SPECIAL ISSUE: Creativity On Teaching Creative Design Ocean Grown Shelters First Professional Everybody's Schoolhouse Plus regular columns. See Contents.



# Contents







**On the cover**: "Creativity" — a photographic inquiry by Reagan Bradshaw.

### Editorial ..... 3

**Ocean-Grown Shelters.....21** Researchers at the UT/Austin School of Architecture have developed a process for "growing your own home" in seawater.

**Everybody's Schoolhouse......26** Community was client for this awardwinning learning center for all ages.

Four Texas Fellows, AIA	)
Endangered Species	ł
In the News	

#### Official Publication of The Texas Society of Architects

TSA is the official organization of the Texas Region of the American Institute of Architects.

Des Taylor	Editor-in-Chief
Larry Paul Fuller	Managing Editor
Ray Reece	Associate Editor
John Lash	Advertising Director
James D. Pfluger, AIA	Editorial Consultant

### **Editorial Policy Committee**

Peck Drennan, Chairman	Jack Meek
Jack Craycroft	Jack Mitchell
Nael Dolce	Henry Ortega
Bobbi Fritz	Jim Pfluger
Tom Harrover	

Texas Architect is published six times yearly by the Texas Society of Architects, 800 Perry Brooks Building, 121 East 8th Street, Austin, Texas 78701. Subscription price is \$5.00 per year for addresses within the continental United States, excepting Hawaii and Alaska.

Editorial contributions, correspondence, and advertising material invited by the editor. Usually, no payment will be made for articles. Publisher gives permission for reproduction of all or part of editorial material herein, and requests publication credit be given *Texus Architect*, and the author of material when indicated. Publications which normally pay for editorial material are requested to give consideration to the author of reproduced byline feature material.

Appearances of names and pictures of products and services in either editorial or advertising does not constitute an endorsement of same by either the Texas Society of Architects or the American Institute of Architects.

### **1976 TSA OFFICERS**

Theodore S. Maffitt, Jr., Palestine President
Charles Stahl, Austin President-Elect
Morton L. Levy, Jr., Houston Vice President
Edward Mok, FAIA, San Antonio Vice President
James D. Tittle, Abilene Vice President
Norris D. Fletcher, Harlingen Secretary
Daryle Hohertz, Big Spring Treasurer
Howard R. Barr, FAIA.
Austin AlA Regional Director
Harold Box, FAIA,
Arlington
David R. Braden, FAIA,
Dallas
Des Taylor, Austin Executive Director

### 1976 TSA Board of Directors

James H. Wheeler	Abilene Chapter
William J. Martin	Austin Chapter
Richard E. Vroonsan, FAIA	Brazos Chapter
William H. Holland	Corpus Christi Chapter
Jack Craycroft	Dallas Chapter
William F. Thorpe, Jr.	El Paso Chapter
Lee Roy Hahnfeld	Fort Worth Chapter
Alan Taniguchi, FAIA	Houston Chapter
Daniel C. Ogden	Lower Rio Grande
	Valley Chapter
Robert Goyette	Lubbock Chapter
John E. Moore, Jr.	Northeast Texas Chapter
William E. Parrish	San Antonio Chapter
Milton Bell	Southeast Texas Chapter
Jim Doche	Texas Panhandle Chapter
John R. Dudley	Waco Chapter
Kenneth Tollin	West Texas Chapter
James R. Rucker	Wichita Falls Chapter
Charles Guerin	Associated
	Student Chapter/AIA

### **On Creative Architecture**

Jane Jacobs, author of *The Death and Life of Great American Cities*, asked her readers to "please look closely at real cities. While you are looking," she wrote, "you might as well also listen, linger and think about what you see."

Good advice. Her words can be used as tools to examine architectural creativity and its application to the built environment.

For instance, why do we return, mentally or physically, to certain buildings and places and ignore other structures? We argue in letters to the editor and among ourselves about the stunning, jutting, geometrical shapes of the new Houston Public Library and the Pennzoil buildings. We make purposeful trips to Fort Worth just to see the Water Gardens. (Not a building, but an architectural innovation, to be sure.) We stand gaping at the Art Deco trappings of the Jefferson County Courthouse in Beaumont and the renovated buildings along The Strand in Galveston. We are inexplicably drawn to these buildings on an emotional level. Creativity knows no specific form, age or generality. Sensitively designed buildings are always controversial.

Innovative architectural efforts are not necessarily synonymous with newness. Nor, on the other hand, are all buildings "good" just because they are old. But new ideas and old structures can be fused with interesting results. No one can look at Ferndale and Virginia Streets in Houston or the King William area in San Antonio without seeing middle-aged areas coming back into their own. And for economic and aesthetic reasons, it is almost impossible to deny that our cities need more constructive recycling of buildings.

There are creative efforts which may not be good in the long run. The concept of constructing over-the-street passageways and buildings is obviously an imaginative usage of space. But is it good to expand our structures so that they sprawl into and over the cities' air spaces and darken our streets? And Texas cities, like most other U.S. cities, are still building structures which have little relation to people. Where are the benches, the pedestrian-oriented things passersby can use?

Texas has been criticized in the national media for its raw energy, sometimes reflected in its "toothpaste" buildings which seem to have been squeezed out of the ground overnight. There is some justification to the charge. But perhaps it is from precisely this environment, this freedom to create or just to build, that our most creative efforts may spring.



Reiot McFarland

Gay Elliott McFarland Freelance Writer Houston

# **STRONGWALL GRABS MORTAR AND HOLDS ON!**

MIDSTATES Ladder Type Strongwall masonry reinforcing provides three times the grab of ordinary masonry reinforcing. Here's how:

Knurled side rods bite into mortar. 12 indentions per inch gives greater mortar to metal contact for sure bond.

Ladder type Strongwall features ¼ inch extension of cross bar beyond the side bars. This slight, but important improvement causes stresses to be more evenly distributed.

Strongwall's wire elements exceed 90,000 P.S.I. tensile strength. And that's *guaranteed* so you can use Strongwall with complete confidence.

Ladder Type Strongwall features completely galvanized side rods at no extra cost. And to save you time on the job and dollars in transit. Strongwall is palletized and packaged with patented corrugated "boots" that protect the Strongwall and your men, too.

Get complete specifications on both Truss and Ladder type reinforcing by writing today for your FREE copy of the Strongwall Brochure.

Strongwall Truss Type Reinforcing Also Available.



MidSTATES STEEL & WIRE/ Sherman, Texas 75091 Division of Keystone Consolidated Industries, Inc.

### Nothing we say about our tile can tell you as much as this phot



### Take another photo in 10 years and it'll be even more beautiful.

We could describe what goes into San Vallé genuine clay tile — the ingredients and the process — and explain how well it insulates and protects.

But you choose a roofing material primarily on the basis of aesthetics. And that's where San Vallé tile's *permanent* beauty becomes a deciding factor.

You wouldn't settle for a poor substitute. Would you?

Lake Shore Villas, Tempe, Arizona 5: Mission Viejo Company • Architect: Dan Brodsky, A.I.A. 1717 No. Highland Avenue, Los Angeles, California 90028 (212) Ince 1898

## Waterproofing. If Neogard puts it down, it stands up.













You have our guarantee on it. When one of our licensed Neogard Applicators has the contract for your specific waterproofing system – you have the assurance that a quality application will be put down that satisfies your requirements and our specifications.

We can do it because we have 60 million square feet of experience in applying waterproofing systems – and because we use superior quality materials born of our own technology, which springs from our 47 years of formulating coating systems.

We are The Neogard Corporation, a company that specializes in waterproofing systems. Somewhere on one of our many projects scattered from Alaska to Caracas, Venezuela and from Boston to Agana, Guam, we have handled a project much like your own. Whether it is a vehicular or pedestrian traffic-bearing system, buried membrane or roofing system you need, here is what you will get from us:

A waterproofing system that is seamless because it is fluid-applied. It is flexible – it stands up to inclement weather, temperature fluctuations, ultraviolet light attack, fire and chemicals. In addition to all these benefits it is attractive and some systems are non-skid, as well.

Our Neogard systems will protect your investment whether it is new construction or the renovation of your present facilities. Your cost of ownership and maintenance will be less, and the life of your property will be extended.

We guarantee our work. And now we would like to work for you. Please write for more information – or give us a call.



THE NEOGARD CORPORATION 2732 Empire Central P.O. Box 35288 - Dallas, Texas 75235 214/357-4305 Versatile Kirby landscaping timbers can enhance a wide range of outdoor designs—

entryways, gardens, property boundaries, planters, benches, steps. Pressure-treated with Wolman<sup>®</sup> salts, they weather to a natural shade of greenish grey, protected for decades from termites, fungus, and decay. When you're concerned with creative landscaping, consider

Kirby timbers. Write for specifications and planning kit containing 28 detailed drawings of possible uses. Kirby Lumber Corporation, P. O. Box 1514, Houston, TX 77001 (713/659-1421).



Kirby treated timbers for creative outdoor landscapes





# GREATWITY

**By Ray Reece** 

"It is high time that we face the architectural challenge directly. The challenge may make many of us uncomfortable because it points up how badly we have at times designed our buildings in blind adherence to some stylistic dogma. But it also contains the basis for a new esthetic . . . a *renewed* discipline to challenge our architectural creativity, a positive and welcome opportunity to provide spaces for human use that are responsive to an ethic of worldwide conservation."

This is a passage from an article in the February AIA Journal entitled "Architecture and Energy: the Need for a New Esthetic," by John Eberhard, president of the AIA Research Corporation. He is saying, in effect, that the energy crisis cannot be successfully thwarted by turning down thermostats, redesigning mechanical systems, and bolting solar collectors atop conventional buildings. What is required is a virtual revolution in design itself — a whole new program of concepts, styles, approaches to the use of materials — based on our scarcity of resources.

We concur. In fact, we would extend Mr. Eberhard's prescription not only to the energy crisis but to other social crises as well, and we would stress the term "creativity" as the force — the secret weapon — with which to confront such difficulties, to bring to our culture a new dimension of common sense, prudence, and beauty in the built environment. "The only reasonable step, at this point," writes scholar-poet Brewster Ghiselen, author of *The Creative Process*, "is to act on the supposition that our problems in world crisis, as at other times, may be soluble only creatively — that is, by a profound and thorough alteration of our inner life and of the outer forms in which life finds expression and support."

What is creativity? How does it work? Who does it best? What are its functions, its potentials and limitations in architecture as compared with other disciplines? What might it mean for Texas in particular?

To approximate some answers to these questions, we have drawn from a variety of sources, including interviews with eight Texas architects and one Texas painter all highly respected by their peers. The architects are: Howard Barnstone, Houston; William T. Cannady, Houston; Charles Lawrence, of Caudill, Rowlett, Scott, Houston; Les Mabrey, of Brock, Mabrey and Partners, Corpus Christi; Steve McWilliams, of Robert Callaway and Associates, San Antonio; James Pratt, of Pratt, Box and Henderson, Dallas; Jim Tittle, of Tittle, Luther, Loving, Abilene; Frank Welch, of Frank Welch Associates, Midland. The painter is Charles Schorre.' of Houston.

Clockwise from top: Howard Barnstone, Charles Lawrence, Stephen McWilliams, Frank Welch, Jim Tittle, William T. Cannady, Charles Schorre, Les Mabrey, James Pratt.

















"Before any new order can be defined, the absolute power of the established, the hold upon us of what we know and are, must be broken."

### I. The Creative Process

o be creative is to make something new: something which has never existed before. The fresher it is, the more inventive in all or most of its major parts - whether it be a poem or a piano concerto, a theory of genetics or a design for an office building - the more creative and the more important in terms of what we might call cultural advancement. This latter point is critical. The richest creations are willful acts of intellect which contribute something of recognizable value to the culture in which they are fashioned. It is by this definition, which presupposes a distinction between "society" or "community" and "culture," that the untutored drawing of a child, though it may involve a spontaneous originality, is deemed less valuable than an abstract sculpture of bronze which establishes a whole new criterion of artistic excellence and "cultural" insight. The same is true for a "well-designed" building which copies the style of other buildings. Such a structure may indeed contribute something to "society," if only because of the square footage it adds to the usable space which that society needs to function, but it will offer little or nothing to the "culture," simply because it fails to incorporate a new idea of significant magnitude.

"The creative act," according to Houston architect Charles Lawrence, "is one of finding new relationships between heretofore unrelated objects or elements." William Cannady defines it as "a combination of previously unrelated structures in such a way that you get more out of the emergent whole than you put in." Frank Welch of Midland goes a little further: "The architect's task is to order and synthesize the disparate and often conflicting elements in a job" - to impose order on chaos. If the task be done creatively, he adds, the finished design will possess a quality transcending the three dimensions of space. It will embody a "fourth dimension of psychological appropriateness" derived from the "subjective sense" of the architect: "that's the intangible that can't be measured and yet distinguishes good architecture."

Each of these definitions corresponds remarkably with that of Brewster

10

Ghiselin:"The creative order, which is an extension of life, is not an elaboration of the established, but a movement beyond the established, or at the least a reorganization of it and often of elements not included in it. The first need is therefore to transcend the old order. Before any new order can be defined, the absolute power of the established, the hold upon us of what we know and are, must be broken."

What is implied here, among other things, is conflict, and it is a conflict which typically operates on a multiplicity of levels, producing, in no particular sequence, a multiplicity of resolutions embodied in the new creation. This process of conflict and resolution is often called a dialectical process. The "old order" to which Ghiselin refers, the "established" whose "absolute power" must be broken, is known in dialectical terms as the thesis. The force or impulse which attacks the thesis, aiming at something new, is the antithesis. And the new creation itself, including certain elements derived from the "old order" but "reorganized" into the new, is called the synthesis (hence Frank Welch's notion of "synthesizing disparate and often conflicting elements").

Armed with such terms, it is much easier to examine the various levels at which the creative or the dialectical process may be seen to operate in real-life situations. One of these levels, perhaps the broadest and most pervasive historically, is that of social, economic, and political change. It is here, indeed, particularly when such change is rapid, as it was in the American, French and Chinese revolutions, that the clash between an "old order" and a "new order," resulting in a synthesis of both, is most apparent. And this analogy between the dialectic of political change and that of artistic creation helps explain why numerous writers have observed that an act of creation, regardless of the field or medium in which it occurs, is inherently an act of revolution. Ghiselin himself, in linking our survival to a fresh infusion of creative thought, says that "the necessary change, if it comes at all, may have to be so quick and sharp an evolution as to seem revolutionary."

work of a practicing architect (or other artist), it is possible to itemize some of the other levels at which the process is likely to manifest itself. The most embracive is the general interaction between *mind* or *idea* and *matter* (the creative process, as we are using the term, does

May/June 1976

### "Every new and good thing is liable to seem eccentric and dangerous at first glimpse... we must always listen to the voice of eccentricity within ourselves and in the world."

not occur except through its final expression in a material form, though it be nothing more than ink and paper on the desk of a mathematician). Here we might visualize the architect, having established the functional requirements of his client, inspecting the site where the client's building is to be constructed. He has settled, let's say, on nothing pertaining to the shape of the project - form, materials, orientation --- nothing. He opens his mind entirely to the site in its present condition. and that becomes the thesis. His client's desire for a new building, along with its projected functions, and the whole of the architect's life experience up to that moment, including perhaps his determination to erect a truly significant building these psychic forces, mediated through the will of the architect, now become the antithesis. The architect's eye plays over the components of the site, absorbing trees, slopes, solar angles, and adjacent structures. His brain begins to act on these elements, weighing them, juxtaposing one with the other, preparing the site for a graceful acceptance of the building as yet unborn: mind interacts with matter, commencing the process destined to produce a synthesis in the form of the finished building.

During that process, other levels of the dialectic will be employed. An important one, as we shall see, is the interaction between the architect's conscious mind (comprising what Ghiselin calls the "established," the known, the "old order" hence a thesis) and the architect's subconscious mind (hopefully simmering with the memory traces and flashes of insight due to mingle, perhaps to explode in the creation of a "new order"). Still another level is the interaction between one conscious mind, possibly the client's, representing the thesis, and a second conscious mind, that of the architect, say, whose inventive ideas at any given stage will constitute an antithesis. Among a variety of other conceivable dialectical "collisions" is that between a design theory, or idea, such as might be developed in pursuit of an innovative roof structure, here becoming the thesis, and a practical or material reality, perhaps in the form of a beam or a joist not strong enough to bear the weight, or too expensive, hence intruding as antithesis, forcing a change in the design. (This

last, in simpler terms, is another way of talking about "trade-offs" and "compromises" in the architectural process there are creative trade-offs and uncreative trade-offs.)

### **II. The Creative Personality**

I f the creative act is an act of "cultural revolution," then the creative personality, at least while working, is a kind of "cultural revolutionary." In practice, the fiercely creative individual in this society will often project the appearance not so much of a revolutionary as of an eccentric, given to moods or stretches of unconventional behavior, subject to lapses in grooming, punctuality, sociability, etc. There are very good reasons for this, most of them having to do with the immense difficulty of "breaking the absolute power of the established, the hold upon us of what we know and are."

"The first impulse toward new order in the psychic life," says Ghiselin, "is, as it must be, an impulse *away* from the clearly determined, from all that is most easily attended to and that most forcefully imprints itself upon the attention . . . every new and good thing is liable to seem eccentric and dangerous at first glimpse. . . and therefore we must always listen to the voice of eccentricity within ourselves and in the world . . . the faithful formalist has no chance of creating anything."

This agrees, in spirit, with Charles Lawrence's view of the matter: "If you are one to categorize things and thoughts very quickly, you may have a difficult time generating creative thoughts. You have to leave things looser than that." William Cannady says that "one of the most important qualities of a creative person is a questioning attitude," while Houston painter Charles Schorre' refers to a "creative attitude . . . a willingness to accept the unknown, to use no established principles or laws at all in approaching a design." Les Mabrey, of Corpus Christi, speaks simply of a taste for joy:"Most men lead a life of quiet, uncreative desperation because they haven't learned the joy of doing something well . . . they haven't exerted the effort."

Why, in any case, are some people more

creative than others? What is the role of family background, of schooling, of professional environment and other factors? "The creative process is still an art," says Abilene architect Jim Tittle, "and while the artist needs training, much of that creativity is inherent . . . most architects are imitators and not innovators. There are very, very few really creative people." Brewster Ghiselin, while not addressing the question of formal education, does speak of "mastering accumulated knowledge, gathering new facts, observing, exploring, experimenting, developing technique and skill, sensibility, and discrimination .... the sheer labor of preparing technically for creative work."

If not formal schooling, then, some sort of concentrated knowledge would appear to be required. The poet Amy Lowell once wrote: "I do believe that a poet should know all he can. No subject is alien to him, and the profounder his knowledge in any direction, the more depth there will be to his poetry." Might the same hold true for a creative architect? Frank Welch would say yes: "An architect is a generalist. He should know a little bit about everything. and understand a lot of things . . . there is no area of human conduct that should be out of his realm of interest." Charles Lawrence contends that "what we have seen and studied remains intact in each of us. That's why it helps to have more and more experiences, to see and touch more things. It gives a broader base of those 'disconnected elements' from which to draw in bringing about some sort of new relationship."

pair of recurring themes in these conversations with architects are travel and change - exposure to new ideas - as food for the creative mind. "It is important," says Les Mabrey, "to surround yourself with people who have ideas, and not just architectural ideas . . . look at other people's concepts and evaluate them, see how they relate to your life . . . keep your mind open to change." William Cannady mentions a "supportive environment where new ideas are important," while James Pratt, of Dallas, emphasizes "the experience of major works of art and architecture" as "prime triggering devices." We have, he says, "so damn few buildings in this part of the world that stand up against European and Asiatic models ..... exposure to them in Texas is a problem, and there are no substitutes. You can't do it with movies or with diagrams. You have to actually walk through one of

### "An architect is a generalist . . . there is no area of human conduct that should be out of his realm of interest."

the Kyoto temples to see what architecture can do to people."

What about our schools of design? Are they not, as they should be, primary fonts of creative technique and inspiration? Bill Cannady isn't so sure: "There is too much emphasis in the schools on a given style . . . on the how-to or the what-to, without enough emphasis on improving the actual functioning of the mind . . . on coming up with creative solutions." The mind, he argues, is a muscle, like the heart, or the thigh, and it must be exercised, quite apart from its work on specific tasks. In a similar vein, James Pratt says that "an individual who has been stimulated from very early life, who has exercised his brain, has broader experiences from which to extrapolate," and "it's that ability to extrapolate that counts." Family and peer group, he says, "are terribly important, and in that sense the university environment is important . . . and clearly, the broad stuff that's going on around MIT and Harvard (design schools) is a lot better than what's going on in some Texas schools . . . though individual talents can compensate."

This raises the critical question of desire and self-image, as opposed to acquired sophistication, in the breeding of a creative mind. Pratt reports that a Cornell professor who is teaching at UT/Arlington this semester has found his Texas students "much less cynical.... less jaded, and therefore more receptive and open, more eager, believing in the system," hence providing "lots of compensation for the sophistication of his Cornell students." Howard Barnstone, who teaches design at

the University of Houston, is even more emphatic: "Our top students are in no way inferior to the students I taught at Yale." He calls the University of Houston "a poor man's school" where "everybody has to fight, to struggle" to survive. This produces a "will to overcome" which has helped make his graduates, by his own count, "either the principals or the heads of every major firm in town, with one exception." Les Mabrey points to "a consciousness of adequate resources" as perhaps the key to creative success: "If an architect feels that his skills and resources are adequate," there is hardly a challenge that he shouldn't be able to meet. "Anyone," he says, "can be an architect."

### III. The Role of the Unconscious

ne of the few elements in the creative process on which virtually all observers and scholars agree is the eminent role of the unconscious mind of the creator. "We are not usually much aware of this less determinate part of our psychic life," writes Ghiselin, "for consciousness is dominated by system (the 'old order'), to which we cling. The schematic consciousness is safe, more or less manageable - the tidy and reasuring world of our familiar psychic life." Yet creativity requires change, and "change is easier in the unconscious psyche, or on the fringes of consciousness, because there the compulsive and inhibiting effect of system is decreased or ceases altogether." The creative end "is not to be found by scrutiny of the conscious scene, because it is never there." Rather one must plumb "those depths of the mind in



which apparently all the experience of the organism is retained . . . look into the wings where the action is not yet organized, and feel the importance of what is happening offstage."

D. H. Lawrence, the novelist who also dabbled in painting, was somewhat more caustic in his views: "Ours is an excessively conscious age. We *know* so much, we feel so little . . . the modern theories of art make real pictures impossible . . . theorize all you like — but when you start to paint, shut your theoretic eyes and go for it with instinct and intuition."

In architecture, as in many arts, the dynamism and richness of the unconscious psyche - when they can be summoned at all - are frequently felt as a burst of insight, a sudden flash of "genius" providing a "design solution" for which the architect might have been searching, toiling for days, weeks, to no apparent avail. "The informing element in a design," says Frank Welch, "is usually a quick, spontaneous idea." To illustrate his method for "trapping" such ideas he recounts an experience he had as a child growing up in North Texas: "We used to play around the railroad tracks. Walking the rails across the trestle was something of an accomplishment, and I had a hard time doing it. Then I discovered that if I looked to the side as I walked, not at the rail, I could stay on the thing. Now, years later, when I'm circling some informing element on a job, something I want to discover or elaborate on, I try to keep my mind sort of to one side. If I look at it too hard, I can't see it, but if I walk away, figuratively, it will pop."

n a sense, Howard Barnstone also believes in looking to one side: "The actual design moment is very, very brief, and the more you labor it, the less a spark of genius it has." This moment, he says, "is very difficult to pinpoint, because it comes from hundreds of thousands of images, things you've seen and done. You can describe when it happens, but you can't describe the psyche which creates that moment . . . if you can keep it. you've got something." One of Barnstone's most famous designs arrived through such a flash. He had been called to New York in 1965 to consult with the Schlumberger Corporation on plans for new office space. As he waited in an anteroom, he pondered some drawings which another firm had already submitted. "They were terrible," says Barnstone, "and I was suddenly infuriated at their proposal." In the heat of his anger, he snatched an envelope and

In the heat of his anger, he snatched an envelope and started doodling, producing . . . a whole new office system of cantilevered plate-glass corridors.

"started doodling," producing, by the time he rose for his appointment, "a whole new office system" of cantilevered plateglass corridors.

Some of James Pratt's best ideas are nocturnal visitors: "I often get those flashes lying flat on my back in bed at night after wrestling with a problem . . . usually after the functional solutions are in hand, but I don't yet have a decent spatial or form solution, or something's out of kelter about it. I've 'walked' through the project, visualized it, thought about it as a user — I've worked my empathy to death before it happens."

Charles Schorre', too, in his paintings, rather likes to sneak up on them, to let them emerge unhindered from his depths. "I try not to manipulate my subject. I draw as a child, let the thing happen, then go back and look at it, to see if it worked or not . . . the unconscious mind could be the most important thing in the process."

### IV. The Role of Discipline

The "magic seeds" of the unconscious mind, though indispensable to genuine creativity, would rot in the soil were they not watered, nourished, and cultivated by the conscious will and sweat of the creator. So important is the element of hard work of discipline, patience, concentration, endurance, and craft — that some creative workers, like Jim Tittle, would give it by far the lion's share of responsibility: "I think there are seldom bursts of genius, and I've never experienced that, needless



Understanding form: a sketch by Charles Schorre, as part of a design exercise with his students at Rice

to say. Most good design is the result of hard work and intense concentration. The harder you work, the better the design."

Brewster Ghiselin suggests a more subtle treatment of the "magic seeds": "One must learn to seize and hold them without insistence, letting them agitate the mind and make their own development . . . shaping the expression of the growing insight critically — that is, consciously and rationally, drawing upon all the resources of craft and understanding . . . the concentration of such a state may be so extreme that the worker seems to himself or others to be in a trance or some similar hypnotic or somnambulistic state."

Tittle, for his part, goes on to say that "whether the creativity comes easy or hard, it is most difficult and time-consuming to transform it into reality. It is even more difficult to preserve the purity of the design through these processes. You have to continually return to your first creative concept, even in working drawings, so you don't destroy it . . . you come up with the idea, and then refine it and refine it, and then implement it — that's the hardest part."

The toil of discipline, as experienced by the practicing architect, is often imposed through those "constraints of implementation" represented by client, budget, site restrictions, etc. Such constraints, says Les Mabrey, "themselves create design. The constraints are necessary. The regimentation is necessary. My job as a designer is to work as best I can within the constraints and to expand the constraints as far as possible given the circumstances of a particular job."

**F** rank Welch agrees: "Architects need restraints. They need tough clients and tight budgets. My favorite buildings by Frank Lloyd Wright are the low-priced, economical ones. His projects with unlimited budgets, like Johnson Wax, while sort of thrilling and daring, just don't have the human quality that some of his small houses have." Welch adds that "besides external restraints, the architect needs internal restraints. You've got to restrain yourself."

One of the elements of discipline is craft — technique and skill in the use of a medium, of tools — the mastery of which may require years of practice and exer"The regimentation is necessary. My job as a designer is to work as best I can within the constraints and to expand the constraints as far as possible given the circumstances of a particular job."

cise. "Picasso was a marvelous draftsman," says Welch, "before he got cranked up on his own art. Hemingway never would have been the writer he was if he hadn't been a working journalist first. That gave him a discipline he wouldn't have had." James Pratt refers to craft as "the verities of the way things are put together." He is afraid that "the craft of architecture is in some ways becoming lost. In the apartment world," he says, "we build chimneys out of wood and cover them with stucco. We are clearly building slums, polluting the environment. The architect is not assuming his responsibility. That craft makes an enormous difference no matter what the creativity of the design. You can't leave out the stem of the apple and still have an apple."

Ironically, the adept combination of intuitive genius and monstrous hard work will produce, in the finished creation, a deceptive appearance of simplicity. "We are led," writes Ghiselin, "to underestimate the labor of invention by the appearance of the finished product. Freed of every irrelevance, especially the sweat and litter of the workroom, the work of thought or art or ritual stands as the simple formula of a subjective action. The impression it gives of unforced labor is not to be trusted." Frank Welch evokes the metaphor of a dancer: "The greatest buildings are expressions of an economy of means and method. They should look easy. Compare this with the grace of a dancer, who spends most of her waking hours preparing for a performance, and when the performance is good, it appears almost effortless, spontaneous, with no work or trouble, which is offstage. This makes the dance accessible - the viewer can relate to it."

### V. Creativity and Form

n idea unexpressed, no matter how potent, is an idea unborn. Its birth in the form of a creative act demands "implementation" through a medium or a material accessible to other persons in the culture. And the nature of that medium — whether words on a page, bricks in a building, or tones spilling from the bell of a trumpet — will inevitably have an influence, a dialectical impact on the shape of the finished creation itself. John Dryden, the 17th century British poet, was alluding to this law when he wrote of the advantages of rhyme over blank verse in poetry. Rhyme, he said, is superior, because "it bounds and circumscribes the fancy. For imagination in a poet is a faculty so wild and lawless, that, like a high-ranging spaniel, it must have clogs tied to it, lest it outrun the judgment."

In architecture, says Steve McWilliams of San Antonio, "The end objective influences all forms and principles and functions of the creative process . . . that objective dictates each decision, whether you are conscious of it or not." Les Mabrey says that "the way a building is used is the way a building is designed. We start with what it is the people will do in this space and the tools they will use - desks and tables, chairs, filing systems . . . our first plan is a space plan of what happens in this organization, and things begin structuring themselves from there . . . you never really finish a design until the building is finished."

Charles Lawrence views form, at its best, as a matter of reaching for essentials: "Since we are talking about a functional art, there are automatically essentials that you have to deal with: structure, mechanical systems, weather envelope ... I get the most satisfaction in being able to manipulate those into the majority of the



Lawrence's counterweights: architecture as

architecture." He has proposed "some general rules of thumb" pertaining to these essentials: (1) if the expression of an essential element, like a framing system, is concealed by a lesser element, like a fiberboard ceiling, architecture is weakened; (2) if the elements defining and modulating space appear to be essential elements but are not, architecture is weakened; (3) if an essential element can be manipulated to take on the function of a lesser element, architecture is strengthened.

Lawrence calls this "the art of architecture," and he applied it most clearly in a recent design for a performing arts center in Akron. The center features a threetiered "collapsible" ceiling to be expanded or contracted, for acoustical efficiency, depending on the size of the audience. Due to its weight, the ceiling is moved by a mechanical system that includes a "family" of huge counterweights. Instead of hiding these weights behind a wall, Lawrence cast them in the form of gleaming steel cylinders left to dangle, like some perpetual motion machine, right in the lobby of the hall.

### **VI. Stimulating Creativity**

r ince creativity is such a patently good thing, surely there are methods D for kicking it up in oneself when it is most needed? Someone has developed a formula? Yes and no. The German poet Schiller, according to Stephen Spender, "liked to have a smell of rotten apples, concealed beneath the lid of his desk, when he was composing poetry. Auden drank endless cups of tea. Coffee is my own addiction . . ." But Brewster Ghiselin views such "tricks, devices, drugs" with a skeptical eye. "It is best to avoid idiosyncrasy," he says, "and to cultivate the central disciplines . . . the creative process is essentially the delicate action of developed life."

Certain architects, nonetheless, appear to have found methods for stimulating or at least encouraging their creative faculties. "The human mind," says Les Mabrey, "has a short attention span." Consequently, in his office, he favors a series of short-term design goals, with immediate feedback at the end of each stage, as a means of sustaining interest and efficiency throughout the larger design process (a device he learned as a student-instructor at Texas A&M).

Jim Tittle says he doesn't "think you can

step it. If 1 get hung up on a design solution and want something different, then oftentimes I'll try to do something real bad, the complete extreme opposite of something good — to break loose new ideas." When he finds himself "dawdling" at the drawing board, "relying too much on my subconscious, I need to put my pencil down on the paper and move it, just make that damn thing move, and all of a sudden I'll be designing again . . . keep drawing, keep drawing, and I'll find something down in the right corner that's just what I want, and I'll build on that, and keep building . . ."

Charles Lawrence says that his firm, typically, has no formal system or method for inciting creativity among designers. "Rather," he says, "we approach a project in such a way as to give the best chance for design strength to emerge, which implies creativity." This means "programming" --the sharp clarification of design goals as determined through intensive client interviews - and "pressure cookers" mainly in the form of five-day "squatters." The "squatter," says Lawrence, "is simply a week of ultra-concentrated work activity to accomplish a goal." The lead designer, with "program" in hand, sequesters himself with a project manager, lead technologist, and - most important - the client (plus whatever "allied professionals" might be required, such as lighting consultants and engineers). Whereupon they storm the design challenge, contriving, rejecting, and refining ideas until they have translated their "program" into a set of "major design concepts" which will guide the lead designer through production of the final plan. During this storm the people involved "don't

### Can a computer create a work of art? Can a "team" of minds produce anything more distinguished than a bowl of architectural Cheerios?

answer a phone, don't write a letter don't do a thing but concentrate on major concepts."

Lawrence contends that "some sort of pressure cooker is beneficial to the design process." To illustrate his point, he cites an imaginary graph of the "day-to-day routine" in an architect's office: "You have a kind of see-saw, with some peaks and valleys, but you never climb out of the flatness of one mountain range. In the squatters, it's all self-generating, and one peak builds on another, so that you get an accomplishment curve that keeps going up. In one intensive week, we outstrip what we could ordinarily do in a month."

### VII. Group Versus Individual Design

R ccently, with the advent of "programming," computerassisted design, and other innovations in the practice of large-scale corporate architecture, more and more firms have adopted a "team" approach to the solution of design problems increasingly complex and gigantic in scope. Because this violates the time-honored image of the solitary architect pouring out his soul on the drawing board, answerable only to himself, his client, and his God, it has raised questions pertaining especially to creative excellence. Can a computer create a work of art? Can a "team" of minds produce anything more distinguished than a bowl of architectural Cheerios?

Howard Barnstone is certain it cannot, and he points to Phillip Johnson's Pennzoil Place, in Houston, as spectacular proof that he is right. There is, he says, "only one building in Houston, if not in all of Texas, which has no 'For Rent' signs on office doors, and that is Pennzoil Place, and Pennzoil Place is not architecture by team." Since World War II, says Barnstone, "the office building designer has been pushed around by three groups of people: the systems people, who sit down and decide they know the best way to do it to make the most money; the computer people, who sincerely believe you can press a series of buttons and find the best skin for a building; and the Stanford Research Institute people, who tell you the best land is this, best number of elevators is that . . . they've done this all over the state, and those buildings are empty.

"So Phillip Johnson comes along, on a block in Houston, and puts up the most un-systems, un-computed, un-teamed, un-Stanford-researched building — a pair of almost outrageous towers with highly acute angles — which breaks every rule, every rule, and not only is the building full, but people are trading in subleases, like the stock exchange, bidding up subleases . . . not only is Pennzoil Place the most beautiful building America, the most important since Seagram or maybe



Lever Brothers, but it is full, full, full. . . so individual creativity pays."

Charles Lawrence works for a firm which has helped pioneer the "team" approach in Texas. "You lean on that team," he says, "for stimulus, input, and ideas but the jelling of those concepts, still, an individual mind has to do it." In the "squatters," for example, after the team has advanced a series of "major design concepts, when it gets to be decision-making time, someone has to take the lead. You can't sit around the table and say, okay, we might do this or that now, what's the vote? Is it three to two? You don't vote — I'll agree with the man (Barnstone) there. We don't vote in the squatters."

Charles Schorre', who drives to his studio to work in solitude from nine to five each day, has concluded that "the high-tech or computer architect is really taking over, and probably should, but I believe in one-to-one relationships. The empire builders have lost it. There's no more dance. The architect got into this work in the first place because he wanted to do something with his hands and heart, as well as his mind . . ."

### VIII. The Role of the Client

he painter," says Frank Welch, paraphrasing a teacher at Texas A&M, "can get some paint and canvas and go to work, the musician can sit at his piano, the novelist at his typewriter — but the architect has to have a client. He has to have dough."

Without a client, there is no architecture, and without architecture, there can be no design, creative or not. The question then becomes that of the role played by the client within the process of creativity itself. Has the client a function in this process, apart from picking up the tab? If so, what is it? How is it best approached?

Obviously, the answer will vary according to the variables in each client: personality, budget, sophistication, etc. But many of the architects with whom we have spoken are unanimously positive in their appraisal of the client's role. Jim Tittle, for example, asserts that his clients are more alert and receptive to quality design than in the past, due to being better educated, more widely traveled, and increasingly persuaded that money "saved" through cheap design is a false economy.

Frank Welch expands on this: "Clients have more of their own ideas now, because architecture has really come into the

### "You develop a rapport, become very close to him, until you're speaking shorthand to each other, like falling in love... when you fall in love with your client, then you can really understand."

public popular realm in the last 15 or 20 years. Everyone now has feelings about environment and design and objects and things - look at all the magazines, from Architectural Digest to American Home to Family Circle. So people develop a kind of quality judgment. The same is true for commercial buildings. Clients read ads for materials. And they travel a lot, they're mobile, they see lots of things - and they're better educated." Steve Mc-Williams adds the interesting note that "our investor-oriented clients, who are still in business, have what I consider to be higher ideals and objectives in their developments than do other categories of clients. They have to be better in all areas," partly because of the more rigorous demands of lending agencies.

The working relationship between a client and his architect is by its very nature a close and sometimes an intimate one. Properly managed, this closeness will contribute to creativity, not detract from it. "In the squatters," says Charles Lawrence, "we go to where the client is, and we stay there. We involve him on a daily basis, so we can get his immediate reaction to whatever is evolving. Sometimes the client begins this process a skeptic and tinishes a believer. . . he can see his mark on the final product."

es Mabrey speaks of the architect's "bounden duty to try to expand the awareness of whomever he's working with on a design. We know," he says, "that on every project we are going to have to do a lot of client education, just to create dialog - to establish the ultimate purpose of the building." Mabrey stresses the personal dimension: "The more open you are with the client, the more open he is with you, so that there is a true meeting of the minds . . . you develop a rapport, become very close to him, until you're speaking shorthand to each other, like falling in love . . . when you fall in love with your client, then you can really understand . . ."

At least for Jim Tittle, this degree of intimacy is most likely to occur in residential architecture, where "you have to evolve a very close relationship with the family, to get all the details in the design. like drawers and shoeracks . . . you sit down with a husband and wife, and you become part of their lives." A friend of Tittle's, also an architect, has observed that a number of the couples for whom he has designed homes, ironically, have sued for divorce shortly thereafter — so much of themselves did they reveal to each other during the design process.

Finally, how many clients per design does an architect need? One says James Pratt: "The client is an enormous factor in creativity, and it's almost an axiom that the most creative projects involve a oneon-one relationship, not a client-committee activity with the architect. The more people, the less creative — write it as a law. Design in committee is deadly. It kills the creative process. If there has to be a group, then the answer is for that group to elect a representative they trust. The problem with most groups is they don't trust anybody. Government is the worst of all."

### IX. The Question of a Regional Architecture

mong the many things that "creativity in architecture" can mean is the evolution of styles and concepts which, by responding to local conditions of climate, terrain, economy, etc., represent a uniquely indigenous regional architecture clearly distinguishable from other styles within the society. Examples from history abound, of which perhaps the clearest is the "mission" architecture developed by Spanish pioneers (borrowing from Indian adobe styles) who settled the American Southwest and West. Increasingly these days, as we bend more prostrate beneath the weight of the energy crisis, watching our dollars blow out the rear of our air conditioners, it occurs to thoughtful people that we might profitably begin working toward a kind of "neo-southwestern" architecture - nothing fancy necessarily, just some overhangs, deepset windows, satellite cities and green belts - that sort of thing. Such a trend would be dialectical enough: the thesis is our wasteful, auto-dependent urban environment more polluted and expensive each month; the antithesis, our will to rationalize that environment through consciously daring innovations in design, linked to the natural dynamics of our region; the synthesis, a new environment,

along with the changes in lifestyle, economic pattern, and other cultural adjustments which such an evolution would bring.

To what extent, if any, might one discern the crude beginnings, even now, of a "neo-southwestern" design motif? With a single possible exception, Frank Welch, for one, discerns nothing of the kind. Because our region has long been technologically integrated with the rest of the country, our styles of architecture have become homogenized as well (items include homes modeled on Alpine chateaus and office towers built of unprotected glass). "We need something new," he says "and, because of the energy crisis, a regional approach could develop, and that would be exciting. But it will come only out of necessity." The one exception to which he refers is the campus of the University of Texas at San Antonio, designed by O'Neil Ford. "It's innovative structurally and mechanically," says Welch. "They've got a marvelous indigenous regional feature - an overhang over an outdoor plaza, which they call a 'sombrero.' It looks complex, but it's put together in the simplest way. It's the key element on the campus - big, tall, and lofty, symbolic."

Neither does Charles Lawrence detect "any movement or school of architecture that you could say is Texas or southwestern. It could happen. We could begin to generate some regional characteristics just protecting ourselves from the sun. We can't be International School throughout the country regardless of temperature." James Pratt says: "I keep looking for it (a regional style). If we were honest, we would be considering sun and sky glare in a different way in Texas than in Oregon or Michigan . . . we're very symbolic in the way we operate." Steve McWilliams deplores a certain tackiness: "The places people drive, to get from one place to another, all those signs and power poles and strip shopping centers are a visual slum. They're making every major artery in the state a disaster."

On the other hand, says Jim Tittle, "Texas has some of the finest buildings in the country, like the Kimbell Museum and some of the new buildings in Houston." He concedes that these structures do not indicate a regional design trend, adding that "architectural education is slow here compared to other parts of the country and world. Texas is a new country. A Texas style will take much more time to develop. We're struggling. We're copying. It's a matter of heritage. We have no modern cultural base on which to build."

### X. A Note On Criticism

ames Pratt speaks of "honesty," Jim Tittle of a "cultural base" as precon-٥. ditions for a significant Texas architecture wrought by Texas architects. Both of these terms suggest an ethos of intellectual and artistic integrity - within the broad confines of our design community, including users as well as practitioners - suggesting in turn a more critical attitude more demanding of ourselves as we go about the work of our built environment. An act of criticism based on knowledge and the courage to speak out is itself an act of creation, or at least a major component thereof. Where faulty or specious planning and design are a thesis, honest and inspired criticism can be an effective antithesis.

"We have become monument builders...so brainwashed about being good businessmen that we have failed to keep in balance the need to be both psychologists and artists."



"There is a general wrap," says Howard Barnstone, "a hood that is lowered, particularly in print, on any kind of architectural criticism in Texas. The whole thing is just ducky. Everything is fine. Everything is deeeelicious. That's one of the things that's different in New York, where they yell at each other for ratty designs. Criticism here is guarded — people are afraid of lawsuits." They are also afraid of "retaliation," according to Austin architect Noel Dolce: "If you criticize someone else's building, then that person is likely to return the favor by criticizing yours."

To the extent that these observations are true, and certainly one is hard put to find serious architectural criticism in our magazines and newspapers, they are equally true of the most important medium of all: television. Presumably there is a critical dialog at work in our schools, but that is not enough. It ought to be extended to the public and professional arenas as well to keep us on guard against lazy, uncreative design, to hone our will toward a new and inventive, conscientious Texas Architecture.

Here, in the words of James Pratt, is a murmur from beneath the hood: "The biggest problem we have today is the Modern Movement. When it revolted against classic eclecticism, it threw out the baby with the bathwater, so now there isn't enough visual content in the surface and form of our buildings to relieve the eye, to give the viewer something to wander around in emotionally and intellectually. We have become monument builders . . . so brainwashed about being good businessmen that we have failed to keep in balance the need to be psychologists and artists. The art has suffered in our architecture - the spatial art, which is the one art no one practices but us."



Pictured at right is Cy Wagner, a design instructor at the UT/Austin School of Architecture. Wagner, who practiced for 15 years in San Antonio before becoming a teacher, made the observations below in a shirtsleeves interview with Texas Architect.

# ON CULTIVATING CREATIVITY: COMMENTS BYATEACHER OF DESIGN

### Art and architecture

Architecture is an art without words. You have to get your message across strictly visually.

I call the artistic process "a way of traveling." The artist is always moving, always going ahead. The minute he stops, except to take a breath, his art dies.

Intentionality is much more important than originality. Great art is a function of recognition in the viewer — he looks at the art and says, "Oh yes, I knew that."

The importance of people like Warhol, and the pop artists in England, is that they were the first to take a look at the common things in our society and to say: "It's okay to focus on these 'unprecious things' and manipulate them — this is a perfectly legitimate subject for art."

Designers of "pop" architecture, like Moore, and Venturi, have more symbolism to use, to communicate with — they can talk. Their architecture speaks. More conventional architects have a lot of trouble with Venturi and "pop" architecture, because it's totally contrary to the current mainstream.

#### Molding the middle class

Students in the east have been better educated — a lot of those kids who go to the Ivy League schools also went to prep schools. They've had more exposure to culture — to ideas — through their parents, through cultural organizations, museums. You take a boy out of Port Arthur whose daddy is an oil field worker — he ain't seen too many "pitchers," so it's all kind of new, but when he catches on, it's like a white hot blaze. He comes on like gangbusters — goes and burns holes in places like New York.

What we've got are 18-year-old middle class children, kids, right out of Andrews High School, out of Jefferson Davis, out of Highland Park in Dallas and Odessa Permian. And this is just their next classroom. The last one they were in was kind of a slick job with TV's hanging on the wall, carpet on the floor, nice cool air conditioning. They believe they've never done anything creative in their lives. They have, but nobody's ever pointed it out to them. They say: "I didn't come here to study art." It's an act of recognition. It's an act of seeing, most of all. How do you see light? How do you see form? How do you see space?

### Turning the student on

I told a student once, you're doing very nice work, but you're missing a touch of madness — intellectual madness . . . if there's no joy in the work, no delight in the process, no emotional content — then sure enough, there's not going to be any in the work itself.

So I start them off with a series of exercises — to see if they understand the concept of rhythm, or the concept of movement. I do it with little bars — little 1" x 6" black bars, and they have 5 of those to deal with. I tell them to show me a concept. Show me "falling over" — a form of movement. The domino effect. We attempt to remove those associational blocks they have with an idea, or with another concept. The purpose is to show them they *are* creative. It's an exercise in creativity. You get their energy up, get the flow moving, get them physically involved in the design.

Everybody knows that the grading of design is very subjective, so I grade on the amount of progress the students make. If they do all the assignments — a series of projects exploding into one another they learn something. They have to.

One thing I do with students is try to destroy the myth of "talent" - you got it.

some haven't, all that crap. Then I try to remove the mystery of design. It is not mysterious. It is very matter of fact. I tell them: "This is what architects do. Watch it carefully, because you might not like doing this. If you don't enjoy the act of picking up that pencil and drawing, or cutting and pasting those pieces of paper the fun of physically doing these things maybe you're not gonna enjoy architecture."

### Transferring competence

Many students can't transfer a competence in one area to another area. Say a student is very skillful on the guitar which I would know from a three-page questionnaire I distribute to each new design class, where I get all the facts, questions about their skills, magazines they read, films they like. So then if a kid brings me a drawing that's weak on color, and I know that kid likes Warhol, who's very strong on color, I can ask that kid: "Where is the color? You like color. It's there." And the kid'll grin. Or say a drawing is weak in rhythm, and I know the kid likes Joni Mitchell, Jackson Brown - I say: "You're strong in these things, so honor that. Deal with that. It's one of your strengths." I can even make these correlations with the way a kid dresses, or the color of Marksalot a kid picks up to do the simplest drawing.

#### Talking to each other

In the development of any important new style in art, the artists involved have to have a place where they can work together and talk. I find that architects don't talk with each other very much.

The collaborative aspect of art, of any art, is very imporant. An artist cannot work in a vacuum. He's got to test what he's doing. He's got to throw it out on the table and say: what do you think? Most architects don't do this, they don't talk about their art — to their own disadvantage. They don't know where they are. They don't get any peer criticism of their ideas, their work.

Without criticism, you're not really going to feed that brain muscle. This could be the role of continuing education, as I see it. Instead of the practitioner coming back to the university to learn, he is brought back to teach — to give us The Word. He ought to be coming back to the academy to kick his ideas around. We have no facilities here for that.

#### We're building cities

I don't have any equivocation about the role of architects in this society today. If I were the dean of the school of architecture, I'd move that focus right on urban design, right on top of it. I'd put the white light on it, and say to the architects: "Gentlemen, we're building cities. You energy people, we're building cities; you planners, let's synthesize the process so that our daily lives are better, so my trip to work is pleasant, so I've got alternate ways of going to work. I can walk, I can ride a bike, I can take a shuttle, I can take rapidtransit. That's freedom, that's choice. We have no choice in the present system.

### Solid. Just Ask Audrey, Carla, Cindy...

Even after 88 Hurricane seasons, the "Bishop's Palace" in Galveston has withstood this century's most furious storms.

Masonry made it so. Back in 1888, Architect Nicholas Clayton needed a design that would be bold but beautiful, sturdy but stylish.

So, with Texas limestone, granite and rich red sandstone, Clayton fashioned a Victorian mansion that continues to delight thousands of visitors each year. Masonry goes up faster; costs less to build and maintain. And, today's thin-walled masonry offers imaginative alternatives for demanding designers.

Building with masonry is a breeze ... even if you're expecting it to blow in at 150 miles per hour.

### Masonry Institute Houston-Galveston

Halbouty Center, 5100 Westheimer Houston, Texas 77056 (713) 629-6024



Scuba-diver's view of crystallized chicken wire becoming a solid wall.

# ocean grown shelters

Any definition of "creative architecture" as a force for positive change in our society must include a reference to architectural research. It is at this level of basic inquiry into fundamental principles of method, design, and materials that the tools are developed with which the practitioner may open new vistas in the shape and function of our built environment. That environment is surrounded by oceans teeming with riches scarcely even identified yet, much less tapped-and there's a research architect in Texas who believes he can "grow a house" in the Gulf of Mexico for about \$300.

His name is Wolf Hilbertz, associate professor in the School of Architecture at the University of Texas at Austin. He has been evolving his theory of "ocean-grown



Professor Hilbertz, above, his lab at UT/Austin, below.



architecture" since his days as a student in Frankfurt, Germany, where he gained a kind of notoriety for a "plastic youth hostel" which he had designed. The administrators of his program were so annoyed with his unruly approach to materials that they asked him to leave. which he did, moving first to New York and then to Detroit to work on a variety of projects for American architectural firms. In 1968, he took a job at Southern University in Louisiana, where he helped establish a now-thriving architectural program. He also founded a Responsive Environment Laboratory, through which, as he continued his experiments in "marine architecture," he caught the eye of Alan Taniguchi, former dean of the UT/Austin architectural school.

Since his arrival at UT/Austin in 1970, Hilbertz has conducted his marine research under the auspices of his Symbiotic Processes Laboratory. The stated philosophy behind his work is that modern society has strayed too far, in the construction of its megalopolitan urban environment, from the delicate global ecosystem of which human beings were once an integral, relatively unthreatening part. We take from the earth without giving back. We kill living things and build our habitats from their remains without regard to the "holistic, symbiotic" processes of the natural world. We have slashed through the "closed loop" of nature itself, and, in doing so, have unwittingly opened the door to our own destruction.

### **Closing the Loop**

Hilbertz and his students are seeking the wherewithal to help restore that loop. In the winter of 1972, as a preview of coming attractions, they attempted to demonstrate their theory of a "symbiotic" built environment through the construction of an "Ice City" in Iowa. They were foiled by unseasonably warm weather. But since that time, particularly with the opening of a new lab facility at UT's Marine Science Institute in Port Aransas, Hilbertz has made dramatic progress toward his vision of a low-cost, low-waste technology for "extracting buildings" from common sea water. When it is perfected, he says, it will also work in fresh water.

### **Crystallizing Minerals**

As with many important innovations, the basic principle in Hilbertz' technique is disarmingly simple. Indeed, it is a method not so much for building a wall or a dwelling as for stimulating nature to build it for us. A construction is shaped from chicken wire (or similar fabric), hooked to electrodes carrying both a negative and a positive charge, and submerged in water. Electrical current is then applied at very low amperage, producing an "electrolytic crystallization" of waterborne minerals around the wire mesh (roughly duplicating the process by which a mollusk shell is formed).

"When an electric field is established," says Hilbertz, "the catholyte becomes alkaline, the anolyte acidic. The cathode produces hydrogen, the anode oxygen. Both gases can be utilized to provide neutral or positive buoyancy. A structure might be 'grown' on the ocean floor. When calibrated and timed correctly, the collected gases will lift the matured formation to the surface, and the hydrogen can be stored for use as fuel."

How long would it take to "build" a house through electrolytic conversion of seawater? Hilbertz doesn't know yet, but in one experiment the squares of chicken wire had "grown" about 70% closed after 672 hours of continuous electrical current at 4.8 volts and 3.5 amps. And how might "ocean-grown architecture" be used? "Projects range," says Hilbertz, "from providing dams and breakwaters, aquaculture farms, current diverters, power stations, and towable or self-propelled structures to free-floating or stationary autonomous city-states." Structures thus accreted might also be moved and utilized inland, especially along waterways. The projected low cost of Hilbertz' system, finally, derives in part from its compatibility with alternative energy sources, particularly wind, solar, and wave action, hence freeing the "builder" from dependence on centralized power utilities.

Editor's Note: Professor Hilbertz wishes to extend credit for assistance on this project to several of his students—D. Fletcher, C. Krausse, G. Bush, and W. Moldenhauer.

Clockwise from top — 1: Wire mesh encrusted with shelllike formation through electrolysis. 2: Microscopic view of natural coral, showing similarities with man-induced formation. 3: Wire mesh, with electrolytic unit installed, ready for submersion at Port Aransas. 4: Artist's rendering of an ocean-borne "house-factory". 5: Closeup of electrolytic crystalline formation.











Today, masonry is as popular as it was in our forefathers' time. But for some newly important reasons.

After 200 years it's still there. The people who built America's historic buildings knew they'd be standing today. But they didn't know they'd be some of modern times' most admired buildings. Aesthetically and structurally.

Neither did they realize they were working with the most versatile building material ever used.

From pharoahs to presidents. Through the years, masonry has been used to build everything from pyramids and palaces to stores and schools. They each were unique. Because there are so many colors and textures of masonry to choose from. So the architect enjoys an incredible freedom of design.

Old reliable is economical too. Loadbearing masonry can greatly reduce initial costs over other structural frame systems. By as much as 30%!

And costs over the entire construction period are roughly 10% less. Thanks mainly to lower materials costs and a shortened construction period. So you can stop paying interim interest, and start charging rent sooner.

"Newfangled" masonry. Masonry construction that provides structural support without great bulk is a relatively new development.

Ignore all of masonry's other advantages and you've got a good reason why people are returning to masonry. Consider those same advantages and you've got a watertight case for masonry construction.

Texas Masonry Institute. We're a group of people who will be glad to tell you more about masonry's advantages. New and old. Contributing cities in Dallas, El Paso, Fort Worth, San Antonio, Waco, Corpus Christi and Austin. P.O. Box 9391, Fort Worth, Texas 76107. (817) 732-0041. Write or call collect.





# Everybody's Schoolhouse

Residents of East Columbus, Indiana, needed a new elementary school. And they wanted to encourage community education at all levels. So they asked for a building that would serve both functions. What they got was Fodrea Community School a wide-open, free-flowing learning center for year-around use by all ages.

Designed by the Houston firm of Caudill Rowlett Scott, with associate architect A. Dean Taylor, Fodrea exhibits a unique response to the needs of both children and adults. To isolate those needs, the architects utilized "squatters" — special feedback sessions with future users of the building. More than 250 East Columbus citizens, including 15 eager elementary school children, contributed ideas which ultimately found their way into the design solution. And this process itself reflected the kind of community involvement the school now generates in its operation.

Paul Kennon, President of CRS and



lead designer of the project, defined key design criteria: "Openness was highly desirable in this school design. The educational programs emphasized active, reactive and interactive learning processes that permit the student to grow at his own rate. There was an emphasis on group planning and team teaching to provide individualized instruction while maintaining continuity and articulation of the curriculum for the entire elementary program.

"In addition, the school had to be adaptable to a wide variety of community, civic, social, recreational and adult educational activities that required different types and sizes of space. The building had to respond to the people rather than forcing the people to respond to the building."

The final plan yielded a basically square structure built around a central courtyard and an always-open community concourse running diagonally through the building. On the first of two levels, open-planned instructional areas surround the media resource center and the child-inspired Kiva - a sunken, circular, den-like structure affording privacy for intimate groups. The mezzanine contains community education areas, administrative offices, teacher work areas and additional instructional space. Across the courtyard are a triangular art center, a semi-circular music room and a multi-purpose gym/activity room. The concourse scheme and the arrangement of entrances provides public access to the facilities without disruption of school activities.

Honor Award Texas Architecture 1975



The architectural component system which best afforded the flexibility required at Fodrea was an industrialized Unistrut space frame with a metal deck supported on concrete columns. The system can be adapted to spatial realignment as necessary. Exterior walls are highinsulation-value white metal panels which complement the white frame houses surrounding the school. Landscaping was done by members of the community, another example of the citizenry's active involvement.

Throughout the school appear manifestations of children's unfettered design input — bright colors, unusual spaces, slides and spiralling stairways funneling students here and there, a tunnel connecting learning areas with the dining room. Fodrea is just what the kids of Columbus felt their school should be. And of course the adults like it, too. For, from the very beginning, they've all been in it together.—LPF



Inside the Kiva



Owner: Bartholomew Consolidated School Corporation, Columbus, Indiana Architect: Caudill, Rowlett, Scott; Houston A. Dean Taylor, Columbus, Indiana Contractor: Repp & Mundt, Inc., Columbus, Indiana

May/June 1976





Looming as a dominant consideration in the design of Houston's First Professional Bank was the certainty that the site lease would be up for renewal in ten years. A lavish, costly structure would not be a prudent investment, yet neither should the building have a "temporary" look. The Houston firm of S.I. Morris Associates came up with a "simple" architectural solution: provide a "machined finish" to a very basic and economical structure.

Further requirements called for a separate motor banking facility, adequate on-site parking, and retention of an existing covered walkway connecting buildings on each side of the very narrow urban site. Early in the stages of conceptualization, a two-story scheme presented itself as the approach that would best maximize use of the small site and complement the dominant surrounds. After considerable research into building systems, a structure of load-bearing, tilt-up concrete panels was selected as the most feasible construction approach for the project.

This exterior simplicity is repeated in the concept of a free-flowing interior, furnished with expanses of dark green carpeting, numerous large plants and simple furniture of polished stainless steel and black leather or white plastic laminate. Dominating one wall is a huge canvas sculpture, devoid of color, by



artist Check Boterf. The mezzanine was included to increase usable space, providing for open office areas above and enclosed workrooms below.

In a bold but practical move, the architects left the ceiling deck fully exposed. The concrete walls were extended above the roof plane to shield from view the mechanical system, which sits atop the roof and feeds directly into the space. At the same time, drama was created in the positioning of skylights to flood the walls with natural light. Visible only from directly below, the skylights create a floating plane of the ceiling deck.

In sum, First Professional is a pleasant place in which to bank; you might say it's "simply" delightful. —LPF

Owner: First City Bancorporation, Houston Architect: S. I. Morris Associates, Houston Structural Engineer: Ellison Engineers, Inc., Houston Consulting Engineer: Timmerman Engineers, Inc., Houston Contractor: Texco Construction Corp. Honor Award Texas Architecture 1975



Sculpture by Check Boterf



### Youngblood Austin It was a prominent Fort Worth architect who was responsible for young UT Austin engineering graduate Jay W. Barnes' pursuit of a career in architecture. The late Preston Geren, Sr., Barnes' first employer following his graduation from UT Austin

to AIA Fellowship

Jay W. Barnes

Four Texas Architects

Preston Geren, Sr., Barnes' first employer following his graduation from UT Austin, was both mentor and friend and exhibited a dedication to his clients that Barnes has attempted to emulate through the years. He also has held in great esteem those of his colleagues who have attained the rank of AIA Fellow, and now counts it a high honor to be included among them. Barnes has been heavily involved in

Appointed

Barnes, Landes, Goodman,

TSA activities, particularly in the area of governmental affairs, and was TSA President in 1973. He was appointed by the Governor in 1972 to the State Board of Performance Specifications for Mobile Homes and last year served on the Land Commissioner's Citizen Advisory Committee on Coastal Zone Management. Architects' active participation in civic and legislative affairs is important. Barnes feels, and he has observed an increase in such activity during the past few years. "There are some dangers in these involvements," he says, "but I believe in the long run they contribute in a positive way to improving the public image of the architect."

Barnes feels, however, that the primary challenge facing the profession is to be able "to change and improve our expertise to meet the expanding needs of our clients ... and while we are about it, to still produce good design."

Benjamin E. Brewer, Jr.

# John M. McGinty





Here we present four Texans who are among 71 architects selected for induction into the College of Fellows of the American Institute of Architects at its national convention in Philadelphia May 3. Apart from the Gold Medal, which may be presented each year to one architect from any part of the world, Fellowship is the highest honor the Institute can bestow upon its members. We join their colleagues in saluting these four who have made places for themselves among the elite of the architectural profession.

Lloyd G. Borget

W. Barnes

lav

### Lloyd G. Borget MacKie and Kamrath Houston

As a boy, Lloyd G. Borget liked to stand around construction sites watching houses being built, and fascination with the thought of designing them led to his pursuit of architecture. As an architect, however, Borget is more likely to be working on a major project, such as the MD Anderson Hospital and Tumor Institute in Houston. He has been continually involved in development of the worldrenowned and award-winning institute, which he considers to be among his major works. Other primary works include Houston's Central Health Administration Building, Memorial Drive Presbyterian Church, University of Houston Science and Research Building and Exxon's Houston Research Center.

Borget sees his appointment to AIA Fellowship as the "ultimate achievement" of a career that began in 1937 with his graduation from the University of Minnesota. Through the years, Borget has remained content with his choice of professions. "Architecture has created a keener interest and insight into everything around me," he says, "as well as having made me aware of the past, its effect on the present, and its possibilities for the future."

In leisure hours, Borget may be found swimming, reading, woodworking or taking photographs, and he is very fond of travel. But his greatest challenge and source of fulfillment is "trying to be an 'architect' in the fullest meaning of the word."

### Benjamin E. Brewer, Jr. Neuhaus + Taylor Houston

Benjamin E. Brewer, Jr., was only eleven years old when he first said he wanted to become an architect. "I'm afraid I really didn't have a very good idea back then of what the word even meant," Brewer says. But whether properly informed or not, he allowed his early propensity for the visual arts to influence him toward a pursuit of architecture and was awarded degrees from Rice and Princeton.

Even now, as Principal-in-Charge of Space Planning and Interiors for a large and successful firm, Brewer is still not sure about the word "architect." "Our role is continually broadening, more nebulous, harder to define," he says. "We've gone far beyond the bricks and mortar business ... there are so many areas now in which to serve." Brewer himself is in what he calls the "people business." whether it's relating to individual or multiple clients, or getting the best out of his design staff.

Regarding his appointment to Fellowship, Brewer maintains that, although "a plaque on the wall doesn't mean much in itself, my high regard for fellow members of the profession gives this honor as strong a meaning as anything I could receive. There's a bond there that's very substantial and real." Brewer has been active in professional affairs and in 1974 served as TSA President.

Known for his vitality and drive, Brewer thrives on the fast pace of today's profession. "All we can really depend on," he says, "is that we won't be practicing tomorrow in the same manner we are practicing today. And those firms which can best adapt to change will enjoy the greatest success."

### John M. McGinty The McGinty Partnership Houston

Architecture sort of runs in the family of new Fellow John M. (Jack) McGinty, who practices with his father, uncle and brother. "I was an architect," he says, "before I knew there was any alternative."

McGinty was graduated from Rice and Princeton and has taught design at Rice and the University of Houston. In 1967-68, he served as a White House Fellow assisting Secretary of Interior Stewart Udall. He is founder and member of the board of the Houston Urban Bunch, Houston's non-profit community design center. McGinty has been active at the state and chapter levels of TSA and next year, at age 41, will be the youngest architect to serve as AIA president.

On this closed-system planet, beset with continuing crises and shortages, McGinty sees the role of architect as being all-important. The profession should take the lead, he says, in moving toward energy self-sufficiency in buildings, and should influence national land use, urban planning and transportation system design to further reduce energy requirements. Further, he applauds the trend toward recycling of old buildings: "To preserve what is good and permanent and valuable in the way of buildings not only makes economic sense, but is the way to have a beautiful city." To insure the ability of the profession to make the strong impact required, McGinty would hope that "architects can meet our future with a greatly increased sphere of activity combined with a new sense of professionalism born of performance."



# **PPG Solarcool** glass gave an old department store a brand-new life.

Once Miller's Department Store, it is now the Biernbaum Building, a valuable commercial-office rental property.

And PPG <u>Solarcool</u> Bronze reflective glass and matching spandrels made the big difference.

They did more than just renovate this building. They revitalized it. PPG Solarcool reflective glass

gave the building a shimmering, lively, contemporary look ordinary glass could never match.

While it costs somewhat more than tinted glass, <u>Solarcool</u> reflective glass causes such a dramatic transformation, and can make a building so easy to rent, that in the long run its higher price can prove a very profitable investment.

Plus, it's reflective. Which means it reduces glare, heat gain, and even some of your airconditioning costs. And since it can be cut, tempered, and made into insulating units locally, it's especially convenient for remodeling and renovation work.

With the skyrocketing cost of new construction, renovation is becoming a more and more attractive alternative. And renovating with PPG <u>Solarcool</u> Bronze reflective glass may well be the most attractive of all.

For complete details see your local glass distributor, or write: PPG Industries, Inc., <u>Solarcool</u>, Dept. T-56, One Gateway Center, Pittsburgh, Pa. 15222. PPG: a Concern for the Future

Project: The Biernbaum Building, Knoxville, Tenn. Owner/Contractor: Ralph Biernbaum Real Estate, Stamford, Conn. Architect: Weeks and Ambrose, Knoxville, Tenn.



## **Endangered Species**





Opera House and south side of square.

Hood County Courthouse.

### **Granbury: Preserving its Texas Town Look**

### **By Mary Lou Watkins**

If there is any one object or event to symbolize the economic, social, and architectural rejuvenation of the little West Texas town of Granbury, that object and that event come together six times a week on the stage of the Granbury Opera House as the footlights flood up to illuminate the olio.

An olio, for those of you who have not trod the boards, is the front canvas curtain of the old-time theatre. On it are painted colorful ads, paid for by the merchants of the town who support culture. There is one problem with the Granbury Opera House olio - it is not big enough to include the names of all the merchants, ranchers, farmers, students, townspeople, and out-of-townspeople who support this particular slice of small town culture.

The word olio comes from the Spanish olla, meaning earthen pot, dish of stew, miscellaneous collection - a word applicable to both the culinary habits and the architectural style of pioneer Texas. Particulary in small towns, food and shelter were the prime concerns of life. Texans approached them both with gusto, but with styles and methods as diverse and as varied as the many countries and cultures from which these early Texans came. Texas was another melting pot. With such a heritage, its foods and its architecture developed freely, limited only by availability of materials and adapting readily to conditions at hand.

Yet there is a certain look about a little Texas town. If you are a Texan, you would recognize it anywhere, just as you recognize Texas food and Texas speech. Granbury has that look intact. One of the na-

tives proudly quotes architect O'Neil Ford: "It is incredible to me that the buildings on the square were not built at the same time - or at least by the same man. They have well-related dimensions, a good contrast of materials, but a unity of concept - well, just try to keep it whole. It was built a business community, keep it that way - viable and self-supporting. We can't afford any more museums."

These were hip-shooting remarks by a famous architect who was just passing through, but the remarks were remembered, quoted, and requoted by the handful of Granbury people who, in the summer of 1970, set out to restore their town square. They had no federal grant and no state money- only a deficit in the city treasury. Theirs was purely a grassroots movement by non-professionals who didn't know enough to know that the job couldn't be done.

Granbury was just one of many little Texas agricultural towns bypassed when industrial "progress" hit the state after WWII. The two-lane hardtop that moved farm products to market also moved retail buyers to Fort Worth and Dallas Stores. The railroad had discontinued passenger service and there was no airport. Young people were leaving town in search of jobs. True, the Brazos River was being dammed to create a lake, but the way things had been going, Granbury stood fair to becoming an ice-stop, bait-shop village full of fishing shacks and mobile homes parked just anywhere.

These were the facts. But facts are not decisive. It is people's attitude toward facts that determines the course of events.

And the people of Granbury seem to have retained something of that pioneer attitude and unity of purpose that led their forefathers to create the town in the first place; they decided to re-create their town. Citizens petitioned the Texas Historical Commission for professional advice, and called a town meeting on zoning.

Ed Hunt and Bob Reynolds, two young architects from Dallas, gave freely of their time and advice during this early period. They counseled, attended meetings, and made speeches for free. There was no public money to pay them. They knew it, but they helped anyway. When they got better paying jobs elsewhere, the Texas Historical Commission sent architectural advisors Gary Hume, Steve Smith, and Chip Kaufman. Meantime, a non-profit corporation had been formed to purchase the Opera House, and the news media had become interested in Granbury. The town was on its way.

Private individuals made donations to the Opera House fund ranging from \$5 to \$5000. The Moody Foundation of Galveston and the Carter Foundation of Fort Worth made generous donations. The drama department of Tarleton State University at Stephenville offered its help, and the local bank arranged financing. Ed Beran, of Beran & Shelmire in Dallas, was selected as the architect for the Opera House renovation. All spruced and sparkling, it opened last June to a standingroom-only crowd and has continued to operate in the black.

Granbury still has no state restoration money, no federal grants. Even Granbury Lake was built by private enterprise. But

### ADOLPHUS DALLAS (the Hotel People Always Want to Come Back to)

Whip Inflation Now

SPECIAL OFFER

FROM

15%\* discount on any Bedroom any Sunday, Monday, Tuesday, Wednesday, or Thursday Nights.

**50%\*** discount on any Bedroom Friday and Saturday Nights.

Call us on our Texas Watts line 1-800-792-8922 or our regular number 1-214-747-6411 or write to Arthur W. Lang, Jr., General Manager, Hotel Adolphus, 1321 Commerce, P.O. Box 2340, Dallas, Texas 75221. Please Bring This Ad With You To Receive Your Discount. "Sorry, but discount is not valid if you are attending a convention or meeting in the Hotel. Coupon Good till 12/31/75 Commerce at Akard (214) 747-6411



Granbury continues to restore and rebuild and renew its faith in the American dream of cooperative can-do. And the town seems to attract creative people who share that dream — not as pure retrospect or nostalgia, but as a philosophy to be lived in the mainstream of today's business world.

Mary L. Watkins is a great niece of David Nutt, who co-founded Granbury in 1868, and of his blind brothers Jesse and Jacob, who in 1893 built a two-story limestone building on the square to house their thriving grocery business. Later the building served as a hotel and dining room. A strong force in the movement to preserve Granbury's architectural heritage, Mrs. Watkins has restored the 1870 David Nutt mansion and, in 1970, re-opened the "Nutt House" Dining Room. Word is she serves the "best food this side of your Aunt Sadie."

### Itasca's Wilkinson House: Fading Away



Sirs:

The Wilkinson House in Itasca is one of the few remaining mansions in Texas which reflects the Richardsonian influence. I wonder if it has been researched and if there are measured drawings and photographic records of it.

I am interested in this structure and would be pleased to hear from others that share my interest. It is a remarkable house and is deserving of any concerted efforts to save it.

I would be pleased to hear from anyone who might be interested in its preservation.

Sincerely, Hyder Joseph Brown, Jr. 1512 Hardouin Avenue Austin, Texas 78703

The above letter from Austin architect Joe Brown comes with fond childhood recollections of the old house, which was the home of his grandparents, Mr. and Mrs. Edward Wilkinson. "It's such a grand house," Brown says. "I hate to see it fading away." The following commentary is from Brown's own notes.

The house at 507 East Adams Street in Itasca is known locally as the "Old Wilkinson Home." It faces south on Adams and sides west on Files, both streets being named after Adams Files, a pioneer of Files Valley and Itasca.

The Wilkinson House reportedly was begun by a member of the Files family sometime before 1900. It was acquired in an unfinished condition about 1903 by Edward Wilkinson, Itasca businessman, financier, industrialist, churchman and real estate investor. Wilkinson set about remodeling, restyling and enlarging the structure for his wife Ada and their seven children.

In 1906, the completed house contained approximately 23 rooms, including spacious halls, baths and two unfinished attic rooms on the third floor. The first floor contained a big kitchen, a large butler's pantry, an oversized dining room, library, reception room, formal parlor, main stair hall and a three-room master suite which served Mr. and Mrs. Wilkinson.

### Witch's Hat

The second story housed the children's bedrooms, a back stair for family and servants, and a middle hall for the staircase to the third floor. Each of the three stories contained a curious round room enclosed by a tower-like structure and roofed by a witch's hat. The round room was used on the first level as an entry and sitting room for the master suite, and on the second level as a play room, guest room, and morning room. On the third level, it was called "The Tower Room" and was reserved as the art studio for the several artist members among the Wilkinson children.

In deference to the expansive soil upon

which the house was built, Mr. Wilkinson stationed new concrete foundation piers at strategic points, with redwood barrels used as forms. The house was crowned with a system of decorative metal lightning rods, replete with vertical spears and glass bulb adornments. Spiralled metal rods lead to the ground to complete the system of lightning protection.

The exterior of the house was sheathed in Louisiana cypress and was painted a gleaming white. The interior was finished with stained pine door and window facings, hardwood floors and board walls papered with patterns of the period. Some of the first floor ceilings were surfaced with ornate painted pressed metal. Floor length windows in the formal parlor were fitted with vertically sliding walnutstained shutters. Fireplaces were executed in glazed ceramic tiles and stained woods of restrained designs.

In its prime, the Wilkinson Home was one of Itasca's centers for social events and informal neighborhood and church gatherings, as well as a commodius family home. There are accounts of club meetings, teas, forty-two parties, luncheons, weddings and dinners having been held in the downstairs parlors and dining room. The Wilkinson children and their friends played abundantly throughout the house and on numerous occasions held Halloween parties in the third floor attics.

### **High Victorian**

Architectural style of the house reflects High Victorian with a strong feeling of shingle style, then popular in mansions of the East. It exhibits many of the characteristics found in famous buildings designed twenty years earlier by architect Henry Hobson Richardson of Boston. The architect for the Wilkinson House has not been identified to the writer, nor is the contractor who built it known. It is a composite of several styles and shows the transitional design common in turn-of-thecentury architecture. Further beclouding its purity of style are porch columns which are capped with modified Ionic capitals.

Following Mr. Wilkinson's death in 1923, Mrs. Wilkinson continued to live in the home until about 1941 when she moved to Cleburne. The house was sold by the family sometime during World War II.

programme martin...a comprehensive modular wall system. whether designing a town house or multi-room mansion, treat your imagination to an infinite selection of flexible components. for additional information, visit our showroom or write for brochure.



programme martin dept c 6833 san pedro san antonio, texas 78216 (512) 341-4451

manufactured in san antonio, texas

photo by alexandre george



# Mosher energy generates power

Mosher's commitment to power plant construction was again demonstrated by the fabrication of 7,462 tons of support steel for Southwestern Public Service Company's Harrington Unit #1.

Building the first major Coal Fired Electrical Generating Plant in the Texas Panhandle, Southwestern required Scrubbers and Precipitators as well as the traditional Boiler structure and Turbine building.

By linking the energy of both the Houston and Dallas Plants, Mosher supported the entire project with steel.

A Trinity Industries Company



HOME OFFICE AND PLANT: 3910 Washington Ave., Houston. OTHER PLANTS: Dallas, Eubbock, San Antonio, Shreveport, Tyler.



One year ago (Texas Architect, May-June 1975), we reported on the uphill struggle of a group of Austin citizens to save from destruction a "Little Thicket" - 400 acres of unspoiled woods, creeks and limestone canyons, abundant with rare species of wildlife, all within sight of the Capitol Dome. The proposal to create the Wild Basin Wilderness Park for the benefit of all Texans and its visitors is still viable. However, immediate financial help is needed for acquisition of the core tract, which is still on the open market and in danger of being developed. The most recent source of hope is the agreement of Travis County Commissioners to sponsor an application for matching Federal funds if an initial \$175,000 in acquisition money can be raised.

A recent flurry of benefits and fundraising activities on the part of concerned citizens has pushed the basic fund to within reach of the \$175,000 amount. If you or your organization wishes to help, send donations or inquiries to: Wild Basin Fund, P.O. Box 13455, Austin, Texas 78711. Make checks payable to Wild Basin Park Fund.

**Texas Architect** 



### Laughter Is Its Own Reward

### But Texas Architect will pay you for it anyway

We've decided to liven up the magazine with "arkiteck" jokes and cartoons which we hope to attract from our readers. If you've heard a good one lately, or if you or someone you know has drawn a cartoon or even a piece of office graffiti, send it in to us. We'll pay you \$5 for every joke and \$20 for every cartoon or drawing we print, and we'll return the ones we don't use. (Jokes about *clients* of architects are okay too. Also jokes and cartoons about students, buildings, energy, transportation, government your imagination is the limit.) Mail submissions to Humor Editor, *Texas Architect* Magazine, 800 Perry-Brooks Building, Austin, Texas 78701.

## In the News

Mace Tungate, Jr., FAIA, partner in the Houston architectural firm of Calhoun, Tungate, Jackson and Dill, has been appointed Chairman of the new national pilot training program for internarchitects. The program is sponsored by the National Council of Architectural Registration Boards (NCARB), the Amer-



Mace Tungate, FAIA

ican Institute of Architects (AIA) and the Texas Society of Architects (TSA).

Only three states have been selected to participate in this year's pilot InternArchitect Development Program (IDP): Texas, Colorado, and New Jersey. Tungate is Chairman of the national IDP Pilot Committee and also Coordinator of the Texas portion of the program. As Texas Coordinator, he will be supervising approximately 70 young intern-architects placed in 45 different firms, including his own, throughout the state.

"Up until now," says Tungate, "it was quite common for a young intern-architect to spend his entire three-year internship with a firm doing one thing over and over again. Excessive specialization often prevented his being exposed to all the areas of architectural practice. It didn't prepare him for his licensing exam either."

The IDP Committee has identified 28 major areas of architectural practice in which every intern-architect should have some training. The IDP pilot program runs from January, 1976, to May, 1977, and involves a total of 120 intern-architects. During the allotted time the individual intern keeps his own record of his learning in each of the 28 areas. He and an appointed advisor hold full-scale evaluation sessions every four months and identify areas that need more emphasis. Increased knowledge in a given area is then



provided through A1A training films and seminars, through reading materials, and through travel and observation of other offices besides the one to which the intern is assigned.

When the program is concluded, it will be evaluated by all the participants — interns, advisors, and sponsoring firms. If it is judged successful, 1DP will be established in every state.

"What we are trying to do," says Tungate, "is something that should have been done long ago — that is, organize the training of young intern-architects between college and the licensing exam. Our aim is to make the upcoming generation better practitioners than we are — and they will have to be, to deal with today's complex practice."

### Solar Project

A solar energy research and development study being conducted by the Texas Department of Mental Health and Mental Retardation (TDMHMR) may result in lower utility bills for department facilities throughout the state, according to architect Phil Bible, chief of design and construction for TDMHMR.

Results of the study will be applied in early summer to the construction of Sol R 1, a cottage for 15 mentally retarded clients of the El Paso State Center for Human Development, a TDMHMR facility. A solar energy system will heat and cool the 4,400-square-foot house and also heat its water supply. Construction of Sol R Twin, an identical cottage with a conventional heating and air conditioning system, will enable the department to monitor and compare the fuel consumption, maintenance and equipment dependability.

The project's goal is to evaluate savings over long-term operation. If solar energy proves its worth, the department will consider incorporating such systems into future construction.

The 10-year cost savings in fuel consumption of Sol R I over Sol R Twin is estimated to be almost \$13,000 — assuming no change in fuel prices and no inflation. With those factors considered, the potential savings of a solar system over conventional fuel sources is much greater.

Solar equipment in Sol R 1 is designed to provide about 80 per cent of the load requirements. A gas-fired system which can handle 100 per cent of the load if necessary will be included as a back-up unit.

### **AIA Awards**

A pair of early glass skyscrapers, the Chicago apartment towers at 860-880 Lakeshore Drive, designed by the late Ludwig Mies van der Rohe, FAIA, have been selected to receive The American Institute of Architects' 25-Year Award.

The award is given for architectural design of enduring significance and is restricted to structures at least 25 years old. It will be presented at the AIA national convention in Philadelphia, May 2-5.

Completed in 1951, the two 26-story buildings are the earliest examples of apartments in the "glass tower" form introduced by Mies van der Rohe. The structure of the buildings is a rigid steel frame with concrete. Steel 1-beam mullions run the full height of the building and the walls are of clear plate glass extending from floor to ceiling on each story.

Situated on the shore of Lake Michigan,



860-880 Lakeshore Dr.

the cooperative apartments command a breathtaking view of both the city and the lake. Because of the trapezoidal shape of the site, the buildings were placed at right angles to one another, with a slight overlap that visually ties the two together. The towers have separate lobbies and entrances, but are linked by an outdoor terrace under a suspended roof.

The exterior of the buildings retains its newly-minted appearance, even after 25 years. The interiors, however, have undergone substantial changes as apartment owners took advantage of Mies' design which permited interior walls to be moved.

### **Publications Available**

The AIA Research Corporation, through grants made possible by the Solar Heating and Cooling Demonstration Act of 1974, has published eight new books dealing with different aspects of solar energy utilization in housing. Six of the books, Energy Conservation in Building Design, Solar Energy and Housing: Design Concepts, Solar Oriented Architecture, Solar Energy Home Design and Here Comes the Sun, are now available from the TSA Office.

For those interested in authentic

restoration, the TSA has available *The Restoration Manual.* Written by Orin Bullock, Jr., FAIA, the book provides information necessary to "read" older structures so as to preserve and reconstruct in a manner compatible with original design and construction.

To order any of the books or to receive a publications price list and order form, contact the TSA Office, 800 Perry Brooks Building, Austin, Texas 78701.



### **Engineer Appointments**

Recently appointed by Governor Dolph Briscoe to a six-year term on the State Board of Registration for Professional Engineers was Fred J. Benson, of Bryan. He replaces James D. Pitcock, Jr., of Houston.

Reappointed to a six-year term was Robert Lockhart Reid, of Houston.

Named to replace resigning Board member Vel Stephens of Fort Worth, was Robert E. Layton of Tyler, whose term will expire September 26, 1977.

### Women in Construction

The National Association of Women in Construction (NAWIC) has announced the extension of its membership to women who live outside the immediate areas of active chapters.

Any woman in construction-related areas such as architecture, general contracting, supply sales, engineering, construction news service and associations, or sub-contracting is eligible for membership. She can be employee or employer and must live at least 50 miles from an active chapter to qualify as a member-atlarge.

Benefits of membership include chapter

functions, national and regional activities, workshops, discounts on professional books and car rentals, group insurance and a job placement service. Interested women should contact National Association of Women in Construction, National Executive Office, 2800 West Lancaster, Fort Worth, Texas, 76701.

### Solar Exhibition

The Solar Energy Industries Association will hold its second annual meeting and product exhibition in Washington, D.C. June 11-14 at the Hyatt Regency Hotel.

The program will cover business opportunities, marketing strategies, architectural implications of solar equipment and the industry/government interface. Package registration fee is \$185 for nonmembers of SEIA.

For more information, contact SEIA, 1001 Connecticut Ave., N.W., Washington, D.C. 20036, (202) 293-1000.

### Florian Kleinschmidt Dies

Florian A. Kleinschmidt, Professor Emeritus of Architecture and Allied Arts at Texas Tech University, died in Lubbock March 13. He was 78.

Kleinschmidt, who organized Tech's



Business Interior Consultants 2107 Main Street Dallas, Texas 75201 214/748-3314 original architecture department, taught there from 1928 until his retirement in 1966. He received a bachelor's degree in architecture from the University of Minnesota and a master's degree from Harvard University. He was the author of a number of books on the subject of architecture.

### **News of Firms**

Larry C. Donham has become a partner in the Andrews and Lubbock firm of Riherd & Huckabee. The new firm name is **Riherd, Huckabee and Donham.** 

The Austin firm of **Emerson-Fehr** has relocated to 2001 North Lamar Boulevard. Mailing address remains P.O. Box 9, Austin 78767. Telephone remains 512-472-9224.

Joe Federico, Jr., of Dallas, has moved his architectural offices to 6116 North Central Expressway, Suite 720, Dallas 75206. Telephone: 214-361-8287.

Houston architect **Charles H. Boelsen** has relocated to 427 West 20th Street, Suite 100, Houston 77008. Telephone: 713-868-5555.

The Houston firm of Ford & Heesch, Inc. has been changed to **Theodore M. Heesch, Inc.** Benson Ford no longer is associated with the firm.

Page Southerland Page of Corpus Christi has employed Jim W. Machlan as executive architect with special responsibilities in design, interiors and graphics. Machlan's former firm will be terminated with the completion of its current projects.

Frank J. Clements has been promoted to vice president in charge of technical services in the Houston food services consulting firm Mulhauser/McCleary Associates.

M. Edward Stiles and Jeff Whitaker have been named associates in the Lubbock firm of Stiles, Roherts, Messersmith & Johnson.

Howard G. Decker and Deen E. Ritter have formed **Decker/Ritter Architects**, **Inc.** Formerly Howard G. Decker and Associates, Architects, the new corporation will office at 2997 LBJ Freeway, Brookhaven Office Park, Suite 206, Dallas 75234. Telephone: 214-620-2700.

Dan Burbine, 1975 Rice/UT Austin double-master's architectural graduate, reports that he is working with the firm of Llewelyn-Davies Kinhill in Sydney, Australia, as project coordinator of a hospital expansion project.

The Dallas firm of Jack Corgan & Associates has announced the changing of its name to Corgan Associates, Inc., Architects and Engineers.





Prestressed & Precast Concrete Products Rock Products Quick-Lime and Hydrated Lime Concrete Asphaltic Concrete

> McDonough Brothers Incorporated Rt. 2, Box 222 IH 10 at Beckman Rd. San Antonio, Texas 78229 (512) 696-8500

### **News of Schools**

**Rice** — The Rice University School of Architecture will participate in a new work/study program in *Preservation and Adaptive Reuse* during the 1976-77 academic year. The program will be conducted by the Institute for Architecture and Urban Studies in New York City and will offer courses covering the issues of design, history, technology, law and economics as they pertain to the subject matter.

Texas A&M — Dik Vrooman, Professor of Architecture and Environmental Design at Texas A&M, has been elected "University Faculty Lecturer" for 1976 . . . an honor awarded to one faculty member per year.

UT Austin — The School of Architecture at UT Austin seeks faculty members for two full-time positions which will be available September 1, 1976.

One position is in Structural Design/Building Technology and Construction Materials; it involves teaching, research, curriculum and program development, and requires a thorough knowledge of past and present technology. Applicant must show evidence of teaching



Phone (214) 748-9421 . 1306 River Street

DALLAS, TEXAS 75202

excellence and ability to communicate the concept of technology as a design tool. Master's degree required. Professional registration and five years practice desirable.

A second position is available in Graphic Design/Drawing/Basic Design. Successful applicants should be knowledgeable in traditional skills as well as emerging ones and be able to relate graphics/drawing as an environmental resource in the design process. Photography helpful.

Send resume, references, statement of objectives, and work experience to John A. Gallery, Acting Dean, School of Architecture, The University of Texas at Austin, Austin, Texas 78712.

### Appointee

Houston architect John S. Chase has been selected to serve as a member of the Regional Public Advisory Panel of the



John Chase

General Services Administration. Region 7 is composed of Texas, Arkansas, Oklahoma, Louisiana and New Mexico.

### **Coloring Book**

TSA's Houston Chapter has published a Houston Coloring Book in conjunction with its month-long celebration, "Houston/Architecture Festival '76."



**SINCE 1934** 

Designed by architectural illustrator Gregory Cook, the book depicts buildings, parks and significant landmarks in and around the city. It is available for \$2 through the Houston Chapter office, 3121 Buffalo Speedway, Suite 404, Houston 77098, (713) 629-0191. Profits from sale of the book will go to "Houston's Birthday Gift to America," a project involving creation of three parks in the downtown area: Buffalo Bayou Park, Allen's Landing Park and Tranquility Park.

The chapter's festival included a variety of architectural tours, movies lectures and exhibits during the month of April.



Houston Mayor Fred Hofheinz tries out the first copy of the Houston Coloring Book, observed by visitors from St. John's School and Houston AIA Chapter President Mel Hildebrandt. Hofheinz declared the month of April Houston/Architecture Month.

Dean of Admissions: "Have you a church preference?" Entering Freshman: "Yes. Gothic."

- Realtor: "This is just the house for you, sir-Tudor style."
- Buyer: "I don't care much for Tudor."
- Realtor: "We'll fix you right up, sir. Frank, get some paint thinner and rub the oak beams off the ceiling."





May/June 1976



# Technical and Practical Assistance

with Precast Structural Systems

More than just a precast supplier, Wolco is dedicated to serving your precast structural needs—with technical and practical assistance for simple or fancy structures.

Wolco gives architects and engineers a wide latitude in design on their structures, with facilities to produce both custom and standard structural members.

Unusual loads and/or spans can be accommodated. Deliveries can be scheduled to allow the most efficient site usage.

Controlled plant conditions assure strict adherence to specifications for custom or standard double tees, single tees, cored planks, inverted tee beams, L-beams, rectangular beams, and columns.

Call Wolco for technical and practical assistance—we're more than just a precast supplier.

Serving the area within 250 miles of San Antonio.

WOLCO

CORPORATION P. O. Box 21146 • San Antonio, Texas 78221 • Tel. (512) 924-4471

### Letters

Editor: My sincere thanks for putting my name on the mailing list for *Texas Architect*. I am thoroughly familiar with the quality of the magazine, and look forward to reading it regularly.

A special thanks for the TSA Handbook '76 with its fine two-page history. It is a highly readable piece that reminds me of how new is the development of much of our state's high culture; yet, how all of you are to be congratulated for bringing architecture in Texas along so fast.

Jack R. Maguire Executive Director Institute of Texan Cultures University of Texas at San Antonio

### **Editor:**

The Texas Society of Landscape Architects (TSLA) appreciates the *Texas Architect* publication of the newly elected officers in the January/February issue and for the recognition of officers of the Southwest Chapter of American Society of Landscape Architects (ASLA) in the March/April issue.

However, in fairness to its members, all registered landscape architects and other professionally licensed Texans, TSLA is compelled to take exception to the statements made and misconceptions alluded to in a "Letter to the Editor" written by the uninformed Mr. Lawrence A. DeMartino, Jr. of San Antonio that appeared in the TA issue of March/April. TSLA, in rebuttal, believes that its stature in the professional practice of landscape architecture in Texas can best be understood by briefly relating its origin, membership structure, objectives, achievements and its relationship to ASLA, other professional groups and to the Texas State Board of Landscape Architects.

In 1950, a group of professionally trained landscape architects, landscape nurserymen, and contractors formed a corporation under the title of Texas Landscape Association (TLA). The original incorporators included several members of ASLA. Over a span of 15 years, attempts were made by TLA to have licensing legislation enacted by the Texas Legislature to protect the public welfare and those qualified to practice landscape architecture. In the later years, TLA was joined in these efforts by the ASLA Chapter and in 1969 the Landscape Architects Registration Act became Statute. Shortly thereafter, TLA was dissolved, then reorganized as the Texas Society of Landscape Architects and chartered as a non-profit corporation. One of the three incorporators is a prominent active member of ASLA. The primary objective of TSLA as a viable, strong statewide body

STEWART OFFICE SUPPLY CO. TEXAS' LEADING CONTRACT DEALER FOR COMMERCIAL INTERIORS

Offering these full services

to the Professional:

Procurement & Expediting Showroom Facilities Delivery/Installation Continuing Service Product Research Survey Analysis Warehousing

Make-Ready

Budgeting

Receiving

Authorized dealer for the following manufacturers:

GF Herman Miller Knoll Lehigh-Leopold Stow\Davis Kittinger Gunlocke Harwood House Probber Jens Risom

. plus many others

Showrooms: 401 So. Lamar • Dallas



400 So. Austin • Dallas 75202 214/747-8581



A 60% production capacity increase in the Elevator Cab Division guarantees a swift delivery!

(And it's the same fine Coerver quality and custom craftsmanship!)



representing all registered landscape architects is to support and assist the State Board in implementation and administration of the Registration Act. TSLA is dedicated toward sponsoring and promoting legislative action for the protection of the public welfare and practitioners, to exchange ideas and provide mutual assistance to members, and to secure and maintain a higher standard of ethics in professional practice.

Eligibility for membership in TSLA is open to all registered landscape architects in Texas, regardless of their affiliation with other state or national organizations, such as ASLA and AILA. The structure of the TSLA membership includes members of both these groups. There exists no competitive or diverse attitudes between TSLA, ASLA or AILA members of the Society. Registration requirements of the State Board are the same for TSLA members as ASLA members through the use of the National Test and Grading System as published by ASLA in its entirety.

TSLA and the SW Chapter of ASLA have collaborated in vital legislative matters affecting the profession of landscape architecture in Texas during the past six years. TSLA fulfilled an instrumental role in recommending to the Governor the latest two appointees to the State Board of Registration, both of whom are ASLA members. The State Board recognizes TSLA, along with ASLA, as official professional bodies representing all registered landscape architects in Texas.

Robert W. Caldwell Immediate Past President, TSLA Chairman, Legislative Committee

John F. Teas President, TSLA

Editor: I just read the March/April issue of the *Texas* Architect, and I want you to know how much I appreciate being placed on your mailing list.

It is truly a professional publication, and I thoroughly enjoy reading it.

Keep up the good work.

Bob Bullock Comptroller of Public Accounts

## IF OUR BRICK LOOKS A LITTLE SMUG, IT'S NOT WITHOUT GOOD REASON.

Six good reasons, actually. Reasons that could save you quite a bit of money on your next building.

There's a new study out, done by the Texas State Building Materials and Systems Testing Laboratory. In it are some rather impressive facts

comparing brick versus glass exterior walls on office buildings. Comparing a typical 15-story office building with exterior walls of 80% brick (20% window area) to

exterior walls of 80% brick (20% window area) to an all glass exterior building, brick will outperform glass as follows:

(1) The brick building will save 9% in initial construction cost, (in this study, \$848,735);
(2) the brick building saves nearly 34% in cash equity required;
(3) the brick building reduces heating and air conditioning bills by 9.8%;
(4) the brick building's annual operating costs are nearly 4% less, (\$29,436 savings the first year);
(5) the brick building's maximum rate of return is 28% higher;
(6) the brick building's rental income is the same as the glass building.

What all of this means to you as an investor or architect is a larger budget for those luxuries that attract clients. A building with a prestige image, low upkeep and a high return. Not bad for a 5,000 year old building material. Especially in a time when economic performance is critical. Smug? Maybe. But for reasons important to you. And to us. Acme Brick. Think of us next time you build. We're reasonable in more ways than one.

The complete TSBMSTL report has been reprinted by permission of the state agency and is available on request. Acme also offers assistance by qualified technical representatives. Just call

or write, or contact your local Acme Brick representative. Acme Brick Company, Box 425, Fort Worth, Texas 76101.





800 PERRY-BROOKS BLDG. AUSTIN, TEXAS 78701 BULK RATE U.S. POSTAGE PAID AUSTIN, TEXAS ERMIT NO. 2772

100

# Olympic. Four guaranteed solutions to paint failure.

1



### AUSTIN

Calco Home Centers 701 West Fifth St. 12636 Research Hwy 183 4607 Burleson Rd. 6926 North Lamar

### **CORPUS CHRISTI**

Corpus Christi Brick and Lumber Co. 121 North Staples

### DALLAS

Texas Paint and Wallpaper 1504 Buckner 1724 South Ewing 217 Preston Valley Center 4225 Ross

### **Texas Distributors**

### HOUSTON

Atlas Paint Company 2330 Wirtcrest

### FORT WORTH

W. J. Hancock Paint and Wallpaper 902 West Magnolia 3214 Camp Bowle Blvd. 3200 Race St. 2027 North Main 1008 Miller St. 1213 Jacksboro Highway Arlington 1303 E. Abram Hurst 521 Bedord Euless Rd. West

### LUFKIN

Slaughter Paints 907 Pershing

### SAN ANTONIO

J. C. Jones Paint Co. 1414 Fredericksburg Rd.

TYLER

Exum Co. Troup Highway

WACO

Waco Paint Center 3703 Franklin

### WICHITA FALLS

Norriss Brothers Lumber Co. 3400 Holliday Rd.