade education. I believe that achieving sustainability does not rest with either the government or with corporations. It is important to come at it from all sides and to find common ground. For example, the chair of the President's Council on Sustainable Development is the CEO of Interface Carpets, a corporate leader in sustainable products. A sustainable strategy involves practice and policy and how they influence each other.

Can you give me some other examples?

Let's talk about policy first. I work with Global Green USA which was founded by Mikhail Gorbachev in 1993 and is now in 21 countries around the world. We try to develop policy at the global, national, and regional levels. Last fall, we went to Washington to meet with a wide range of people from Vice President Gore's senior domestic policy advisor to congressional staff who deal with the Appropriations Committee. We are trying to influence policy about energy and resource efficiency at a high level. We were there to report on what we have accomplished and to develop ongoing partnerships. On a more regional level, Global Green USA is working with the Environmental Affairs Department of the City of Los Angeles to develop a sustainable building program for the empowerment zone (this includes several areas throughout Los Angeles). We generated discussion about a new policy that reduces parking requirements for housing developments where the inhabitants do not own many cars. In other words, unused parking square footage could be used for either open space or for much needed social services. We are trying also to locate projects near public transportation for families without automobiles.

What about corporate policies?

When we were in Washington, we met with an organization of lending institutions to discuss sustainable building issues related to banking. A new area is the energy efficient mortgage. That is where a project's energy savings is factored into mortgage lending. If a developer incorporates energy efficient practices, the lender can extend that cost savings to the borrower, reducing his or her income requirements. An even newer concept is the location efficient mortgage. If a project is developed near public transit there are lower transportation costs which will also lower the lender's income requirements for the borrower.

What about a developer wanting to save money in the near term?

Some developers and contractors have embraced waste prevention plans. This is where you plan to recycle the debris from a renovation or a new building project. Much of the dollar savings is from the reduction of landfill costs—known as tipping fees. In one recent sports arena they saved $150,000 with

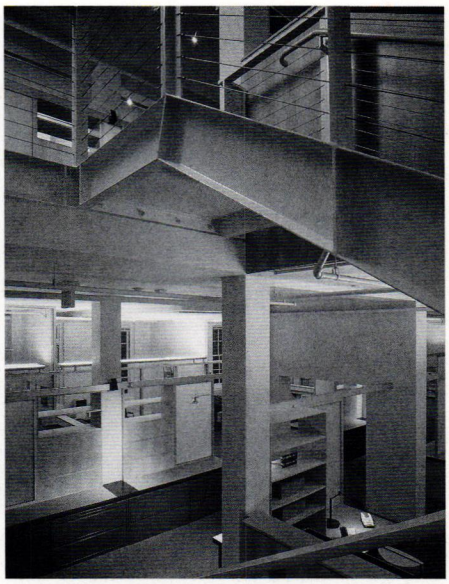
such a plan. Now that is not a huge amount of money, but it is enough for people to take notice. At the Thoreau Center in the Presidio, 73 percent of the debris was recycled.

What about practice? What are some examples of projects where sustainable ideas were incorporated?

The Thoreau Center at the Presidio is a very good example of the integrated approach I mentioned. We were lucky that we had an enlightened client, the National Park Service; a savvy developer, Equity Community Builders; and an open-minded architectural firm, Tanner/Leddy/Maytum/Stacy. One of the ways we addressed sustainability was through the selection of sustainable materials and products throughout the building including carpeting, paint, adhesives, insulation, flooring, and furniture systems. The project also incorporated energy efficiency, sustainable landscaping and waste prevention. One of the "greenest" aspects of the project was the rehabilitation of a historic structure. Rehabilitation is green because it reuses the existing infrastructure. We also prepared a public display about the materials and the approach so the building could continue to educate the public. Another good example is Siegel & Strain's Resourceful Building Project, an affordable housing development in Emeryville.

Where have you been able to successfully integrate these ideas of practice and policy?

Global Green USA has had success in the affordable housing arena. Recently we did a training in Washington D.C. for the Neighborhood Reinvestment Corporation. They provide training and education for affordable housing providers—everything from financing to facility management and the construction process. We held a large workshop called "Materials and Methods for Greening Affordable Housing." The workshop has also been held for Habitat for Humanity. One of the most effective ways we have been able to spread the word has been by hosting community design charettes. Last year we worked with four affordable housing developers in Los Angeles. These were real buildings with real schedules and budgets. In the charette, we dealt with all the issues: site planning, material selection, indoor air quality, waste prevention and so forth. From this process, Global Green USA is now preparing green specifications for one of the housing complexes which can become a standard practice for non-profit housing developers. Another result is the development of a document entitled "A Blueprint for Greening Affordable Housing: Developer Guidelines for Resource Efficiency and Sustainable Communities." This book was supported by a grant from the U.S. Department of Energy. It has a lot of useful ideas for anybody interested in green buildings



Thoreau Center, Presidio, San Francisco, Tanner/Leddy/Maytum/Stacy (Photo: Richard Barnes)

Resourceful Building Project, Emeryville, Siegel & Strain Architects (Photo courtesy of architects)

and sustainable development. During the charette, we also educated some city officials and housing developers about green building issues, but the community gave us an education about sustainable issues—real life sustainability issues like safety and security. We were able to enable some consciousness raising and create tangible results. From one charette the web expands outward.

I see green and sustainable issues mentioned more frequently in the Request for Proposals (RFPs) for local governments and institutions. Why is that?

Maybe we are reaching them! Some of it is an awareness of the issue. The National Park Service and other federal government agencies have made an effort to integrate these issues into their RFPs. Universities seem to be taking a proactive approach in their RFPs. Some cities and school districts also have done this, but there has not always been follow through.

How do you get from RFP to action?

You need an educated champion—it could be the architect or the client.

How do architects become champions?

This is important. This should not be something special. It should be part of standard practice. Let's not do another "green building" demonstration project. Let's build a standard practice that is a healthy practice. That is my mission now.

First steps?

Sustainability needs to be addressed in all aspects of the project from site planning to maintenance. There are two major areas where architects can become champions of sustainability and build a healthier practice. First and foremost, and more difficult perhaps, is the development of an integrated approach to design. We are not integrated with the other key disciplines to reduce energy and resource consumption. The second area, and it is easier because we can see and touch it, is the specification of environmentally friendly materials. Successful green buildings need an integrated approach. In architecture school, we often work by ourselves in the design

studio, the solitary artist. As architects and educators, we need to encourage more interdisciplinary activities within the design and engineering disciplines in school and then in the working world. For example, an integrated team would include the mechanical and electrical engineers and the landscape architect from the very beginning. The first project meeting should include the entire design team and the contractor (if there is one), and a sustainable building should be a value they all share.

Does this mean design fees will be higher if clients assume coordination, if not integration?

If the design team can show the client or developer will save money, fees will not loom so large. As we discussed, a material waste plan saves money on materials and landfill fees. Energy efficiency in heating and cooling will save huge amounts in utility bills. And durable renewable materials save on maintenance and replacement.

What about the second area you mentioned, specifying green materials?

The most important materials are the ones that cover the greatest surface area: carpet and paint because they have the greatest impact on indoor air quality. Most furniture is made with formaldehyde which off gases for a long time. You can now specify furniture without so many off-gassing toxins. Today environmentally friendly carpet and some sustainably harvested wood furniture are competitive in terms of price. On large jobs, architects could challenge their favorite vendors or suppliers into making furniture or finishes that address these issues. Of course, materials are easier to deal with. Energy efficiency is more difficult because it's not something people see; it is metered. We cannot forget that while it is great to specify green materials and design an interior space that is good for the future inhabitants, we have to consider the potential health hazards to the workers preparing the space. We also have to take that into account.

You've talked about education as central to this work. Who are the educators?

I would like to think architects could rise up and be leaders in explaining this.

How are you going to get them to do that?

In addition to my work as an independent consultant and with my work with Global Green USA, I have been talking about these themes within the AIA for many years—actually since I was a graduate student and president of the AIAS. I founded the SFAIA Task Force on the Environment, and now I am promoting these ideas as a member of the SFAIA Executive Committee. All the work I do as an architect and every decision I make engages sustainability. And, I see that kind of thinking increasing.

Do you think this movement is going to spread further? Paul Hawken says there will be a confluence, people will just get it.

Yes. We are talking about a global realization in terms of sustainability. The earth, the animals, and the people are interdependent. We have one earth. I believe it will rejuvenate itself. We pollute it, we harm it, and it will survive in some way, but the human species might not. So yes, I have to believe sustainability will be sustained because what other choice do we have?

Resources/Organizations

Architects/Designers/Planners for
Social Responsibility
P.O. Box 9126
Berkeley, CA 94709-0216
(510) 549-9581
(510) 841-9060 (fax)

ADPSR is a national non-profit organization of architects, designers, planners, related professionals and non-professionals. Their efforts are directed towards arms reduction, protection of the natural and built environment, and socially responsible development.

Global Green USA
1600 South Main Street
Venice, CA 90291
(310) 577-1887
(310) 577-1886 (fax)
ggusa@globalgreen.org
www.globalgreen.org

Global Green USA, the American affiliate of Green Cross International, works in cooperation with individuals, industry, and government to create a global value shift toward a sustainable future. One of its primary programs is the "Greening Affordable Housing Initiative."

U.S. Green Building Council
90 New Montgomery Street, Suite 1001
San Francisco, CA 94105
(415) 543-3001
(415) 957-5890 (fax)
info@usgbc.org
www.usgbc.org

The U.S. Green Building Council is a non-profit consensus coalition of the building industry, promoting the understanding, development, and implementation of green building policies, programs, technologies, standards, and design practices on a national basis.

Building Concerns
131 West Blithedale Avenue
Mill Valley, CA 94941
(415) 389-8049
(415) 389-8322 (fax)
vschomer@interiorconcerns.org
www.interiorconcerns.org

Building Concerns compiles, provides, and disseminates information through education and partnerships on environmental concerns related to the way we build and use buildings.

Resources/Publications

A Blueprint for Greening Affordable
Housing: Developer Guidelines for Resource
Efficiency and Sustainable Communities
Global Green USA
1600 South Main Street
Venice, CA 90291-3600
(310) 577.1885
ggusa@globalgreen.org

These guidelines are written to support community-based affordable housing developers throughout the development process by demonstrating environmental building principles and making recommendations for design, construction and maintenance of resource efficient housing. The Guidelines highlight 14 case studies from across the United States, which demonstrate resource efficiency in both new construction and rehabilitation.

Architectural Resource Guide
ADPSR
P.O. Box 9126
Berkeley, CA 94709-0216
(510) 549-9581

Prepared by the members of the Northern California ADPSR and edited by David Kibbey, this book is a useful guide on healthy, sustainable, local, recycled, resource-efficient and environmentally conscious materials and products. It is organized by CSI divisions.

Environmental Building News
RR 1, Box 161
Brattleboro, VT 05301
(802) 257-7300

A monthly newsletter featuring news, reviews, and articles on all aspects of environmentally sustainable design and construction.

Kenneth Caldwell is a Berkeley-based communications consultant and writer.

Lynn N. Simon, AIA, is a San Francisco architect consulting on sustainability issues and is also a program director for Global Green USA.

Yosemite National Park: A Paradigm Shift After the Flood

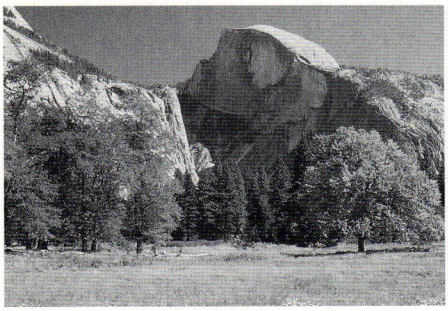
Donald M. Comstock, AIA

Well known for its majestic beauty and grandeur, Yosemite National Park has long been regarded as a national treasure, visited by millions of people each year. Ironically, the inspiring views and natural, scenic beauty that have prompted so many people to visit the park, have also lead to the gradual erosion of natural park lands through the increased development of campgrounds and roadways to accommodate the increasing number of visitors. For example, in 1980, the park was visited by 2.3 million people. By 1994, the visitation rate had nearly doubled—4.1 million people visited the park in this year alone. During peak times, over 6,000 automobiles travel into the park in one day.

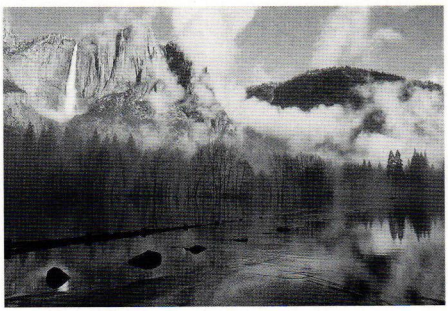
Although the National Park Service (NPS) had drafted a comprehensive plan (the General Management Plan) in 1980 calling for a reduction in traffic congestion, removal of nonessential buildings and facilities, restoration of large areas of the valley to their natural conditions, and the relocation of visitor and employee accommodations away from environmentally senistive or dangerous areas, few of the the goals of the GMP have been realized. This realization really hit home following the devastating floods in 1997. The major destruction of several buildings and roadways required the closure of the park for several months while repairs were made to flood-damaged roads and other physical structures. The massive flood damage, coupled with the increased traffic congestion and smog, prompted the NPS to devise the Draft Yosemite Valley Implementation Plan in an effort to preserve and restore many of the natural resources of the valley as well as enhance the visitor experience. Highlights of the plan include methods to significantly reduce the level of private vehicle traffic into Yosemite Valley and remove many existing buildings and campground sites.

Certainly, as a national park, Yosemite Valley should be preserved in its most natural state. In order to accomplish this, many of the structures and campsites now located on the valley floor will be removed, allowing for the restoration of approximately 147 acres in the east end of the valley. In order to curb the smog and congestion that has resulted from the tremendous increase of traffic flow into the park, alternative transportation methods would be employed. The Yosemite Park Service's overall goal is to eliminate the need for day-use parking by 2001. The Yosemite Area Regional Transportation Strategy (YARTS) is an undertaking by a coalition of five counties, Yosemite National Park, the National Park Service, the California Department of Transportation, and local business and environmental groups. The YARTS coalition has subsequently voted to "focus on developing and implementing a bus system from the gateway communities to Yosemite National Park in the near-term and to study the feasibility of implementing a rail system in the long-term."

To be sure, many of the proposed changes for alternative methods of transportation in and out of the valley



The valley floor before the 1997 flood



The valley floor during the 1997 flood

are in their infancy and are still being revised and developed. However, what is being proposed in Yosemite has never before been implemented in a national park setting. This is history in the making and the eventual outcome will forever alter the current landscape of the Valley.

For architects, the importance of the restoration efforts currently being promoted by the National Park Service is profound. The late Nathaniel Owings, FAIA, firmly believed that as architects, we have the opportunity, the ingenuity and the responsibility to join architecture with nature in order to reflect and strengthen the character and quality of society. Throughout his life, Owings devoted himself to protecting the natural landscape.

Owings once said, "Every architect has, within his soul, a spark of genius which can be expressed through the ability to set up a new partnership with nature—nature in the real, not the abstract—which will make the world a better place to live in." It is scenic wonders such as Yosemite—nature in the real—that we, as architects, should continue to aspire to preserve and restore.

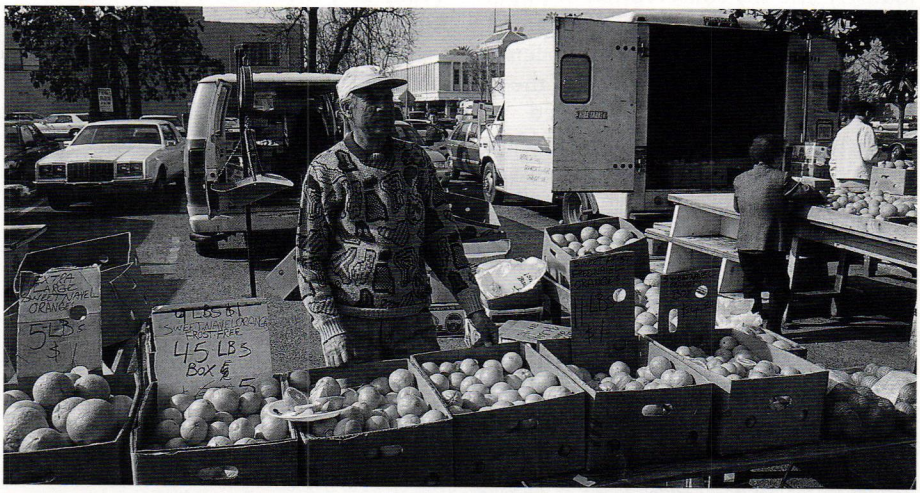
Since the initial release of the Draft Yosemite Valley Implementation Plan, the Yosemite Park Service has received several hundred responses from various individuals and groups providing input about the plan. The AIA California Council offered its support for one of three proposals contained within the plan, the one most favored by the park service and prefaced above. The Yosemite Park Service is in the process of revising its plan based upon the recommendations it received from the public, and it will make available another draft plan in the summer of 1998.

The proposed changes by the Yosemite Park Service is a real paradigm shift—something that no natural park has ever embarked upon. Sensitivity regarding proposed developments within the park are imperative to ensuring the overall health and well-being of Yosemite. Architects have unique talents that can assist those now drafting plans to further protect Yosemite's natural habitat. Owings often referred to architects as "guardian angels of the land." As architects, we have a professional and moral obligation to protect natural treasures such as Yosemite.

Donald M. Comstock is the 1998 President of the AIACC and principal and founder of Comstock/Johnson Architects of Sacramento

A New Frontier in California: The Central Valley

Carol Whiteside



Fresno Farmers Market central to agriculture in the Valley

The Central Valley of California stretches from Mount Shasta in the north to the Tehachipis in the south. Well known as the heart of California's rich agricultural industry, it is also home to five million people, most of whom live in the 96 cities of the region, including Sacramento, the State Capitol; Davis and Chico, college towns; Fresno, the center of valley agriculture; and Bakersfield, headquarters of the state's rich oil industry.

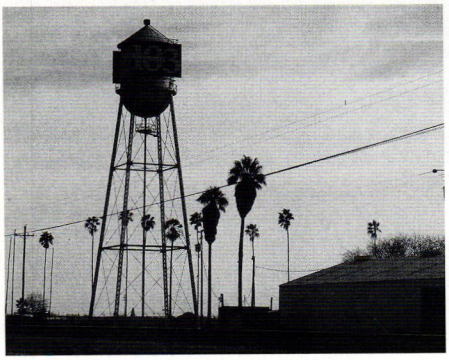
In spite of the importance of its multi-billion dollar agricultural industry that provides 25 percent of the table food for the United States and its unique and important natural resources, the valley is urbanizing at a phenomenal rate. The California Department of Finance projects that the Valley's population will grow from five million to twelve million by 2040 as immigrants come to the region seeking jobs and opportunities and as coastal residents move from congested urban areas into the more affordable, less-urban cities and towns of the Central Valley.

As the population of the Valley increases, it will achieve more prominence, both economically and politically. In sheer numbers, the Valley will surpass the San Francisco Bay Area in less than ten years. Demographic change will be dramatic as Hispanic and Asian populations continue to increase until there is no majority group. And, while there will be large, cohesive ethnic and racial populations, there will continue to be dozens of cultures represented across the landscape. Most Central Valley communities have more than 100 identifiable ethnic and cultural groups within their boundaries.

There are many who predict that the Central Valley will follow the

course of other rapidly urbanizing California areas: Los Angeles, the San Fernando Valley, Orange County and Santa Clara. Still, others believe that the Central Valley has a chance to be different, to create new models that achieve growth and development while ensuring the viability of the agricultural industry and the conservation of important resources. With experience gained in other places, as well as the capacity of the powerful GIS analysis and the fiscal imperative created by limited public funding, the Great Central Valley has the opportunity to make choices differently.

Unfortunately, many local leaders have little time for long-term analysis, nor do they have much opportunity to seek alternatives to the sometimes bland array of subdivisions which are built to meet the housing needs of the growing populations.

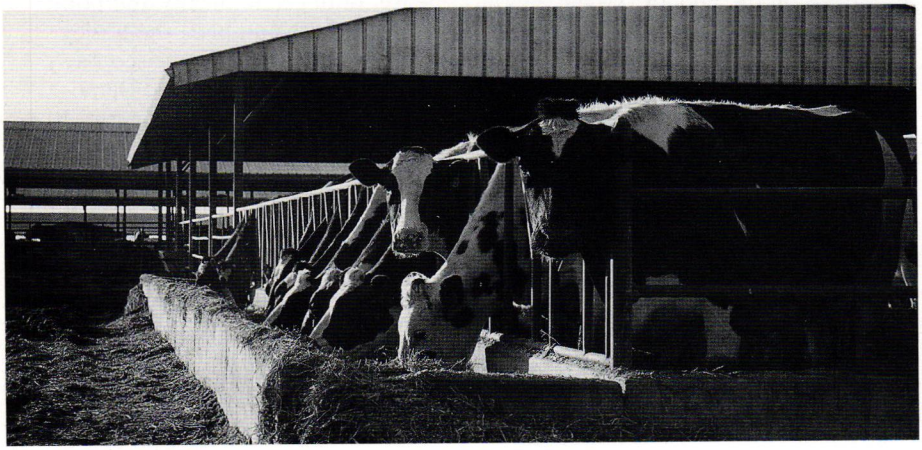


Water distribution shaping the urbanization debate

In other times and in other places, unique architectural styles have come to dominate and define a place: Brownstones in Boston, Victorians in San Francisco, Arts and Crafts cottages in Chicago.

The next few decades definitely will provide an opportunity to create a style that will define a region that is destined to become one of the most important and most visible in the nation. It provides the chance to integrate economic, social and environmental goals to build human-scale houses, dynamic and exciting urban places within the fields and farms of the vast rural setting. Rarely have we had the luxury of anticipating growth and change before it comes, with the potential of significantly shaping the outcome.

Carol Whiteside is president of the Great Valley Center, an organization she founded in August of 1997. She previously served in various positions in state and local government, focusing on the issues of land use, resource conservation and community development.

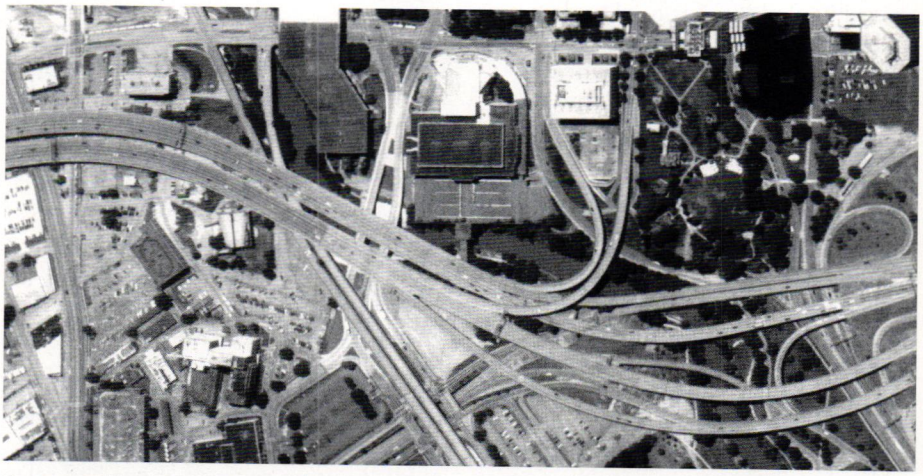


Dairy Farming: Will the industry move again?

The Voucher House: This box unfortunately isn't able to stand for that citizen.

Michael Bell

The City of Houston, Texas, has recently established a program that provides down-payment vouchers to assist lower income families in purchasing a house inside Houston city limits. The program is administered under the title Homes for Houston as a non-profit agency of the city government. And, as of 1996, it became the major component of Houston's public housing initiatives. The history of public housing in Houston began in 1938 with the formation of the Housing Authority of the City of Houston (HACH). Its programs were funded by the United States Housing Authority. HACH was formed amidst the New Deal housing reform which, at a national level, was controversial from its inception: "There was strong opposition from homebuilders and savings and loan associations, who launched vigorous attacks on public housing, accusing it of being socialistic and representing unfair government competition with the free market enterprise... homebuilders played major roles in organizing local communities to oppose the siting of public housing."[1] The principle that guides Houston's voucher program is a belief that home ownership will provide Houston's lower–income families with a greater sense of integration in community and city than public housing projects have; the program relies upon historical ideals that equate land ownership with civic representation.



Downtown Houston: In 1996 the Texas DOT administered almost $1.4 billion in Houston area highway construction contracts; in a single year, road construction in Houston reached $457 million. (Photo: courtesy Rice University)

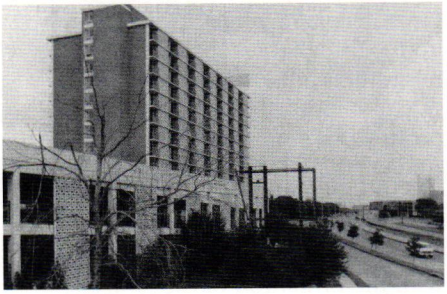
Geometry: The Voucher House

> *"Where shall we find a form of association which will defend and protect with the whole aggregate force the person and the property of each individual."*
>
> *Jean Jacques Rousseau, from "The Social Contract," 1762.*

The voucher program, as administered by Housing Opportunities of Houston, Inc., provides assistance of up to $9,500 to purchase a new home or up to $3,500 to purchase and renovate an existing single-family residence. The funds are in the form of a second lien on the purchased property. The lien is held by the City of Houston during the first five years of ownership, and the debt is forgiven if the buyers have made payments regularly on their primary mortgage. If after five years, the owner has neither sold or subleased the property, the down payment is completely forgiven and the lien removed. The program provides down payment and closing costs assistance and also offers courses in how to buy a house and how to maintain and manage credit. The revealing term of "improved bankability" is used to described the program's educational goals, and it gives rise to a critical investigation of the program's true value in providing representation to a largely invisible class of citizens.

The Houston voucher program is analogous to the current debate about voucher systems in regard to public schools as well as housing. Houston is in the forefront of a transformation of the federal housing policy that drastically alters the means by which the federal government involves itself in housing issues. The voucher program's merit is complex, but taken at a practical level, it is an opportunity for many people to purchase their own house outside of the realm of housing projects. It is not clear that ownership actually abets representation or even economic empowerment although it does provides a psychological sense of inclusion. In fact, a scrutiny of what ownership portends reveals that civic representation has little do with architectural form or so called real estate.

Public housing in the United States currently shelters approximately 1.3 million families. These families pay an average rent of $169 per month and have an average income of $7,835 per year.[2] In every major American city,



The voucher program premiates the single family house rather than collective projects such as this former Holiday Inn. The Houston Area Housing Authority began a transformation of this former Holiday Inn into senior housing, but the project was never completed. (photo: Paul Hester and Lisa Hardaway, 1995, courtesy Cite, Rice Design Alliance)

public housing, at times, has represented one of the most aggressive and idealistic attempts to orchestrate public policy as architectural design. Rarely have architects had the opportunity to so fully involve themselves in the formation of urban policy. While the results of public housing policies, especially those of the 1960s, are often viewed as failed, they have in certain instances been successful in ways that the voucher program hopes to take part in. For example, while the City of New York provides housing for almost 600,000 residents in more than 3,000 public housing projects, it has had relatively fewer social problems in those developments than the city of Newark,

New Jersey. Speculations about why or how New York's projects have succeeded often point to the fact that in New York the housing units tend to be included in the fabric of the city—they are often smaller buildings atomized throughout the city fabric—they don't stand alone as housing projects.[3] Clearly this is one advantage the Houston Voucher program offers, and it is worthwhile.

The voucher system is quickly becoming a reality in regard to many aspects of federal and state management of what we call the "public" realm. The Clinton Administration plans to demolish as many as 70,000 units of public housing by the year 2000; most of this housing stock was built since 1960. In contrast, the City of Houston voucher plan will spur the construction and resale of up to 25,000 new and refurbished houses inside the city limits by the year 2000. The possibilities for a real and profound change in the quality of housing available to a lower income family or individual is staring the architectural community in the face, but at this point, there is no architectural involvement in the process nor is there any apparatus for architects to offer advice or consultation in the design or engineering of these homes. Houses already being sold and built within the guidelines of the Homes for Houston program are generally being completed by developer/builders and offer little if any architectural innovation. What follows are three questions that seek to define constituent representation as it relates to the house, to real estate and to the financial processes that generally constitute the site of the house and the parameters of contemporary urban subjectivity.

Houses and Highways: three and one-half miles of freeway could fund the entire voucher program at its low estimate, eight miles would fund the program at its high estimates.

"What is ownership and how through the voucher program, will it provide representation, empowerment and inclusion?"

The following data was compiled during two design/research studios that I taught during the academic year 1995/96 at Rice University. These two studios addressed the issues of housing within the economic processes of commercial development. The interests that guided the formulation of our research were not aesthetic or even initially architectural; our goal was to ascertain the constituent value of a single-family house within the larger scenario of Houston's economy. Houston is almost exclusively a city of single-family houses even though it is the fourth largest city in the United States. The following data is offered as a survey that reveals what home ownership is within the larger mechanism of urban finance. In terms of the voucher program, this data is only the beginning of a renewed comprehension of how ownership apparently abets representation, empowerment and inclusion. It is clear that architectural design has much to offer, and that the voucher program as it stands has no way of gaining access to its potential.

Comparative Value of Voucher Program: What is the scope of the voucher program in relation to other Houston expenditures?

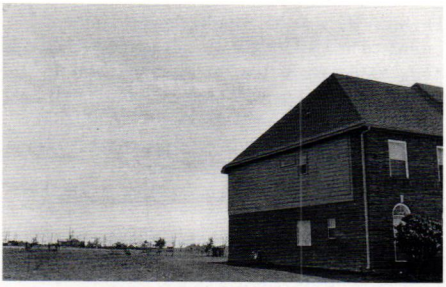
The voucher program will provide housing assistance to 25,000 families. The total value of the program depends

Fifth Ward Houses slated for renovation by the Fifth Ward Community Redevelopment Corporation (photo: Maride Oakes)

upon the ratio of new to existing houses purchased within its guidelines. The program could offer as much as $225 million in assistance or as little as $75 million.[4] If compared with expenditures by the Texas Department of Transportation in Houston some startling insights surface. For example, the Texas DOT5 currently administers almost $1.4 billion in Houston area highway construction contracts. During the last year alone road construction costs in Houston reached $457 million and maintenance of existing roadways amounted to an expenditure of $57 million. In this context, the voucher program is relatively small if not insignificant. Should it be more? Could it be more? The construction of one recent segment of freeway in Houston costs approximately $22 million a mile[6]; at this rate, three and one-half miles of freeway could fund the entire voucher program at its low estimate, and, in fact, the total costs of the 8-mile freeway in question were more than $182 million. Houston has somewhere in the range of 8,700 miles of "freeway;" the actual distance and value is almost impossible to figure.

Ownership/Equity/Representation and Design: Is it possible to design a house in which equity could be accrued at an accelerated rate?

The average single-family house in Houston is sold approximately every nine years. At that point, assuming an initial mortgage of $50,000, the average home "owners" would have amassed $5,622 in equity. To amass this equity, they would have made mortgage payments that total $33,984, or approximately $354 per month.[7] As these calculations demonstrate, ownership within the voucher program will not provide more than personal satisfaction and self esteem. This data does not account for federal income tax deductions that



Middle income speculative housing: Sugarland, Houston

accompany a mortgage nor does it include added monthly costs such as insurance, property tax, school taxes or utility costs. Ownership in this average scenario clearly does not provide the economic empowerment and representation it is assumed to nor is it necessarily a better economic situation than renting. Is there a way that architectural design could abet a faster accrual of equity? For example, full equity in a $25,000 automobile could be accrued in five years at a monthly expense of $502.34.[8] In Houston it may be conceivable to build a $25,000, 3-bedroom house. If this house offered even modest innovation in energy efficiency, it could be possible to allocate savings in monthly utilities expenditures to the greater mortgage payments that would come with a short term loan. Equity could be amassed at a tremendously accelerated rate. It may be possible to design a house in which full equity was accrued in five years, even within the costs guidelines of the voucher program. Innovation in energy use alone could make a dramatic difference in how affordable these houses are; innovation in labor processes involved in construction could also alter the affordability and quality of the houses.

How Does the Market Develop Houses?

The voucher program assumes that the market will and can produce houses more efficiently than federal or city housing agencies. Developer houses in Houston are routinely offered for sale at prices as low as $55,000, and these houses are within the reach of many families who would rely on the voucher program.[9] Innovation, however, in either simple functionality, design, or quality of materials is non-existent. The voucher program hopes to rely on the free market to provide a decent level of housing. Will it? Does the building industry have the will to innovate? Clearly architects have had little success in infiltrating the machinations of housing. The term "housing starts" that often indicates the health of the economy almost invariably indicates the demise of architecture as we have valued it. Consider this case study.[10]

Sable Ridge is a Houston subdivision of 347 houses built in the early 1980s at a total cost of $16 million. It is situated outside the Houston Beltway or Loop in an area currently growing in population at a rate of more than 10 percent per annum. Compaq Computers, whose headquarters are in this area, alone accounts for much of this growth. The square foot costs of construction for housing built at Sable Ridge was $33/ft. Architectural fees for this project of more than 500,000 sq/ft were $4,550 or .028 percent of total construction. The entire subdivision of Sable Ridge could have been constructed on an average downtown Houston city block at a height of five stories (there are countless empty downtown Houston blocks). Architectural fees for such a low-rise project would have amounted to more than $1.4 million[11]—the developers of SableRidge made a profit of about $2 million.

Building materials that compose a single house at Sable Ridge have a relative value of approximately $10,000 per house if bought on a per-house basis at a retail hardware store. The rest

of the costs is accounted for by labor, advertising and profit. The market provides no incentive to build in the city center or to use architectural services. Clearly the market does not provide the components or the innovation that could make the voucher program a success in terms of providing meaningful civic representation.

The guidelines set by the Houston Voucher program are drastic but not without potential or even aesthetic challenge. A family of four must earn less than $36,800 to qualify for assistance. Proposed designs for new and renovated houses built within the limits of the market as it applies to this income group could mark a real and significant contribution not only to this strata of our population but to our conception of the contemporary city as a whole. We might very well be able to show that these voucher houses could be some of the best works of architecture of our time.

Footnotes

1. Curtis Lang, "A Depleted Legacy, Public Housing in Houston," *Cite*, 33, Fall 1995 - Winter 1996. (Houston, Texas: The Rice Design Alliance), p. 10.

2. Vanessa Gallman, "Government Will Raze 70,000 more HUD Units," *The Houston Chronicle*, May 31, 1996, p. 6A.

3. Neal MacFarquhar, "U.S. Getting Public Housing Closer to the Ground," *The New York Times*.

4. This estimated value of the voucher program is based only on value of vouchers and does not include costs of administration of program. It is based on the program's plan to provide assistance to as many as 25,000 home buyers.

5. Texas Department of Transportation information gathered at T.D.O.T. internet web site.

6. The freeway costs estimate describes an 8 to 10-lane portion of Texas I-8. The costs estimate is based on a 7.97 mile stretch of mostly concrete pavement. The duration of the contract extended approximately one year from March of 1993 to October of 1994. The final costs are estimated at $182,824,356. Another segment of freeway, State Highway 99, was built the same year and was estimated at $3,850,000 per mile, or a total cost of $63,220,000 for a 16.42 mile segment of 4-6 lanes. The "total personal income" for Harris County in the year 1995 was $77,774,000,000.

7. Equity and mortgage payments based on a $50,000 loan at 7.9 % for 30 years.

8. Equity and payment based on a $25,000 loan at 7.9% for 5 years.

9. The average weekly wage in Harris County in 1992 was $554.03; advertised mortgages on Sable Ridge homes were approximately $550.00 per month.

10. The following data was culled from private interviews with the developer. The name Sable Ridge is fictitious to provide anonymity.

11. This estimate assumes that a downtown building could be built for the same costs as the subdivision.

Michael Bell, is an associate professor of Architecture at Rice University and a practicing architect.

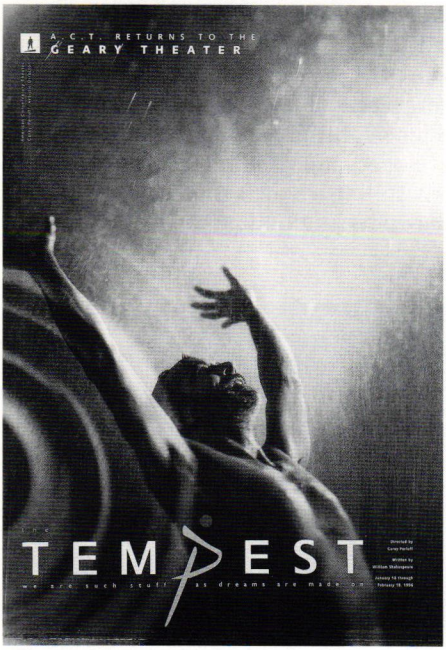
Which Way?

In the boom and bust cycles of architecture and the profession's ever-increasing number of connections to related fields, some students and practitioners on the architecture path find themselves thriving in other-than-architecture careers. We asked a few professionals who initially began in architecture how they attained their current position. In this series of short pieces, a few Californians—graphic designers, furniture designer and builder, developer, and community and policy activist— share their thoughts about their roots and finding their way.

#@$%!—or How I Came to Simply say, "Oh Boy"

David Salanitro

I have always had a foul mouth. Occasionally I have had a foul attitude, but I've since remedied that. I've spewed my opinions (with and without ribald embellishment) in architectural and design offices throughout San Francisco. I am legend for my "potty-mouthed" insubordination. I first held forth at 18-years old, to defend my meticulously chosen location for a deep fryer in a Sassy Sandwich Shoppe kitchen, "The #@$%! fryer goes there because I'm not moving it anywhere else!" I railed to my father's client. Sixteen years later my attitudes have changed; however, I could not resist the opportunity to open the flood gates once more for this publication.



Poster for *The Tempest* at A.C.T.

In 1982, my father owned a restaurant design and supply business (primarily supply) in Fresno, California; his architect/partner left one day with all the designs, a good deal of cash and his secretary-turned-girlfriend. My father needed an architect, and I knew (I asserted) all I needed to know from junior high drafting classes. Surprisingly, it was a successful marriage of talent, aptitude, knowledge, patience and chutzpah. I endlessly asked questions of contractors, plumbers and electricians. I took great pride in my work which was why I seldom let any fast-food king tell me where the fryer should be located—I knew #@$%! well where fryers should go and few could tell me otherwise. I drew space plans, schedules and plumbing and electrical schematics. And I was meticulous—every drawing perfect and every instruction correct. Every sheet was drawn in ink with no hand-lettering; schedules were rubdown type. I rarely slept due to my dedication to rubdown type.

I drew and waited tables for the next three years while attending Fresno State University part-time, taking classes in interior and graphic design. I cursed my instructors for their incompetence and received A's; I challenged courses I knew nothing about and received A's; I was, after all, a working professional. I failed English, math and all the sciences miserably. I began volunteering at the Fresno Art Museum to round out my knowledge. I parlayed

my philanthropy into a job as Preparator and then, reaching one of the pinnacles of my career (really), was promoted to Designer of Exhibitions. I swore off fast food, literally.

After two years, restlessness and a desire to become a "real" licensed architect led me to San Francisco. Stanford Hughes, then at Skidmore, Owings and Merrill (SOM), hired me. I had a very clean, if unorthodox, mix of inked fast-food restaurant plans, museum exhibit designs and graphics. I had a seemingly endless binder of meticulously set (rubbed down) schedules. Stanford, impressed with my attention to detail, made me a member of the team working on the Sheraton Palace Hotel renovation. SOM was the first large office I had ever worked in, and I could not believe their attention to detail; I loved that attention to detail. People were being paid to spend days drawing up full-sized columns, each only slightly different then the next, and to discuss whether 22 inches or 22 1/2 inches was more appropriate. I was stripped of my ink pens and handed a No. 2 pencil. I learned a new kind of drawing and a new kind of sensitivity not often exhibited in food service. I used profanity only to add emphasis to how #@$%! thrilled I was to have the job.

I was laid off two months later, along with 200 others. I was sent spinning into several architectural offices, each job ending less than amicably. In 1989, I joined Pike/Gentry Architects where I found a kindred spirit and a friend who was also a mentor. Jerry Pike told me from day one that my self-assurance was both my best and worst trait. His honest assessments of my talent and skill encouraged me to do some of my best work; and, in turn, I was rewarded with a great deal of responsibility for several office and medical interiors. I aspired to be a partner and fully intended to take the registration exam and finally become a licensed architect.

Then came my architectural armageddon. A building that no one had expected or intended was rising to scorch the retinas of anyone within a five-mile radius. The Marriott Hotel symbolized all that was wrong with the profession—second-rate design and cheap developers. Being no stranger to the status quo (although on a much smaller scale), I saw parallels to the work I was involved in. Even a firm as talented and conscientious as Pike/Gentry was no match for internal project managers or developers. The bitter pill would not go down—I pitched a fit and quit architecture; I also expressed some of my now-famous abuses, slammed out and broke the glass out of an expensive office door in the process.

For several months I spent my mornings writing at cafés. When money ran out, I took a job managing card decks—we called them landfill—for *PCWorld* magazine. My daily tasks took about half an hour, and I spent the rest of my time organizing production/trafficking systems. I also taught myself electronic graphics programs. Later I took other assignments managing ads and editorial for different publications and eventually went to work in the design department of *Publish* magazine. Soon enough my indignation returned. How in the #@$%! did these so-called professionals design a magazine without understanding how it was produced and manufactured? Shouldn't "educated designers" be able to bring a project to fruition? Didn't architects first learn how to make a building stand up? Why not graphic designers? I had come into graphic design through the production door as I did with architecture. I was equipped from the bottom up, and the *Publish* powers-that-were said I was not qualified to design feature articles because I didn't have a design education. What, I wondered, was their definition of education? #@$%! them. I was fired again. Note,

I was also asked to stay on for another three months freelance until they could find a suitable replacement.

I started my own graphic design firm in 1994. Although no longer interested in the product that architecture was yielding, I was still slave to the profession's way of thinking. I set about the task of learning to play nicely with others. Oh Boy's client list includes: The Baan Company, Cadence Design Systems, A.C.T., Smith & Hawken, Intel and Andersen Consulting among many others.

In many ways, our design office is more like the architecture firms where I was trained. I think that in architecture school there must be a greater emphasis on structure than in commercial art school. Graphic design graduates are only beginning to understand that simply "making it pretty" does not cut it; understanding how to draw a beautiful plumbing schematic or using rubdown type for fixture schedules does not guarantee hot water. At Oh Boy, we look at things in an architectural way. The constraints of space, whether three-dimensional or one-dimensional, hold similar challenges. You have to understand the nature of a problem to create a strategy that works.

And no matter where you go, no matter how much thought and care you put into a project—just like architecture—the graphic design client will insist on cheap aluminum windows. But I have since developed more successful methods of persuasion. Although in my own office (which Jerry Pike remodeled and ironically faces the Marriott Hotel) rather than "#@$%!," now I say simply, "Oh Boy."

David Salanitro is principal and founder of a graphic design firm, Oh Boy, A Design Company.

Pei Cobb Freed, Playa Vista, and More

A Conversation: Buzz Yudell, FAIA & Doug Gardner

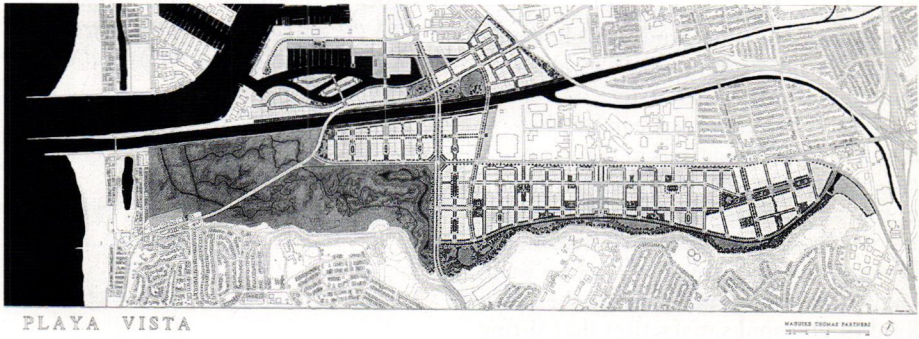
Buzz Yudell: *When did you graduate from architecture school, and could you describe briefly your first experiences?*

Doug Gardner: I graduated from the Yale School of Architecture in 1975. I was very fortunate to get a job with Pei Cobb Freed in New York working specifically with Harry Cobb who had been my thesis advisor. I stayed there for over 13 years. My earliest assignments were somewhat unusual, working on small-scale projects such as a boardroom table for AT&T and a loading dock gate for the National Gallery of Art. Actually, these were very good and interesting introductions to the rigor which the Pei office brought to even the most mundane aspects of design.

Fortunately, after a relatively brief period, I was able to become involved in various phases of larger projects such as the *Johnson&Johnson* Headquarters. This project was a unique assignment in which I was able to work for three years. I had the opportunity to see the process from the very first client meeting all the way into the early stages of construction. But perhaps the most gratifying project I worked on was the art museum in Portland, Maine. Harry Cobb was the principal, and I was the project architect. This was, at the time, a small but very prestigious project. It was my first opportunity to work from day one all the way through the end of construction, and it was, indeed, one of my most satisfying professional experiences.

In the 80s, as development picked up, we began to work on many large, commercial projects. I collaborated with Harry on the First Interstate Towers which is called the Library Tower out here, then the Bank Tower in Dallas, followed by the Commerce Square project in Philadelphia.

What lead to the major move from Pei Cobb Freed?



Master Plan of Playa Vista

After having worked as the project architect for Harry Cobb on several projects which Maguire Thomas Partners had commissioned, I was approached by Rob and Jim with the possibility of coming to Los Angeles. As a firm, they had a large appetite for working on complex mixed-use, urban projects with a very keen interest in the design quality and the nature of collaboration. They were interested in me as an in-house architect who could help them to focus their architectural and urban design commitments. It was an extremely hard decision to leave the only job and career I knew. But, in 1989, I decided the opportunity to learn how to coordinate the extraordinary numbers of factors that come into the implementation of large-scale architecture and urban projects was too fascinating to pass up. I wanted to learn about other worlds, and I suspected the architectural education by which I learned to be first, and foremost, a problem solver would be appropriate to apply to these challenges. Also, the skill sets learned in architecture school, I thought, had a very important application to the challenges of complex integration within real world projects. This new role provided all the challenges I could have anticipated and then some.

I soon became involved with Nelson Rising in the overall planning and entitlement process for the nearly thousand acre mixed-use project called Playa Vista. Playa Vista was like a living Rubik's cube: enormously challenging and a situation in which I had to stretch and grow personally.

I feel that architects can productively become immersed in the many issues of the real world of social, economic and political forces. It is a service for which architects are well qualified. Having said that, I would say that these challenges still do not provide the same kind of personal satisfaction that sitting and sketching can yield.

We know that subsequent to many changes at Playa Vista, you have moved on to a new position. Can you describe that briefly?

I was invited by Nelson Rising, the new president of Catellus to join the firm as a vice-president with a base in Southern California. This provided the opportunity to be involved in a number of large urban, mixed-use projects throughout the West. The projects currently include Union Station, and its context, and Mission Bay in San Francisco. These exceptional projects are ones in which I am keenly interested and allow me to grow into a new phase of personal challenge and development. I feel as an architect, I can have a role in working hard to clarify and sharpen the architectural and urban design issues and help to direct the energy and resources of the organization toward creative solutions. I also enjoy the opportunity, in all of these cases, to work with tremendously skilled and interesting colleagues from an array of design fields.

Doug Gardner is vice president of Southern California Development for Catellus based in Los Angeles. He was previously an associate partner with the architectural firm of I.M. Pei & Partners Architects.

Buzz Yudell, FAIA, is the principal designer with Moore Ruble Yudell Architects and Planners and current Architecture California *Editorial Board member.*

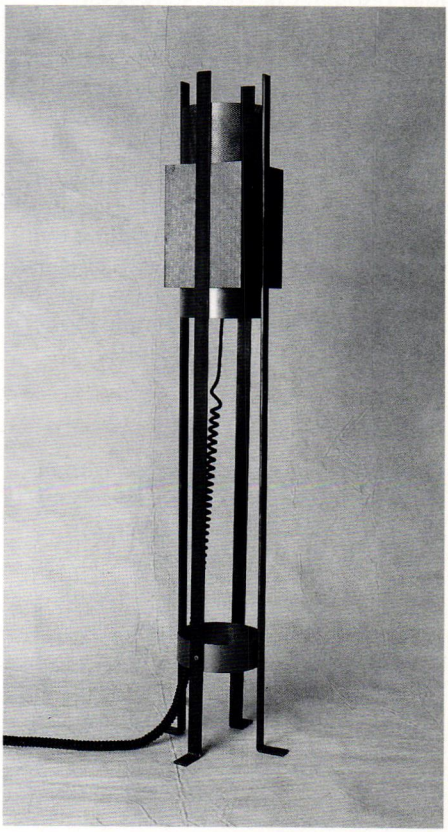
Assembledge: Assembling on the Edge—Furniture & Beyond

David Thompson

In architecture school at Tulane, many restraints were undone. The world of the built environment opened, and I fell into a new way of working. Early in my education I learned how separately the architect, the engineers, the landscape architect, the interior designer, and the builder typically work. I became frustrated with the notion that the architect generally is only the initial creator of the idea, and at one point or another becomes removed from the overall building process. For me, creating the idea was not enough; the design process was too fragmented. I felt I needed to understand what I was drawing, how it was being put together, and how all the disciplines worked together.

In 1991, I graduated from Tulane and returned to Los Angeles to work with David Hertz at Syndesis. Their work, which ranges in scale from furniture and sculpture to buildings, addressed my concerns. Syndesis is unusual in that they are multi-disciplinary, not just designers, but involved in material development, manufacturing, and construction, sub-contractors producing the design product. In my first few months, I designed, detailed, and built several small projects. The design process felt whole again. I understood what I was building, drawing to reality, from the abstract to the concrete, so to speak. Experiencing the building process really taught me how to draw.

Over time, a few people asked me to design and build small-scale pieces that I was able to do with my access to equipment and materials. After five and a half years with Syndesis, I tried working for a traditional architectural firm (where I learned computer-drawing skills), but found myself less than enthused because they didn't share my passion for the total design process. My after-hours work on custom furniture pieces was much more interesting to me. Commissions for these "com-



Lamp by David Thompson

plete" projects, albeit micro-scale, kept coming my way. I decided that if I followed this work, I could expand what I do, eventually getting involved in remodeling and other design assignments.

I started a small firm, named Assembledge, with a friend from Tulane, Scott Satin. We recognize the connection to the journal *Assemblage*, but our name means something different. "Assemble" represents the practical, hands-on assembly of materials. But, it is more than that—we want to push the envelope with this process, to be on the "edge." Our assignments have included custom coffee and conference tables, desks and entertainment consoles, storefronts and small renovations. Right now we want to see if this idea resonates in New York. Our vision? A studio and retail shop where you'll find the furniture and details that tell the story about our approach to architecture. By the time you move through the space, our office, you'll understand our process of creating an entire environment—design, assembly and construction. We'll be selling our furniture lines and other well-designed products and providing design and architectural services to people looking for new ideas—see you there!

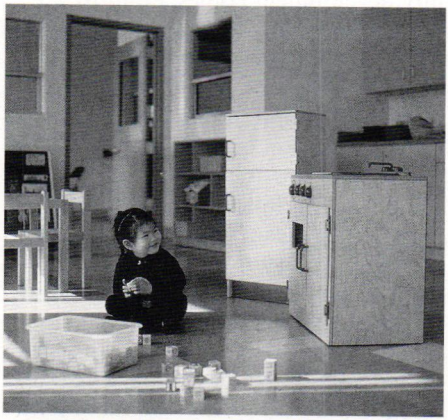
David Thompson is a freelance architectural designer whose work specializes in furniture/fixture projects in Los Angeles and New York.

Community Design and Development: An Alternative

William K. Huang, AIA

Many architects and architectural students will cite improvement of the built environment with respect to aesthetics and social justice as a primary reason for entering the field of architecture. I found, however, traditional practice held few opportunities for fulfilling this desire. Community development was the path that offered me all the benefits of having direct influence over the built environment inherent in real estate development with the added focus of providing a social benefit to a large segment of our population.

I found three primary benefits available in real estate development which do not exist in traditional practice: the ability to implement a vision, the authority to make the truly creative decisions regarding a project, and an opportunity to receive cumulative economic benefits from each project developed.



Parthenia Apartment and Childcare Center

Traditional architectural practice relegates the architect to a position of facilitator as opposed to what I found in the community development work place where the role becomes one of implementer. The architect facilitates the creation of a physical reality of his client/developer's vision through professional design services. The architect's education, training, and experience ensure that the client's concepts are carried out in a manner consistent with the standards of care of the profession. If the architect wants to implement his own vision, he must educate his client to take ownership for a vision that is not that of the client, but of the professional charged with offering the services. I found that most architects who practiced in this traditional manner seldom get the opportunity to express their personal visions primarily because they lacked the financial means and political influence to carry out these visions independent of clients.

Community development or any type of real estate development provides the opportunity to allow the architect to make the fundamental and truly creative decisions on his own projects. The difference between traditional architectural practice and the offering of community development services is the point in time when the skills, knowledge, and values of the architect begin to influence the project. I discovered that by the time a project landed on the traditional practitioner's desk, all the key fundamental decisions had been

made: What it will be. Who it will serve. Where it will be located. How large it will be. How much it will cost. To make matters worse, these fundamental decisions are made by the client/developer whose parameters are likely to be economic and political and not reflective of the values of the architect, and, in most cases, they would not express a genuine concern for protecting the built environment. Those with the most expertise in stewardship of the built environment—the design professionals—are not players when these critical decisions that will be the real determinants of environmental quality are made.

Real estate development, on the other hand, offers the potential that allows the practitioner an opportunity to receive a cumulative benefit from each successfully completed project. An analogy of this cumulative benefit is when an author receives royalties in perpetuity for successfully writing and publishing a book. That same book continues to generate an economic benefit for the author as the author moves on to the next book. With each book written and published, the author becomes less dependent on the market success of the next book, and he is free to write in a more selective, and if desired, obscure way. For the architect who participates in a real estate development project, receiving ongoing cash-flow, management fees, value appreciation and tax benefits from providing services for a specific project, he sets the stage for recurring benefits from the work. At the time of initiating a project, the developer generally receives a substantial developer fee, along with architectural and construction management fees if such services are provided in-house by the developer's staff. The traditional architect, on the other hand, usually receives a fee for services which mostly covers the cost of providing the services with a small profit. No ongoing benefits are received except for the portfolio value of a new project along with substantial professional liability with no correlation to risk and responsibility involved.

One of the primary agendas of community development focuses on outcomes which produce social benefits that genuinely improve the quality of the built environment with respect to social justice. Typical projects include all types of affordable housing, community health clinics, child care centers, community centers as well as the implementation of comprehensive neighborhood revitalization plans and projects. Though these projects target societal benefits rather than individual financial benefits, they do provide cumulative economic benefits to the developer and, in most cases, the community. Traditional practitioners have limited means to provide social benefits through their projects. *Pro bono* or discounted services are one means of participating, but ironically, the architect's role as a facilitator as opposed to the developer's role as implementer creates limited financial resources to "give back to the community" even if the architect has such a desire.

The common path for architects who practice in the arena of community development comes about by attending the many local statewide and national community development training programs. The typical participants in these programs have a fraction of the education of most architects, but could quite possibly be the head of a multi-million dollar organization that is making a meaningful impact on the built environment. Yes, architects will need to master the financial and political aspects of development. Fortunately, a typical *pro forma* is simpler to understand than a hardware schedule, and the political process no more difficult than obtaining a zone change.

Several examples of this successful transition from architect to community developer exist including the late Don Turner, founder of Bridge Development Corporation, and Daniel Hernandez, head of Mission Housing Development Corporation. Many award-winning projects have been produced by these practitioners for both community development and design projects including the Los Angeles Community Design Center, Asian Neighborhood Design, and the David Mi Partnership.

There is a need to reverse the trend seen in both architectural education and practice of moving toward an increasingly narrow and specialized discipline to one that takes more control of the overall building process. Nationally, there are few university programs for community development or real estate development. The opportunity exists for architecture schools to seize these disciplines and incorporate them as part of their curriculum. This move need not require the abandonment of training emphasizing architecture as a public and functional art form. The result will be a new generation of practitioners who will not only be able to envision a better built environment, but also have the ability to implement it. The architects' practices will be fulfilling, economically viable, and meaningful—eventually making architecture and city building synonymous.

William Huang, AIA, is the former deputy director of the Los Angeles Community Design Center and current senior program associate for the National Trust for Historic Preservation.

You Can Find Everything in the Smart Yellow Pages

David Meckel, FAIA, Talks with Mark Johnson

David Meckel: *So, where did you go to school?*

Mark Johnson: Cal Poly Pomona.

How did you get there? Did you know an architect? What interested you in the architectural profession?

I started as an art major, and one of my instructors suggested trying architecture as opposed to art. I transferred to the school of architecture the next year.

So, once you got into the architecture program at Cal Poly Pomona, what were your interests? Did you have certain faculty who inspired you?

Cal Poly was more about a practical preparation rather than a theorectical exploration. Most of the faculty were highly focused on the knowledge practice and the development of skills necessary to succeed and survive in practice. Everyone was very hands-on. Dick Zelinski, a structural engineer, was an incredibly intuitive thinker about architectural space and structure. He was one example of a number of interesting people at Cal Poly Pomona at that time.

What did you do after graduation from architecture school?

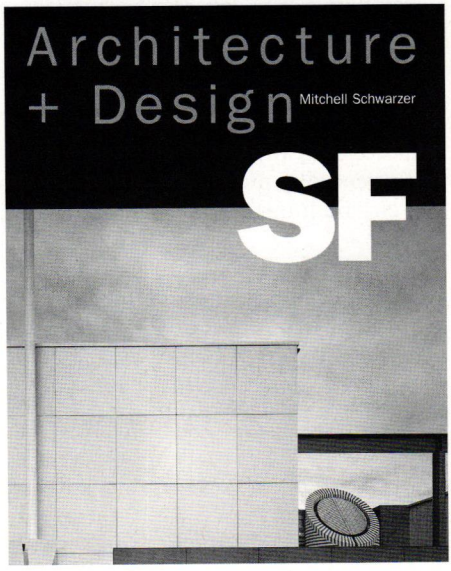
I worked for a number of small offices until I was invited to join the Jerde Partnership, a group of architects, planners and designers working on the 1984 Olympic Village in Los Angeles.

As I recall you were doing a lot of project management work and leading teams that seemed to be getting things done...?

Right. The team led by John Jerde, David Meckel, and Deborah Sussman had a very innovative approach which fused design, construction, and a different way of end-planning that no one else had tried before.

At what point did you make the switch from architecture to the kinds of work you are now doing?

A fellow architect, Richard Wurman, was asked to start an office in San Francisco to redesign the Pacific Bell Smart Yellow Pages. It was a three-



AIA Front Cover

year, 100-person effort. Richard needed a West Coast director for the business. I took over, started the office, hired the staff, and ran that effort for the first three years of the project.

This was a key decision point for you since you'd left traditional architectural practice and started to expand your interests and horizons into new areas.

Right. But it was a good shift in terms of applying many of the problem-solving skills and strategy work that I had learned in architecture school. While in school, it was not clear how valuable this type of preparation would be. Most of my architectural education translated directly into the business world. Certain aspects of project management in business closely relate to the concepts of project management in architecture, but they have a much broader application with a more powerful impact than in architecture.

Currently, what is your title and responsibility at the Understanding Business?
President, Creative Director and Owner. I have taken over the company, purchasing it after a number of corporate owners had held it over the past several years. We provide communication services, information design and publications for people like Wells Fargo, Bank of America, Bechtel Construction Corporation and other Fortune 500 companies.

Do you provide service to international clients?

We work with telecommunication companies in Holland, Sweden, and England.

You've done the Architectural Guidebook for Los Angeles which Michael Webb wrote, and you're doing one for San Francisco. Are you working on guidebooks for other cities?

It looks like we'll be designing one for Chicago, New York, and at least one or two international cities in the next 18 months. We'll be building a stable of cities and focusing on well-known architects and architectural critics as consultants to create these publications.

In a very short time, you've gone from traditional practice to an expanding strategic planning practice with arms in business management, strategy planning, publications and communications.

And, also, business planning where the business services are based on the notion of helping clients design and structure their business practices, procedures, and environments. The correlations to architecture and architectural thinking in offering these services are quite remarkable.

Is it fair to say you're really looking at the architecture of business?

Yes. It is much like the designing of a building. These parallels provide architects major opportunities for alternative service delivery. Very few disciplines practice visualizing structure as a principle of giving form to an organization. I am sincere about trying to talk other architects into crossing over into this arena—where you are forced to visualize the problem and the associated solutions.

Mark Johnson is president and creative director of The Understanding Business, an information design firm in San Francisco.

David Meckel, FAIA, is the dean of the CCAC's School of Architectural Studies in San Francisco, and current Architecture California *Editorial Board member.*

Call For Abstracts for Volume 20:1

The Editorial Board of *Architecture California* seeks abstracts for the next issues of *Architectural California*—Volumes 20:1. The theme of Volume 20:1, to be published in Fall 1998, is "Design as Commodity and Delight." Design is no longer only about the design of our cities or our buildings, or our landscapes, but about every aspect of our everyday lives, i.e., clothing, accessories, packaging, advertising, methods of communication, the way we bank, the way we learn, the way we buy products and services, and how fashion establishes a framework for consumption to give just some examples. The act of designing leaves no issue, service, or product untouched. This issue of *Architecture California* will explore the value added by design action and the influence on our everyday lives: How is value added through design? What knowledge, skills and values are needed by designers to add value? What is the perception of consumers of how design adds value? Where and how does this value adding take place? Who pays for added design value? What is the ethical context of value added design? What is good design that adds value? A select number of built projects which illustrates the nature of "design as commodity and delight" will be published.

The *etcetera* section always welcomes a variety of submissions beyond the scope of the focus topic. We welcome these general submittals.

The abstract, of approximately 500 words, should clearly illustrate the primary topic, structure and organization of the proposed article including an indication of the type of charts, graphs, and photographs to be included in the final version of the article. A short biographical statement about the author is also required. All proposals will be reviewed by the Editorial Board, and those selected for publication will be further developed with assistance of the Editor. Please submit abstracts for Volume 20:2 should be received ***no later than July 1, 1998.*** Snail-mail, e-mail or fax materials to:

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