A group of architects is giving R/UDAT a new, grassroots meaning.

The mini-R/UDAT program, introduced by Warren Thompson, AIA and sponsored by the San Joaquin Chapter of The American Institute of Architects, began as an effort to express the Chapter's concern for its community and to help improve the image local citizens have of architects.

While mini-R/UDATs do not attempt to solve the far-reaching problems addressed by AIA's Rural/Urban Development Assistance Teams, they do try to bring quality design solutions to evolving downtown centers. Working in weekend charrettes, local architects and fifth year architecture students from California Polytechnic State University at San Luis Obispo have contributed their talents to solving some of the problems facing the Fresno mall and downtown Visalia.

Professor Paul Neel, AIA says, "It's an opportunity for students to have hands-on experience with professionals working on a common problem in a studio atmosphere." Neel emphasizes the positive impact mini-R/UDATs have on the community. "We don't answer all the city's ills, but we do alert members of the community that architects are interested, and we get merchants to see the value of design as a merchandising tool," he says.

In Fresno the students were given no program for design beyond the observation that storefronts were not up to mall standards and landscaping, and that the solutions should inspire owners to upgrade their stores. "The objective solutions that resulted without input or pressure from the property owners or the city officials are pure design suggestions that resulted from the freedom of the mini-R/UDAT format," says Warren Thompson. Renovation efforts have not yet begun on the Fresno mall, but Thompson notes, "I think we'll see the mini-R/UDAT solutions used as a guide when people begin to remodel. It's a first step."

Visalia's mini-R/UDAT should have a more immediate impact since the city actively is planning a downtown renovation. A consultant hired by the city had just completed an 18 month study on downtown renovation when the mini-R/UDAT was held.

"The problem was to generate some creative solutions to existing store and building fronts, alley entrances and prototype entrances to the city," says Larry Segrue, AIA, organizer of Visalia's mini-R/UDAT. "The emphasis of the charrette was on close range visual upgrading of the area."

The students viewed slides, visited the site and spent an intensive 20 hours developing freehand design solutions which were critiqued by local architects. The graphic suggestions were presented to the City Council, the Planning Commission and the Board of Directors of Visalians Inc., a merchants group. "The response was excellent," Segrue says.

The City presently is working with merchants and architects to determine the cost and procedure necessary to implement the suggestions made by the consultant and the mini-R/UDAT. "The R/UDAT gives a general plan on how to improve the downtown. It's an idea generator which helps local people see how outsiders perceive our environment," Segrue says.

The mini-R/UDATs generate a lot of goodwill. "In Fresno, this community interest project has increased our visibility with officials and the downtown people," says Warren Thompson. "It's well worth the time."

Larry Segrue notes, "City officials were floored by the fact that we spent the time and money to present this as a gift to the community. They saw that we architects are not just here to make a buck; we're here to help improve the community."

The Chapter's community involvement is ongoing, and will be seen next in Madera, where the mini-R/UDAT team already has enlisted the Rotary Club's support. Whether the mini-R/UDAT idea will catch on in areas other than California's Central Valley remains to be seen. But the concept was received enthusiastically when it was presented to architects from around the country who attended AIA's Grassroots in January.

The mini-R/UDAT program offers tremendous benefits, and is quite easy to start. "All it takes" says Paul Neel, "is a local architect who loves the idea and a professor who's cooperative."

—Janice Filip
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California Council, the American Institute of Architects  
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### Special Thanks:

To the Design Conference Committee: Inge Rose, AIA, George Bissell, FAIA, Len Cardoni, AIA, A. P. DiBenedetto, FAIA, James McGranahan, FAIA, Warren Thompson, AIA, Gary Wirth, AIA and Richard Wurman, FAIA; and to contributing editors Harry Jacobs, AIA and Fred Lyman, AIA.

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West Coast Design from Baja to B.C.  
Urban Togetherness at Horton Plaza, by David Meckel  
Tacoma Dome, A Sporting Proposition, by James R. McGranahan, FAIA  
Monterey Bay Aquarium: Squid Pro Quo, by Julie Devine and John Farman

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May/June 1982 Architecture California
Architect’s Toy Saves Company

The famous cube invented by Ernő Rubik, a Hungarian architecture professor, has reversed Ideal Toy Corp.’s financial outlook, putting the ailing company squarely in the black, according to Fortune. Ideal Toy sold over 10 million Rubik’s Cubes last year, boosting the company’s revenues by $40 million.

Pre-Stressed Concrete Collapse Hazard

On March 25, 1980, a portion of the 21-year-old auditorium roof of the Antioch High School collapsed, while subject only to vertical dead loads. This failure prompted a restudy of public school buildings of this construction type by the Office of the State Architect (OSA), which found a number of structures to be hazardous. These have since been closed and/or are being strengthened.

The Antioch failure also prompted the California Seismic Safety Commission to establish a Precast Concrete Investigation Committee. The Committee report concluded, “There is a clear hazard from precast pre-stressed reinforced concrete construction of the type found at the Antioch School.”

The specific problem relates to the welded anchorage of the roof diaphragm to the roof beams, which was intended to resist earthquake forces. The ends of the notched double-T roof members were welded to the roof beams to each other to form the diaphragm. The long term creep and shrinkage, in combination with the welds, produced cracks at the ends of the double-Ts, which allowed them to fail.

Details of the construction and failure may be found in the “Report of Investigation of Roof Collapse at Antioch High School on March 25, 1980,” which may be obtained for $5 from OSA, P.O. Box 1079, Sacramento, CA 95805, attention J.F. Meehan, Principal Structural Engineer.

Sardinia Expedition

People with a background in architecture, drafting or art are being sought as team members for a research expedition to Sardinia this summer. This expedition will investigate how and why the island’s Bronze Age architects built the gargantuian stone structures known as the Nuraghi Towers. James Vann, AIA is coordinator. Cost: $1125. Contact: University Research Expeditions Program, University of California, Desk A1A, Berkeley, CA 94720. Phone: (415) 642-6586.

Client Referral System

The fall of 1980 saw the Orange County Chapter/The American Institute of Architects move into new quarters in an area of high public visibility. This visibility created an increase in requests for architect referrals. In response, the Chapter recently installed a client referral system. The three-part system, soon to be computerized, provides the user with the necessary information to determine the kinds of services needed, and to identify one or more architects who provide those services. Revenues generated by the referral system are used to help stabilize Chapter dues.

The General Information Section describes elements of the architect/client relationship, basic services, and types of legal constraints which apply. Standard AIA documents and forms are included or referenced in this section. A glossary of terms used in the profession to describe the architect’s role in the project assists the user in defining his/her needs.

The Index is a structured set of descriptors listing the various forms of architecture practiced, such as commercial, industrial and residential.

The Register of Architects lists Chapter members who participate in the service. A one page description gives the name and address of the firm, principal services offered, building types, geographic areas served, major projects.

Contra Costa Housing Crunch

The vanishing supply of rental units and houses costing less than $100,000 is reaching crisis proportions in Contra Costa County, according to the community and business leaders at the fifth annual County Business Outlook Conference. In the last decade, the average cost of a house in the County has escalated 265 percent.

Continued strong growth is predicted for the County, especially in office space. But an estimated 42,000 new homes are needed by 1985 to accommodate a predicted 11 percent increase in the population which now totals 666,000 residents.

Community leaders from Walnut Creek, Pleasant Hill, Martinez and Concord are forming a private, nonprofit corporation to act as liaison between government and developers in an attempt to provide affordable solutions to Contra Costa’s housing crunch.

Ellinwood, a planned community of 355 homes, a 300,000 sq. ft. office park, a 20,000 sq. ft. neighborhood shopping center and senior citizen housing, has broken ground in the Pleasant Hill/Concord area of Central Contra Costa County with construction of the Ellinwood Office Park, designed by Genster & Associates with interiors by Reel/Grobman. The entire community, estimated to cost $100 million, is scheduled for completion in three years.

News
AIA Medal for Architectural Monograph

San Francisco architect Ernest Born, FAIA and art historian Dr. Walter Horn, retired professor at the University of California, Berkeley, received a medal from The American Institute of Architects for their three-volume book, The Plan of St. Gall, which illustrates European monastic life and architecture in the Age of Charlemagne.

The 1982 AIA Medal recognizes The Plan of St. Gall as "one of the great books of this century." The three-volume set, published in 1979 by the University of California Press, represents two decades of work. The book includes architectural drawings along with hundreds of plans, woodcuts, illuminations, manuscript pages and photographs. Primarily an architectural monograph, the book analyzes medieval technology and examines early attitudes toward industrial development, medicine, education, religion, hospitality, gardening and livestock breeding. The entire fabric of an exemplary Carolingian monastery and the lives of the people enclosed is recreated from an existing ninth century floor plan.

A limited edition of The Plan of St. Gall is being reprinted and will be available this fall for $450. The deluxe edition is available for $1,000. Contact: University of California Press, 2223 Fulton Street, Berkeley, CA 94710. Phone: (415) 642-6683.

Competition

The National Lighting Bureau (NLB) has announced the third annual National Lighting Awards Program for lighting system applications. Entry deadline is July 31, 1982. Contact: NLB, 201 L St., N. W., Ste. 300, Washington, D.C. 20037.

The National Endowment for the Arts, Design Arts Program and the North San Mateo County Center for the Arts jointly are sponsoring a design competition to provide a Master Plan for space to house the Center's activities. Eligibility is limited to architects who practice in the San Francisco Bay Area. Entry deadline is June 1, 1982. Contact: William H. Lis- kamm, FAIA, AICP, 699 Serramonte Blvd., Daly City, CA 94015. Phone: (415) 994-5250.

The Coastal Commission has approved final plans by Catalina Landing Associates for an office building and marine terminal complex in Long Beach, on what may be the last commercial site to be developed on California's coastline. The $40 million project is part of extensive facelifiting efforts to return Long Beach to its former preeminence as a major urban center, according to Mayor Eunice Sato. Hope Consulting Group of San Diego is the architect and engineering consultant for Catalina Landing.

Independent Housing Services is holding a design competition for a kitchen system capable of changing for use by either an able-bodied or a disabled person. The competition is open to all designers in northern California. Judging will take place on August 1, 1982. For details, contact IHS, 25 Taylor St.—Mezzanine, San Francisco, CA 94102. Phone: (415) 441-6781.

Architectural Education Award to Joseph Esherick

Professor Joseph Esherick, FAIA, chairman of the department of architecture at the University of California, Berkeley, was selected by The American Institute of Architects and the Association...
Resolutions for the National Convention

The California Council, the American Institute of Architects will submit eight resolutions to the national Board of Directors at the 1982 Annual Convention.

Directions 80 resolves that the national component of the AIA, in implementing the findings of the Directions 80 Task Force, engage only in the following dues supported programs: national legislative and regulatory advocacy; public awareness; membership communications; clearing house for a body of knowledge and component programs; contract documents. By limiting its dues supported programs to the above, the AIA should reduce the national membership and supplemental dues obligations of its members.

Directions 80 also resolves that the national AIA reduce its programs and redirect its staff and resources to focus on matters of national, public, and professional interest; that the local AIA components become the primary resource for member programs and activities related to the practice of architecture; and that the state/regional AIA components become the coordinating organization between the national and local components and conduct such programs as administrative services; state legislative, regulatory and policy issues; and serve as a clearing house for local chapter programs.

Multi-Level Dues Structure resolves that The Institute initiate and fund a comprehensive study addressing the available options and consequences of a variable, graduated, or categorized dues structure that will provide the largest opportunity for membership in the AIA, and that the results of the study be reported to the delegates at the 1983 Annual Convention.

Environmental Quality/Affordable Housing/Community Development, submitted by the East Bay Chapter, AIA, resolves that the AIA reaffirm its commitment to existing policies in these areas and continue to support these policies in the face of continued federal budget cuts.

NCARB Task Force resolves that the AIA initiate a task force to conduct a comprehensive study delineating the issues of education, training requirements, internship, examinations, and reciprocal registration facing the profession, NCARB and its member boards; and that the same task force be empowered to continually review the activities of the NCARB and its member boards and to report its activities to the AIA Board of Directors with recommendations for appropriate action.

Nuclear Disarmament resolves that The American Institute of Architects urge the United States government to seek to negotiate an immediate freeze by all nations on the testing, production and deployment of nuclear weapons, and take a leadership role in achieving total nuclear disarmament.

Financial Reports resolves that the budget format of the AIA be changed to show all direct expenses, membership reimbursements, service corporation charges, staff costs, and overhead attributable to each program and/or activity over $10,000, as well as all sources of revenue anticipated to offset such expenses. This new budget format should be ready for presentation and use at the 1983 Grassroots Conference.

The American Institute of Architects Associates Steering Committee, submitted by the Los Angeles Chapter, AIA, resolves that an AIA Affiliate Steering Committee be organized and funded within the framework of The Institute whereby the goals, programs and resources of the Associate members can be communicated and represented.

CCAIA's New Officers

Virgil Carter, AIA of the Office of Virgil R. Carter, Architects in Palo Alto, was elected CCAIA Treasurer at the March Board of Directors meeting. "The Treasurer has two major responsibilities," Carter said. "Obviously the first is fiscal. In that respect, my goals are to continue maintaining fiscal responsibility to Chapters and members and to institute an open door policy so that when financial questions arise, I can sit down with the member or Chapter representative and answer them. In addition to fiscal duties, the Treasurer is a member of the Executive Committee and has a leadership responsibility to recommend and implement Council policy."

Brian Sehnert of Gin Wong Associates in Los Angeles was elected Associate Director, South. Alternate Associate Directors elected are Ronald Takaki (South), of Frewelling and Moody, Los Angeles, and Martin Waldron (North), of Anshen & Allen Architects, Inc., San Francisco.

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tion of Collegiate Schools of Architecture to receive their seventh annual Award for Excellence in Architectural Education.

Esherick has influenced architecture through his teaching and collaboration as a lecturer and professor at Berkeley for 30 years, and through publications, lectures and his built works. Esherick is actively involved in design work as chairman of the San Francisco architecture firm of Esherick Homsey Dodge & Davis.

May 20 to July 25
First International Exhibition of Architecture from the Venice Biennale showcases the work of 70 architects who represent Post Modern trends in contemporary architecture. At Pier 2, Fort Mason in San Francisco. Contact: Suzanne Foley, Curator, (415) 433-5449.

May 26–30
Tenth Annual Meeting of the American Institute for Conservation of Historic and Artistic Works in Milwaukee, WI. Contact: AIC, 1511 K St., NW, Ste. 725, Washington, DC 20005.

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**Capitol Clarification**

I feel it is important to clear up a point made by Alan Rosen in his article on Capitol restoration ("Grandeur and Permanence, the Capitol Restoration," March/April, 1982). The Seismic Study published by the Office of the State Architect in 1972 did declare the west wing of the state Capitol to be a seismic hazard. However, Mr. Rosen failed to mention that the Study went on to recommend that the legislature adopt a proposal to "reconstruct the entire west wing."

Declaring the Capitol a seismic hazard was the only way to move the legislature out of the building so restoration could begin. The Seismic Study was a first step toward restoration.

At no time during the five years that I was State Architect did I do anything but advocate the restoration of the State Capitol. In fact, I worked with legislators on a daily basis toward that end.

Fred Hummel, FAIA

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**Architecture and Reality**

Ever since the Renaissance, architecture has been out of harmony. The principal defect of our industrial way of life—with its ethos of expansion—is that it is not sustainable by finite resources. By the year 2000, our population will almost double. Assuming present exponential rates of use, silver, gold, mercury, lead, platinum, nickel, tin, and zinc will be exhausted. By the year 2020, aluminum, copper, manganese and tungsten will follow. By now it should be clear that the main problems of the environment are architectural.

At least 200 mammal, 350 bird and 20,000 plant species are in danger of extinction. Natural controls, when destroyed, can only be replaced by future technological ones. A 34 percent increase in world food production has required a 146 percent increase in the use of nitrates and a 300 percent increase in pesticide use. The combination of human numbers and per capita consumption cannot but be the most critical criteria that will influence our decisions as architects for the rest of our lives.

Implicit in all this is an urgent need to re-examine every thought and every action of every day, for our salvation can only lie in moving away from conquest toward participation.

Within the span of our own lifetime, we have the greatest challenges and opportunities—to evolve and implement new orders of architecture consistent with our economic realities. One of our principal goals must surely be to unite our economic system with the systems of ecology. The future is in our hands.

Gary V. Hansen, AIA

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**Statements on Access**

I appreciated receiving the copy of the January–February issue of Architecture California. As someone who has had a long-standing concern with accessibility from the point of view of a service provider, I have had many contacts with architects and others. I felt that your series of articles reflected not only the architectural aspects of accessibility but also made a very strong statement of the program aspects.

I believe that this material must be brought to the attention of architects in a most positive way so that they see incorporating accessibility design into their structures as a way of making the building more useable rather than as an onerous task superimposed on their useful design ideas. I think your articles accomplished this.

I have shared the material with a number of colleagues in the field and they concur with my view of it.

Julius S. Cohen, Ed.D.
Deputy Director
Institute for the Study of Mental Retardation and Related Disabilities

With the threatening pressure to relax architectural barriers, it is gratifying that architects in California continue to show a desire to maintain standards which will be of service for and to those of our citizens who are handicapped.

For the past 12 years I have visited countries, visiting institutions and other facilities for handicapped individuals, leading study tours of health professionals, teachers, and social workers. The range between good and bad is wide, and even in developed countries we find the need for barrier improvement.

Perhaps if people in those countries saw your publication they might learn some lessons.

Irving R. Stone, Litt.D.,
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Taking the pulse of large group of West Coast architects is like taking the pulse of an octopus. At CCAIA's recent Monterey Design Conference, all the tentacles were out; the pulse was multiple.

Is there, in fact, such as thing as West Coast design? The question was posed at the very outset of the conference by Chicago architect Stanley Tigerman, FAIA and Helene Fried, director of exhibitions at the San Francisco Art Institute. Each is organizing an upcoming show on California architecture.

In order to choose the architects for their shows, Tigerman (whose show will be at the La Jolla Museum of Contemporary Art) and Fried both have had to assess the nature of California and West Coast design. They discussed the rationale behind their choice of architects to an audience full of architects they did not choose.

Tigerman's and Fried's presentation might well have been confrontational because their exhibitions will help define who's who in the profession—and who isn't. Museum exhibitions tend to establish an architectural elite. The audience of architects heard the criteria that eventually may subordinate them to a regional elite, and they demonstrated what may be one of the salient character traits of West Coast architects: a collective apathy.

Only one architect, Bernard Zimmerman, FAIA of Los Angeles, challenged the speakers on the rationale behind their choice. No one else pursued the subject, even in philosophical terms: What role does an elite play in the profession, especially on the West Coast, where there is no firm architectural aristocracy? And what place does professional elitism have in a conference that essentially is a grassroots get-together that is helping to form a regional consciousness among architects?

The lack of confrontation, and the lack of tension in the audience, characterized the work the architects presented to each other during the conference. Architecture on the West Coast is not highly polemical. There is a peaceful coexistence of many styles here, even within the same firm.

Tigerman talked at length about the character of California architecture. He observed that the European-style intellectualism that typifies New York, and the single (Miesian) point of view that long dominated Chicago, do not characterize California. According to Tigerman, California's architecture lacks "ideological rigor." Rather than pursuing single architectural ideologies in depth, California architects are pluralists—and their buildings, drawing upon such diverse influences as Frank Lloyd Wright, the Beaux Arts, the middle Europeans, the new Europeans and the eccentrics, are "a microcosm of what makes the U.S. uniquely American." Tigerman said that an essential part of California design is that architects here have synthesized and interpreted ideas originating elsewhere.

Style invasions occur in places that do not have strong traditions or tightly organized schools of thought. California's openness to ideas and its pluralism result in part from its decentralization. California architecture has not had the magnetic equivalent of cities like New York or Chicago. Its ideas and energies have been distributed over a large region, rather than focused around a single center.

Some architects maintain that this relative decentralization has encouraged experimentation by people working in semi-isolation, free of intellectual fashions. For these people, with their independent ideas, the value of the Monterey Design Conference is precisely that, for a brief weekend, the region has an architectural capital—Monterey is New York for a day.

Approximately 60 architects presented slides of their firms' work at the Design Conference and, for anyone with the ocular stamina, it was the perfect opportunity to get an overview of what is being built and thought on the West Coast. The
slide deluge gave a fuller understanding of the West's regional architecture. Few polemical "thesis" buildings were presented. Surprisingly, few buildings were inspired by old vernacular styles, particularly farm buildings of the regions, although some architects looked to the California bungalow for forms. Many architects were restoring or rehabilitating old structures, respecting their historic terms.

Only San Francisco architects had a strong response to the urban context, partially because the Bay Area context is so suggestive and urban. Most other Western architects responded to the existing "context" of suburban landscaping or the rural landscape itself with buildings that have an expansive, Western sense of space.

Not many architects were influenced by the "post modernism" that is raging on the pages of East Coast publications. California architects continue to work in a predominantly abstract mode, with little emphasis on the historical or traditional imagery that characterizes work done on the East Coast.

Given the appetizer format of 10 minutes per architect, few presenters had a chance to elaborate on their ideas, but many interesting remarks were scattered throughout the conference. For example, one architect noted that there is a new architectural client in the rapidly expanding field of bioengineering—a client who requires a new type of building. San Diego architect Rob Quigley, AIA, talked briefly about concentrating his signature efforts in certain parts of a building, and allowing the occupants to claim their own spaces by designing other "cool" spaces. He also talked about one developer-client who is attempting to build low cost housing on the open market, a problem Quigley analyzed as a feat of building "better barracks." That housing project was one of the few that recognized any social concern, and the concern was initiated by a developer spotting what he hopes is a lucrative market. Social concern expressed by the architects was primarily through efforts to conserve energy.

Several longer presentations anchored the conference in greater depth. Daniel Solomon, FAIA, a San Francisco architect and planner, spoke about architectural form that survives changing uses. Arcades, gateways and loggias, for example, are parts of a catalogue of building types that help collect people into social patterns independent of specific building uses. In San Francisco work, his firm reestablishes elements of the city's particular catalogue, like the bay window and typical entrances that collectively create the traditional pattern of the city.

Santa Monica designers Deborah Sussman and Paul Prejza, of Sussman/Prejza & Co., concluded the second day sessions with an hour-long, mesmerizing slide show in which the art was as much in the photography as in the subject matter—the subarchitectural building parts (signs, paving patterns, street furniture and graphics) that humanistically bring the architecture and the city down to the user. As design consultants, Sussman and Prejza give buildings a level of engaging detail that most modern buildings do not carry—details with a high "image content" that evoke a specific time and place or connote certain traditions.

This was the best Monterey Design Conference to date. It was the most comprehensive in terms of sheer numbers and in terms of the areas covered (for the first time, designers in the Pacific Northwest were invited to present). The conference still suffers, however, from the superficiality of the rapid shotgun presentations and from the fact that it does not yet attract the most provocative work done in the region. But the conference clearly has established itself as a major regional design event.
West Coast Design from Baja to B.C.

Baja and B.C. may form the borders of the west coast, but west coast design has no geographic limits. CCAIA's Third Annual Monterey Design Conference in March showcased a kaleidoscope of projects, designed on the west coast and sited around the world, from the sands of Saudi to the kelp forests of the Pacific Ocean. For three days, over 500 people attending the conference tried to absorb a barrage of architecture. Everyone had a favorite project, one that stood out and captured the imagination. The work shown in this issue of Architecture California was selected by those attending the conference as excellent examples of west coast design.

Mosque, the Middle East

Part of a complex of buildings ELS is designing for a new town in the Middle East, this mosque is a traditional design which integrates 20th Century requirements such as motor cars and air conditioning. The mosque faces Mecca, and is set at the end of a large arcaded plaza. The square prayer hall has a domed central space. There is an ablution courtyard and Imam's area to one side, together with domed entrance and two minarets. The building is so well insulated it can be used even if the HVAC equipment breaks down. The exterior is clad in white marble and blue ceramic tile, the dome will be lead faced copper, and the interior is austere with white plaster on the concrete structure. Other buildings in the complex are a library, assembly hall, post office and community development building.

John Ellis, RIBA
DMJM has been actively involved in international projects since the early 1950s. These contracts have been primarily military-industrial installations and educational facilities. International work is different from domestic projects in that you first must deal with different cultures and religious protocols, both in actual design as well as management of the project. This inter-relation of religion and culture, unfamiliar to us, is precisely what makes the Middle and Far East fascinating places to work.

In architecture-engineering practices, the three essentials are how to get the commission, accomplishing it, and then how to get reimbursed. For DMJM this last point—getting paid—has been easier in the international field than with some domestic projects. In most cases, arrangements are usually made to receive a substantial advance against a Letter of Credit for these projects.

Stanley M. Smith, AIA

A Depot Administration Complex for a major Middle East Aeroframe Maintenance Facility.
Architect: Anthony Lumsden, FAIA.
University of California, San Francisco

Updating the Long Range Development Plan (LRDP) for the University of California, San Francisco comprises a campus-wide urban design study and three specific building site studies. The urban design analysis identified framework design elements, including pedestrian and vehicular circulation, entries, campus edges, built form, open space and main street. At present, each of these elements is poorly defined, contributing to the campus's lack of positive physical identity and its problematic relation to the surrounding residential community. The LRDP proposes reassigning square footage previously allocated to a new high rise building to several sites in low terracing buildings. Three sites are identified to accommodate a major library, a series of research laboratories, and a parking/recreation complex. Each building design would preserve existing views, reinforce major pedestrian routes and create usable, weather protected open places.

Barbara Maloney

Visitors Center, AT&T Headquarters Building, New York

The annex to the AT&T Headquarters Building in New York City is situated immediately behind the main building and connected to it by a glass skylit pedestrian arcade. Within this 60 foot high annex will be situated the company's permanent public exhibit on the history of communications. The visitor enters the exhibit from the arcade, takes a glass enclosed elevator to the top level and then makes his/her way down via a series of moving walkways, platforms, ramps and stairways back to the starting point. The east wall of the exhibit space is glass and opens out into the arcade.

James Pulliam, FAIA
The building's dramatic location at the Main Street freeway off-ramp suggests an architectural response to this important entry point to the downtown. The proposed project has a large landscaped entrance courtyard which provides a visual gateway for the arriving motorist and an important pedestrian entry point to the building. The exterior design avoids the repetitious appearance of so many recent additions to the cityscape. Rather, the intent is to give the building enough variety to recall the hand-crafted appearance of the city's older buildings. This is achieved by different scale openings, variation in the appearance of the façade as the building ascends, use of relief elements to create patterns and shadows, and selection of materials. The green-tinted glass will be set into panels of precast concrete made with a light tan cement and marble aggregate. This surface will be acid etched on the upper portions of the building and polished on the lower portions. Panels of weathered copper will adorn the south façade in various areas and sheathe the roof and mechanical penthouse.

David Williams, AIA

135 Main Street Building, San Francisco
Urban Togetherness at Horton Plaza

by David Meckel

Horton Plaza began as a simple notion of re-introducing some life to downtown San Diego through a new retail development. Political, social and economic events during the course of the project's start-up drastically modified that simple notion into a much more complex project.

The process of realizing a major mixed-use project in the heart of downtown San Diego officially began in July of 1972, with the adoption of the Horton Plaza Redevelopment Project Plan. Two years later, Ernest W. Hahn, Inc. was chosen as the sole developer. In October of 1977, The Jerde Partnership was chosen to provide urban design and architecture. The San Diego City Council unanimously approved the schematic design for Horton Plaza in January of this year—ten years since the project began and almost five years since our first involvement.

During that time, the project has evolved from a simple retail center into a high density mixed-use development. Its 13 acre site is in the heart of downtown San Diego between First and Fourth Avenues and Broadway and G Street. Contained in more that 1 ½ million square feet are five department stores, shops of all kinds, restaurants, a health club, a performing arts theater, a 450 room hotel, 300,000 square feet of garden offices, a battery of cinemas and parking for over 4,000 cars. When completed, the project will provide downtown San Diego with the “around the clock” urban activity necessary for the rest of downtown to become a viable place to live, work and play.

The richness and complexity of the project today is a result of political, social and economic events over the past 10 years. Although any one of these occurrences potentially could have killed the project, the added constraints helped us arrive at a scheme with a density and mix of uses that are appropriate for the city. The almost fatal limitation imposed by Proposition 13 in early 1978 had everyone doubting whether the project would be built. The site was drastically cut in size and a highrise hotel had to be added to the equation. The hotel is a welcome addition from our standpoint because it will be a terrific people generator and significantly extend the life of the project in terms of its 24 hour use. And, although it won’t be developed by Hahn, we were retained as architects by Amsac Hotels in early 1980. Also during this period a fifth department store was added using the air rights of another one. This, too, was a welcome move because it demonstrated the kind of density appropriate for an urban site.

But the best and last major addition came after the city announced it was unable to finance its part of the project, the parking garages. This meant the Hahn Company would have to pick up the tab if the project were to be built. For Hahn to afford to do so, 300,000 square feet of office space had to be added to the project. Rather than concentrate this space in one tall building, we saw an incredible opportunity to blanket
the entire roofscape of this complex with three to four stories of terraced office space.

This is a rather simplified account of a few key events that shaped the project. Due to the politics of the city government, the economic climate in which the project was developed and the understandable concern of a public that gets very nervous when a city agency and a developer start deciding the future of their environment, there were countless more events that helped shape the project.

The project's plan runs counter to the city's north-south grid. Although all the edges of the project form the urban wall necessary to make the streets into spaces, a diagonal cut across the center of the project has been carved out as a physical and visual pedestrian connection from the center of the city, through a proposed residential area, to the bay's edge. In plan, the cut holds a straight line along the north edge with a three level arcade wall, while the edge facing south is a stepped section. Stairs and ramps gradually take up the elevation differences from the northeast to the southwest corner of the site.

The architecture that acts as a backdrop for all this activity is rather simple. We've taken materials, forms, traditions and colors of San Diego's environment and used them to make a new set of buildings. San Diego is made up of flat arcades of color. The city's fantastic quality of light makes shadows appear as if they are painted on. Certain cities have strong color associations. Rome is red; Paris is blue/grey; and San Diego is the color of every sherbet ever made. The city's pastel stucco walls are the building blocks for Horton Plaza's architecture.

San Diego is a city of towers, whose tiled domes celebrate the memory of the 1915 Exposition in Balboa Park. Towers sit at key points marking Horton Plaza's entries and other special places. Three existing historic buildings are incorporated within the project and act as points of departure for its architecture. Fragments of the historic façades are reconstructed to mark other key parts of the project. For example, a movie theater's historic arched façade is given dimension and set prominently as an entry to a new theater in the project.

The Horton Plaza Project has achieved the critical mass necessary for it to provide that elusive but discernible sense of well being, the heightened sense of anticipation, the uplifting feel that Carl Jung called synchronicity. The project encourages the urban togetherness that is a passion of Jon Jerde and of our firm. Disneyland functions that way and the positive effects are admired by Jon when he talks of that wonderful place: "Watch the crowds. The minute they pass through the turnstiles, go under the first bridge, and start down Main Street, something remarkable happens. Dads put their arms around Moms, the kids grab each other's hand and everyone says, 'Look, look.' Everyone grows a smile and immediately wants to buy something; they want to capture it. The whole day is enhanced by a feeling of togetherness, not only you with your own, but you related to a larger group. A camaraderie emerges, perceptions are heightened, food tastes better, the sunlight has a certain sparkle and the old ache temporarily goes away."

We believe that sense of fun and community can be created in real life, not just in an amusement park. That sense of magic is what Horton Plaza will offer the people of San Diego.

David Meckel has been a designer with The Jerde Partnership, Inc. in Los Angeles for the past three years and also is Director of Urban Design at Otis/Parsons.
San Pasqual Battlefield State Historic Park

The purpose of this State Parks and Recreation Department project is to establish a permanent location for the preservation of archaeological sites within park boundaries, and to develop an interpretive display of the cultures, personalities and historic events of the Mexican-American War (1846–1848). Three ethnic cultures were involved in the battle—Native Americans, Mexicans (Californios) and Anglos (Americans). Representing these interests within an acceptable format (sequence of experiences and visual image) was given roughly equal importance with energy conservation and low maintenance factors by the State. We embraced the apparent dichotomy between a requirement to be "unobtrusive" (not monumental) and the large scale requirements associated with extensive use of natural ventilation. "Earth integration" for additional interior comfort stabilization (mainly cooling) and solar gain for heating and daylighting were also physical determinants. One of the primary desires was to respect the Indians' spirit of the land. Placed between the parking lot and structure is a "sacred grove" through which one passes via a pedestrian bridge, hopefully leaving behind conventional expectations of the modern world. Despite the size of the structure and wind scoops, these primary design elements are viewed by Indian representatives as sympathetic to the spirit of living with the land and on-site resources.

Stanley Keniston
The Moir Building, San Jose

Built by the developer and leading businessman, William Moir, in 1893, the building displays a composition of Romanesque and Second Renaissance Revival styles with a regional affinity for slant bays. It is the last example of this style in San Jose. Through creative code conformance, the Moir Building will be converted to law offices on the upper floors, with mixed retail to remain at the street level. A three-story steel and glass entrance structure with elevator will be added to the Plaza elevation to meet exit requirements.

Jerome King, AIA

The Horton Grand Hotel, San Diego

The Horton Grand Hotel, built in 1888, was scheduled to be demolished as part of the Horton Plaza Project until Nob Hill Development Company purchased the building from the City of San Diego for $1.00. The Horton Grand Hotel will be the first structure in the country to retain certification on the National Register of Historic Places after being rebuilt to specifications on an altogether new site. This certification allows the developers to take advantage of certain substantial tax benefits, helping to offset the estimated $3.3 million cost of reconstruction. The meticulous process of documenting, disassembling, and crating the historic fabric was placed in the hands of Sixteen Penny Construction, specialists in historic rehabilitation.

Milford Wayne Donaldson, AIA
Kelso Elementary School, Sandy, Oregon

This 12-classroom school includes a library, music room, gymnasium, kitchen, and large multi-purpose room. Responding to the client's criteria that the new school reflect the history of this northwest town, the school draws upon surrounding barns and farmhouses for its physical expression. The entry is marked by a translucent belfry which houses the town's original school bell and recalls previous bell towers on the site. The sloping pitched roof is composed of dark grey shingles, exterior structural materials are of rough-sawn timbers, and the entire exterior is whitewashed to reflect nearby barns. Trim boards and detailing are similar to rural wood buildings once constructed on the west coast.

Robert Oringadulph, AIA

Santiago Hills Elementary School, Irvine

The major challenge at Santiago Hills was to design a neighborhood school open enough for organized teaching and contained enough to satisfy psychological and physical needs for separateness. In the 28,250 square foot school, 16 classrooms are grouped into three semi-open classrooms, and small group areas arranged with each learning unit. A media center forms the hub of a wheel with learning units the spokes. A performing arts room and outdoor amphitheater accommodate active learning and group activities. Learning courts provide protected outdoor spaces. Controlled vertical scale and composition of simple, playful shapes make the school appealing to children and the neighborhood.

George T. Knowles, AIA
In remodeling a beauty parlor into a neighborhood restaurant with an outdoor eating area, interior self service area and commercial kitchen, the challenge was to create a flow between the inside and outside to enlarge the feeling of the space, and to allow for possible future enclosure of the outdoor area. Kitchen planning, layout, and specifications were included. Working with a constricted time schedule, the project took 3½ months from contract signing to restaurant opening. An additional responsibility was coordinating the owner’s participation in painting, construction and furniture acquisition.

Toby S. Leys, AIA

The owner's goals for The Bank of San Diego were to create a professional feeling through the use of color, texture and form; to incorporate a 45 degree angle in the plan as a principal feature; and to relate to other buildings on-site, with regard to color and materials. These goals were expressed by creating a box within a box, surrounded with an arcade and a sun screen wall. The principal design element is a diagonal white tile wall which invites the public in and continues through the building organizing the interior space by delineating the Teller Line and dividing public and private space.

Richard Bundy, AIA
Le French Connection, San Diego

Design intentions focus on the formal qualities for an interior architecture as seen in the stainless steel columns with their infinite reflection creating a colonnade at the entry. Similarly, the notched beam, the broken lintel, and the triumphal arch represent “span” and archetypal forms. The keystone and moldings of the three-way viewing mirrors further define the space. Another aspect is the investigation of concepts relating to constructed perspective—spatial orientation, design method, homo-centricism—which initially were developed in the Renaissance. This European men’s boutique (1,550 square feet) illustrates the expanded domain of the architect into the areas of furniture, lighting, and clothing design, and interior architecture.

Joseph Martinez, AIA
Smith Park Pool and Recreation Complex, Pico Rivera

In addition to a pool, the 12,600 square foot recreational complex includes dressing facilities, two multipurpose rooms, 300 seat auditorium, game room, kitchen facilities, office space, a pavilion and a 200 seat amphitheater equipped for stage light and sound. A federal matching grant was awarded for the installation of the solar heating system. The system includes 4,500 square feet of solar collectors for heating (with a gas fired boiler back up system). Solar heating and an insulated pool cover will reduce energy costs by an estimated 70 percent.

Ralph Allen, AIA
Andeen Ltd., Irvine

For the past several years, our office has been involved in the development of lightweight skin systems. This office building uses a mix of glass and aluminum sandwich panels to substantially reduce the structure's weight. Poor site soil conditions indicated a light, flexible, non-concrete design, and the savings in superstructure and foundation compensate for the increased cost of the skin and glazing system.

Arthur Struck, AIA

POD Offices, Santa Ana

The Program: Offices for a landscape architectural firm with considerable interest in urban design and a decidedly modernist bent in their design approach. The Solution: Adding a 2,000 square foot box onto the rear of the building plus a new parking area, thus recreating the entry. For the major design effort on the west façade, economic reality led the way to the final solution: A stucco box with an overlaying grid of scaffold pipe structure and Electrically Welded Wire Fabric. The vine-planted framework serves several purposes: shading, expressing the firm's modernist/industrial bias, creating a billboard of plant material for a landscape architecture firm and combining building/landscape in an interaction which continues to change, with the landscape eventually winning out as the vines mature.

Leland W. Stearns, AIA
When the citizens of Tacoma, Washington dedicate their multiuse sports and convention center in the spring of 1983, it will culminate a three year effort on a project that has become a source of city pride and the catalyst for the renaissance of the downtown core. When completed, the Tacoma Dome will be the largest wood dome in the world and, perhaps, the most unique arena/stadium/convention center yet designed.

After passage of a $28 million bond issue in March, 1980, the City of Tacoma embarked upon a two phased national design-build competition to select a design that would meet program requirements, be a sensitive architectural statement and provide a facility that could be completed on time and within a tight budget. The design-build competition procedure was selected to encourage submissions of innovative solutions from a broad range of professionals throughout the United States.

The program called for a multiuse sports and convention center to accommodate a broad spectrum of spectator sports (with the exception of baseball), trade shows and exhibitions, musical performances and public meetings. It required 25,000 seats for arena activities such as basketball, and 20,000 seats for stadium activities such as football and soccer. The convention center requirements included space for a single banquet-meeting room accommodating 1,500 people and a second configuration of separate rooms for 50 to 500 people when subdivided into smaller segments. A kitchen and an exhibition hall are integral to this space.

The winning design was submitted by the Tacoma Dome Associates, an association of nine design and five construction firms from the Northwest. Architects for the project are McGranahan, Messenger Associates, P.S. The construction team is under the direction of the Merit Company, general contractors. On July 1, 1981, six weeks after award of the contract, ground was broken on the 40 acre site.

The design features a 530 foot diameter wood dome which rises 152 feet above the floor of the arena/stadium. Utilizing a Varax computer designed structural system developed by Western Wood Structures, Inc., the dome consists of a three dimensional grid system of intermeshing great circle Weyerhaeuser glu-laminated ribs joined together by steel hubs and held together at the base by a cast-in-place, post-tensioned concrete ring beam. Thirty-six concrete columns ring the circumference of the dome with masonry wall infilling to form the vertical enclosure. Fluid-applied elastomeric roofing over foamed-in-place insulation and two inch wood
decking assures a serviceable, energy efficient roof system. This solution, incorporating a proven long span structural system, is extremely cost effective. It allows for utilization of readily available structural components, and ensures ease and speed of assembly.

In section, the structure has three levels. On the lowest level are the arena/stadium and convention center. Team locker rooms, a kitchen, and equipment storage are found on this level as well. Located on the intermediate level are administrative offices, the stadium club, and the mechanical/electrical rooms. The upper, or concourse, level provides access into the arena and includes concessions, restrooms and other public facilities. Access to the concourse is via two circular ramps on the north and from street level ramps on the south. The facility is easily accessible to the handicapped.

Entering the arena on the concourse level, the spectator will be aware of a sense of arrival—being at once a part of the entire space. On the interior a unique and responsive solution to the multiuse requirement has been created. Seating flexibility to accommodate a wide variety of events is achieved by using a high percentage of movable seats (65 percent of the seating is movable). By orienting all major event configurations symmetrically at the center of the stadium, more people can have seats closer to the action with a more uniform distribution of the seating. This provides excellent sight lines for all seats—there won't be a bad seat in the house.

Symmetrical placement of the event floor area and its seating simplifies the installation and optimizes use of lighting systems, sound amplification, concessions and restrooms. The visual orientation and aesthetics were an important consideration in the symmetrical placing of events in a multipurpose stadium-arena. Conversion of seating configurations is accomplished through a combination of mechanical/electrical devices. Conversion time from football to basketball is less than 12 hours. This flexibility and speed of conversion will allow a greater number of events to be scheduled each year and, thereby, improve occupancy and return on investment.

The interior acoustical qualities and sound systems are designed to ensure quality sound transmission and fidelity. The facility is fully air conditioned and utilizes an energy efficient closed loop system to transfer and store energy. Visual comfort for both athletes and spectators is a prime consideration in the lighting design and must be achieved in balance while fully supporting the technical requirements of television and other media.

The progress on the construction of the Tacoma Dome has been smooth and steady. The design-build competition and fast-track design/construction process has necessitated a number of modifications in the traditional design-bid-build procedures generally used by the profession. These new relationships must be understood by all members of the design-build team in order to ensure the success of the project.

The construction of the Tacoma Dome has focused attention on the City of Tacoma and, more specifically, on the unique opportunities awaiting re-development in the core area. The community is justifiably excited about its future.

Ceramic Tile

Ceramic tile offers a maintenance-free cladding to light-weight wall construction, providing the image of permanence and solidarity usually desired by developers interested in attracting corporate tenants. To maximize the efficiency of the floor plans, the walls and windows are usually flush as there is a major cost penalty in setting glass back to achieve shadows. Our designs have tried to address the flat look by juxtaposing contrasting values of tile and glass to achieve the illusion of depth in the façades. Color is often used as a harmonizing or contrasting element to give some measure of decoration and detail.

David Williams, AIA
The Fiesta Park project includes 66 units clustered around a satellite communication dish capable of receiving 94 TV stations. The 1,100 square foot, completely standardized units will sell for under $50,000 each, without government subsidy. Flexible “shoe box” spaces allow the buyer and developer interchangeable one, two and three bedroom options. A double master bedroom plan, or “mingles,” is possible by restricting the front entrance to the patio. Kitchens and baths are identical allowing various prefabrication possibilities. Standardized windows and modular lumber sizes minimize waste. Familiar “tract house” detailing throughout eliminates on-site thinking.

Rob Wellington Quigley, AIA
Beaver Creek Village Hall, Vail, Colorado

Beaver Creek Village Hall is a 160,000 square foot multi-purpose building for a luxury resort community. The Village's central banquet and meeting facility accommodates 2,200 persons and serves as the base building for mountain operations and skiers' support facilities. Condominiums are the building's third major component. To the north of the building is the central plaza enclosed by the urban Village; to the south are open mountain slopes. As a result, the north building face reflects the complexity, dense concentration, and vertical nature of the building mass at the core, while the south face has a soft horizontal expression opening up to and embracing the mountain's base.

Donald Goodhue, AIA

Felicity, A Total Energy Community in Southeastern California

Felicity, a community planned for 5,000 people, is based upon Jacques-André Istel's dream of energy self-sufficiency and a direct relationship to food production. Inspiration for Felicity comes from medieval agricultural villages, small towns of the midwestern United States, and the ancient plans of Roman military settlements. Ordinary elements such as an irrigation canal give definition to the town. The irrigation canal surrounds the town center as a moat to emphasize a city identity. This project is continuing within the Department of Architecture at California State Polytechnic University at Pomona as an effort to emphasize new residential alternatives.

Marcin J. Mulecha, AIA

SITE PLAN

1 Solar Collection Field
2 Site Entry
3 Sewage Treatment Facility
4 Heliport
5 Traffic Circle
6 Recreation Area
7 City Rail Connection
8 City
9 Agriculture Storage Area
10 Agriculture Rail Connection
11 Agriculture Fields
12 Farms (Typical)
Sandcastle, Solana Beach

The Sandcastle includes 60 timeshare units, 30 hotel units, a health spa, a retail commercial restaurant, and three levels of covered parking. Sandcastle took advantage of the synergy within the Austin-Hansen group which includes the architectural, interior design, land planning, and land development departments. Group interaction created a design that suggests the transition of a natural lagoon into a manmade environment. It expresses the imagery of southern California, the beach, leisure time, and the interaction between man and nature.

Douglas Austin, AIA
Stanford Astronomy Observatory, Stanford

This stellar observatory was built to provide a laboratory for Stanford University's first undergraduate astronomy program. The structure, which houses a 16 inch reflector telescope, was constructed by three students and three of their friends. It includes a library, interior and exterior sleeping lofts, darkroom, bathroom facilities, kitchen, workroom, and chart room off the main observation platform. The steel structure, dome, and telescope pier were salvaged from various wrecking operations and government surplus yards. To completely integrate the residential and laboratory functions, the scale, room configurations, and fenestration were modeled to provide a quite, attractive place for work and rest.

Kenneth A. Kornberg, AIA

Center for Integrated Systems, Stanford University

The new Center for Integrated Systems building is intended to serve as both a training and educational facility and as a long-range research laboratory. This facility is being sponsored by seventeen of the leading electronic companies as a training ground for future engineers. The lab is completely HEPA filtered by large quantities of ducted air through an interstitial space connected to an outboard mechanical level. Below the lab, a deep basement provides for the collection and treatment of waste products. The exterior echoes Stanford's traditional architectural style, while retaining a contemporary expression.

David Luebke
Ashcraft Residence, Goleta

This 3,200 square foot home is reminiscent of a farmhouse. The structure consists of three redwood cubes protruding above long, sloping shingle roofs which hip back along the cubes. Generous overhangs protect the glass areas and a greenhouse roof encloses the entry. A central stone shaft rises from the entry/living area containing two fireplaces and supporting a stair to the master bedroom suite. The living area is divided into activity spaces, including an intimate conversation pit by the main fireplace.

Donald G. Sharpe, AIA

Q.U.A.D. Housing, Portland, Oregon

A housing complex for severely physically handicapped individuals through the HUD Section 202 program, Q.U.A.D. Housing is based on a dream of a local group, Quadriplegics United Against Dependency. The site is developed into 19 individual living units, common dining and living rooms, private courtyard and vegetable garden, and covered van drop-off. Within the level site, the plan utilizes wide entries and corridors; details such as wheelchair guard rails and electronic door openers; and each unit is designed as unencumbered space with open cabinets, raised table, "drive-in" showers, privacy screens, lowered light switches and lever controls on all mechanical devices.

Donald J. Stastny, AIA
Ocean Front Residence, Newport Beach

The architect's program began with an expensive 30' x 60' lot on the sand. The small lot dictated an orderly plan. The owner's preference for period furniture and contemporary architecture gave opportunity for an experiment in eclectic design, with detailed oak paneling and period built-ins set within a sculptural white mass. Outside, the severity of white stucco massing is tempered with rounded corners and a simple parapet detail, with the addition of rounded iron-spot brick.

Jim Keisker, AIA

San Francisco Bay, Belvedere

This single family residence, built entirely over the water on San Francisco Bay, replaces a dilapidated "Cape Cod" style cottage which was over 90 years old. The owner of the property and the local planning commission wanted the new house to retain the style and character of the old structure. Rotten pilings were removed and the new structure was built on poured-in-place concrete piers. It was required that the new footprint match the old one, hence the unit is located at an angle to the street. A new floating dock has not yet been constructed.

Kenneth Kurzman, AIA
The idea for an aquarium which could be an interpretive center for Monterey Bay originated among a group of marine biologists at Hopkins Marine Station in Pacific Grove. Two of these biologists, Robin and Nancy Burnett, sparked the interest of the Packard Foundation, including David Packard, its president and the cofounder of Hewlett-Packard. In 1977, the Foundation commissioned Stanford Research Institute to study the market feasibility for a nonprofit aquarium in Monterey.

When the study indicated the aquarium could operate self-sufficiently if capital costs were donated, the Monterey Bay Aquarium Foundation was established with the express goal to plan, build and operate the Monterey Bay Aquarium. The Aquarium Foundation hired the architecture firm of Esherick Homsey Dodge and Davis (EHDD) in September, 1978 to explore a variety of program issues for the Monterey Bay Aquarium, a building that in many ways is a prototype.

The site for the proposed aquarium, the Hovden Cannery, is at the end of Cannery Row, adjacent to Hopkins Marine Lab. The Hovden Cannery, built in 1916, was a thriving sardine cannery until the 1950s, when sardines became scarce in Monterey Bay. By the early 1970s, the Hovden Cannery closed down completely.

Both Monterey and Pacific Grove, the two cities in which the aquarium site lies, the Aquarium Foundation and the California Coastal Commission made it clear that the aquarium should grow out of the existing fabric of Cannery Row, to weld the building to its surroundings. Linda Rhodes, AIA, the project manager representing the Monterey Bay Aquarium, worked closely with the California Coastal Commission and other public and community groups. Her work was instrumental in getting the approval needed to proceed with the aquarium.

The architects at EHDD tried to preserve the cannery's very special atmosphere created by a mixture of mill construction, white paint and sunlight pouring into the interior from skylights. The cannery buildings represent a wonderful kind of organized chaos. They appear to be the height of disorder, but upon further analysis, they are quite systematic. The image of organized chaos had a great impact on the design of the aquarium.

In an early program meeting, David Packard compared the aquarium as he pictured it to a factory. He wanted a building with a factory's ability to allow for change, rather than a building that locks the owners into a fixed solution.
The existing cannery buildings were very much in the spirit of this requirement.

The architects found that certain elements on the site could be salvaged. These included the Hovden Cannery warehouse (built in 1941), a boiler house, most of the existing seawall and the façade along Cannery Row. The boiler house conveyed something of the nature of the cannery as a working operation, and the warehouse was simply too well-built to tear down. When the cannery façade finally had to come down in order to move heavy equipment onto the site, it was found to be so termite-ridden that preserving it would have been very difficult.

Illustrations courtesy of Monterey Bay Aquarium Foundation

Working closely with the local building department, a roof truss system made of heavy timbers was developed for the aquarium. This system resembles the old stick roofs of the other buildings on Cannery Row. At this point, it was decided to expose the mechanical systems—a design decision which has a functional advantage. The mechanical systems required for an aquarium are extremely complex and exposing them provides easy access for maintenance and repair.

The aquarium site required that portions of the building be supported on piers, some of which have their footings out in the Bay. Piers closer to the shore could be cast during low tide, but those further out had to be cast using cofferdams—frames sandbagged into place which were pumped continuously to remove water seeping in during high tide. To minimize the need for this type of construction, the location of the new seawall was reconstructed seaward of its original location so more of the building could rest on fill. Portions of Hovden Cannery’s existing seawall were preserved, although they had to be underpinned in places.

All rebar used in the seawall and in the footings is epoxy-coated to prevent oxidation which eventually would crack the concrete. Most of the building materials for the aquarium are more typically used on ships and oil rigs than on conventional buildings.

An Aquatic Home

After several meetings between the architects and client, certain key ideas began to emerge about the nature of the exhibits to be housed. The Aquarium Foundation’s exhibit planning team outlined a number of elements in the exhibit program: a large tank exhibiting fish of Monterey Bay, designed to give the sharks and other large fish as much room as possible to move around; a kelp tank to house a kelp bed with the various marine organisms that live there—something that never has been done in an aquarium setting; and a sea otter tank, since otters are a unique inhabitant of the Monterey Bay. In the front of the aquarium is a large natural tidepool area, designed in part as a haven for the area’s seals and seaions—a place for them to swim in for a visit, rather than a confining space for them to be exhibited.

A marine mammal exhibit (using scale models of the animals) works in combination with two laboratory-classrooms and an auditorium holding 290 people, set up for lectures and 35mm movies. A secondary entrance serves the auditorium and helps deal with peak visitor periods, during which 2,000–3,000 visitors may arrive per hour.

Each of the exhibit tanks required extensive research and discussion to develop. The technical and design issues that confronted the architects included how the tanks would work as exhibits, how the marine environments would be presented, how people would relate to the tanks, and how the tanks would work as a basis for education.

The larger tanks are formed concrete, the smaller tanks are fiberglass. The concrete tank wall waterproofing was achieved by treating the surface with troweled-on, cementious, crystal-
line-type waterproofing. As a backup in some areas, an epoxy coating was applied.

All large tank windows are cast acrylic and vary in thickness according to their distance below water level and their size. The acrylic panels are designed and manufactured in Japan by Mitsubishi Rayon. The client originally wanted to ventilate the building naturally with operable windows, but the mechanical engineers recommended full air conditioning to avoid condensation that would form on the windows. The dew point of the air is estimated to be several degrees lower than the temperature of the tank windows, and the temperature of the panels is a few degrees higher than the temperature of seawater.

The Monterey Bay tank and the kelp tank are grouped together for exhibit reasons, but also for the further advantage of facilitating the primary seawater distribution requirements. The variable water quality and intermittent cloudy water led the design team to develop a system of filtration to clean the water before it reaches the tanks. During red tide, a natural but infrequent bloom of toxic microscopic algae, the seawater intake valve is shut off completely, and a system for recycling seawater takes over. This enables the aquarium to survive for two to three weeks without relying on intake seawater.

The Monterey Bay tank displays a wide variety of local sea life, including sharks. The shape of the tank evolved from the shark’s figure-eight swim pattern, which approximates an 85 foot long dumbbell. The window to this tank, set at the viewer’s waist level, provides a view of the sharks swimming back and forth. Because the exhibit tanks are filled with seawater, all metal fittings are subject to rapid corrosion unless they are coated or electrified. Research at other aquariums suggested that metal in the shark tank would obstruct the shark’s directional systems. To avoid this potential problem, the architects and engineers chose fiber reinforced plastic fittings for the Monterey Bay tank.

The kelp tank is 63 feet long, with a water depth of 28 feet. The top of the tank is open to provide the sunlight necessary to grow kelp. The primary view of the kelp forest is through a 24 foot wide by 23 foot high faceted bay window, which should give the illusion of actually being in the kelp forest.

The sea otter tank is about 20 feet high by 29 feet wide, with a water depth of 14 feet. This tank is observed on two levels. The upper level is at the water line where the feeding of the otters can be seen; the lower level offers a view of the animals swimming underwater.

**Behind the Scenes**

Aquariums can become boring for the repeated visitor because the exhibits seldom are significantly changed. The Monterey Bay Aquarium is designed to make changes possible, which is one of the reasons why there are three large tanks plus many smaller displays. Since the aquarium will not open until the spring of 1984, the design of the exhibits is still underway.

Aquariums require an immense amount of background activity. Not only is it necessary to search continually for specimens, but the aquarium must keep a backlog of fish and other marine life on hand at all times so specimens can be replaced if they become diseased or die. The renovated Hovden warehouse building, completed in December, 1981, houses the aquarium’s administrative offices and a host of backup facilities for the research and operations staffs.

To help stimulate repeat visitors, the exhibit areas avoid programming people into the set, orchestrated paths typical in most aquariums. The client and architects also wanted to avoid another aquarium cliché—the black box syndrome, with back-lit exhibits and dark public areas. Visitors to the Monterey Bay Aquarium can wander in and out of exhibits and move freely from inside to outside. The building is designed to give visitors a feeling for where they are in the building and in relation to the Bay. Visitors can move from the particular to the general—from a specific exhibit on a plant or animal, for example, to the intertidal exhibit where docents can explain the intricacies of the intertidal zone.

The Monterey Bay Aquarium is a modern building, designed to house a complex set of systems that support a highly sophisticated exhibit program and backup facility. At the same time, the aquarium fits into its historic setting, providing visitors to Cannery Row with a rare opportunity to view the sea life that surrounds them.

*Julie Devine and John Parman are market coordinator and marketing director for Esherick Homsey Dodge and Davis in San Francisco.*
John Dreyfuss
Los Angeles Times

Most people walk along the street looking at people, staring straight ahead, or watching their feet to make sure one of them moves properly ahead of the other.

My job is to encourage those people to look up, see buildings, think about them and draw some conclusions, have some ideas. I try to make people think about the architecture that surrounds them, the buildings they use, the structures through which they walk.

The Los Angeles Times has more than two million readers daily and more than 2.5 million on Sundays. Only a tiny fraction of those readers are architects. So I do not primarily write for architects. Instead, I write to bring architecture and laymen together.

I concentrate on three aspects of architecture: the architect's goals, the building's effectiveness, and aesthetics.

Unless a building is patently unacceptable, I usually will discuss the structure with the architect. We talk about what he or she wanted the building to do, and what it does.

More than most other critics, I tend to interview people who use the buildings about which I write. Executives, office workers, janitors, visitors all have different and important impressions of how the architect—and the building—has served them.

I take users' opinions of how a structure works and looks, relate them to what the architect has told me, and spend a lot of time with the building to develop my own opinions.

While considering aesthetics, I relate the appearance of a building to its purposes as well as study such aspects as its references to history, its relationship to the surrounding environment, its detailing and myriad other aesthetic factors, both objective and subjective.

Then, with information gained from users, the architect and my own study of the structure, I write a critical piece, analyzing and discussing the building's good and bad points. I summarize with my opinion of whether, on balance, the structure is successful.

Because I write for the public, I concentrate on buildings that are open to the public. I want people to be able to experience the structures I criticize, to test my opinions and ideas against their own.

Generally, I write about public buildings that fall into one of four categories: excellent architecture, awful architecture, innovative architecture, and architecture that, by the nature of its location or purpose, will be used or seen by vast numbers of people.

I really am not sure how newspaper criticism influences architects and architecture. My primary goal is to encourage people to look at, understand and appreciate architecture. If I succeed, then perhaps architects will be influenced by the public, members of which, after all, are clients.

Probably the primary influence critics have on architects is through architecture students and their teachers, who tend to read and respond to critics more than most practicing architects do.

So, when it comes to influencing architects, and therefore architecture, critics are a lot like time bombs. Their work takes effect, but to achieve that effect takes time.

James Britton II
The San Diego Union

My architecture columns for The San Diego Union are intended as a consumer service, giving the reader some points to consider in deciding what to buy. "Buy" in this case doesn't necessarily mean going to Christo's and coming home with a wrapped-up building. To buy the environment is to accept and enjoy it. If it isn't satisfactory the reader should change it wherever possible. A critic might introduce ideas of change, his own or others.

To explain my choice of subjects, let me say that my perceptions and prejudices on architecture come from family conditioning, my father having been an artist and critic. I engaged in building design and construction just enough to appreciate the basics, but I rejected the practice of architecture as a career because I was not suited for business. My writing often deplores the limitations set on the art of architecture by business considerations—or political considerations, which amount to the same thing.

A prize example in San Diego is the location of the world's largest naval hospital in the middle of Balboa Park (Welton Becket & Associates, principal architects). Only a very few local architects came forward to criticize the Navy for
Criticism

barging into this location though it clearly was against sound environmental judgment. Many architects have received or hope to receive commissions from the Navy and are not about to (forgive me) rock the boat.

If architecture is defined broadly as the art of structuring the environment, an architecture critic can help shape attitudes toward local issues such as the naval hospital. As to individual buildings, a local critic’s comments simply add to the media stream of information clients are exposed to. The local critic can applaud unique achievements of design, and can say what he (or she, Ada Louise) thinks are most appropriate designs for a given project in a given space, but the influence of the critic’s arguments may be minimal. We who do this pestiferous service like to think the result should be a better climate for better architecture.

Local architects have been of two minds about my output. San Diego Chapter, AIA gave me a “Special Award” which consisted of both an Orchid and an Onion in one of their annual vegetation handouts. I was pleased to get both growies. Either alone would have meant my writing was not worth doing.

Although some architects deplore journalism that focuses on the shortcomings of architectural practice, there is no doubt the AIA as a whole believes in criticism not only in-house but in public. In 1960 the National AIA gave my localized writing an award in competition with national publications, following which the AIA took me on for a stint as “Special Architectural Journalist” in Washington. Since then there has been a great increase of writing about architecture in newspapers and magazines. Architecture now gets especially full coverage, news as well as views, in The San Diego Union, which once thought architects not worth mentioning because they didn’t advertise. Also in San Diego, the Tribune, the Reader, San Diego magazine and several other publications constantly exercise the public over issues of architecture.
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