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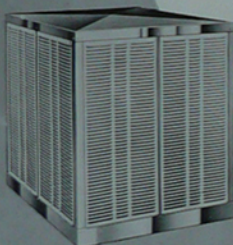
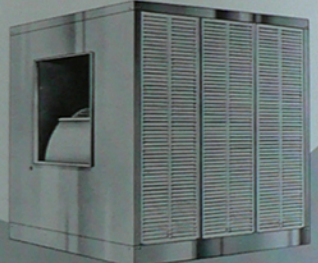
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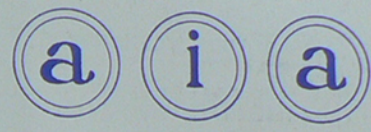
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OFFICIAL PUBLICATION OF THE ARIZONA SOCIETY OF ARCHITECTS, THE CENTRAL ARIZONA CHAPTER AND SOUTHERN ARIZONA CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS

FEBRUARY 1958 Vol. 1, No. **6**

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Phil Stitt Managing Editor

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February, 1958
 Volume 1, No. 6

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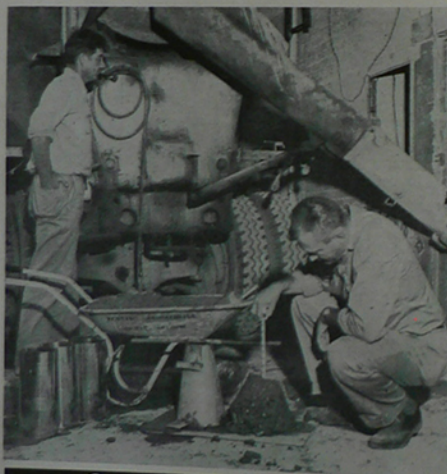
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ARIZONA ARCHITECT

THE PRESIDENTS' PAGE



**SOUTHERN
ARIZONA
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Santry Fuller



**CENTRAL
ARIZONA
CHAPTER**



David Sholder

GOOD SPECIFICATIONS are not enough. Architects owe it to their clients, to the public safety, to their own reputation and that of their profession to see that specifications are faithfully met. This is not always easy.

When competition for contracts becomes severe, there can be a tendency for subcontractors to cut corners whenever possible. Architects need to be especially alert during such times to insure compliance with all details of their specifications.

There is a distinct risk in requiring contractors to supply tests on such things as concrete or mortar. While the contractor may be well known for his dependability and honesty, he, too, may be dealing with others. Somewhere along the line there may be a temptation to get a test on one batch of good mortar and just "wave the sack" of cement at succeeding batches.

The architect, and even the general contractor, may not be able to stand by to supervise every mix. But the architect can arrange with his inspector, or preferably an independent testing laboratory, to take mortar and concrete samples and provide laboratory reports. Any contractor who knows that such tests may be taken will be unusually careful to see that his men know what is expected of them and that they follow specifications exactly.

The architect is directing the investment of his client's money and must see that the client gets what he pays for. A high test brick or block wall is no stronger than the concrete footings on which it is laid or the mortar that holds the units together.

The client is well advised to approve the securing of independent tests on those elements of his building not easily controlled by visual inspection.

The contractor, who is responsible for the quality of his construction should welcome the tests for the sake of his peace of mind and his reputation for reliability.

Similarly, the architect needs to protect public safety, the client's interests, and his own professional future against possible damage through the neglect of others.

February, 1958

NOW THAT THE FANFARE of installing the new Chapter officers is behind us, we are getting down to serious business. In the December issue of *Arizona Architect*, we announced that steps were being taken to establish a Chapter office. Through the generosity of our Vice-President, A. John Brenner, this is now a reality, as he has donated office space, rent-free, in his building at 1423 North Third Avenue, Phoenix. Our phone number is ALpine 2-4318. We have also engaged the services of a full-time secretary to manage our new office, handle chapter correspondence, and assist Phil Stitt, managing editor of *Arizona Architect*. Our secretary will take subscriptions for architectural magazines and other architectural publications. Books recently reviewed by our members are available for examination at our office. Other books will be ordered at your request.

In the January issue of *Arizona Architect*, we announced an on-the-ground, face-to-face inspection of our schools in the vicinity of Phoenix. The committee arranging this tour is now functioning with Ralph Haver as chairman, assisted by Fred Weaver.

Our first meeting of the year, held jointly with the Arizona Society of Professional Engineers, was well attended and our guest speaker, Mr. Le G. Moore, Vice President of Valley National Bank, gave a very interesting talk. We hope to have a speaker at all of our regular meetings. Preliminary arrangements are under way to have speakers from the Arizona Building Contractors, Inc., Arizona Fire Rating Bureau, Construction Specification Institute and officials representing the various building trades.

At the February meeting we were fortunate to hear an interesting talk on construction bonds and insurance, and release of liens. Our speakers were T. D. Gibson, general manager in Arizona for U. S. Fidelity & Guarantee Company, and W. W. Ridout, superintendent of surety underwriting for the same company.

This is your chapter. Therefore it is extremely important as an indication of your interest and support of chapter affairs that you attend and participate actively at all meetings.

five

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100	10,000	10.0	0.1	70	10.0	10.0	10.0
101	10,000	10.0	0.1	70	10.0	10.0	10.0
102	10,000	10.0	0.1	70	10.0	10.0	10.0
103	10,000	10.0	0.1	70	10.0	10.0	10.0
104	10,000	10.0	0.1	70	10.0	10.0	10.0
105	10,000	10.0	0.1	70	10.0	10.0	10.0
106	10,000	10.0	0.1	70	10.0	10.0	10.0
107	10,000	10.0	0.1	70	10.0	10.0	10.0
108	10,000	10.0	0.1	70	10.0	10.0	10.0
109	10,000	10.0	0.1	70	10.0	10.0	10.0
110	10,000	10.0	0.1	70	10.0	10.0	10.0
111	10,000	10.0	0.1	70	10.0	10.0	10.0
112	10,000	10.0	0.1	70	10.0	10.0	10.0
113	10,000	10.0	0.1	70	10.0	10.0	10.0
114	10,000	10.0	0.1	70	10.0	10.0	10.0
115	10,000	10.0	0.1	70	10.0	10.0	10.0
116	10,000	10.0	0.1	70	10.0	10.0	10.0
117	10,000	10.0	0.1	70	10.0	10.0	10.0
118	10,000	10.0	0.1	70	10.0	10.0	10.0
119	10,000	10.0	0.1	70	10.0	10.0	10.0
120	10,000	10.0	0.1	70	10.0	10.0	10.0

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CENTRAL CHAPTER NEWS

About 40 members and guests turned out to the February meeting and participated in an interesting discussion of construction bonds and insurance and release of liens.

Speakers were T. D. Gibson, General Manager for the State of Arizona for U. S. Fidelity & Guarantee Co. and W. W. Ridout, Superintendent of surety underwriting for the same company.

It was apparent from the questions put to the panel that there is much that architects can learn at programs of this type and that attendance at meetings can be highly profitable.

Officers are arranging for similar talks at future meetings and urge all members to attend. The March meeting will feature a representative of the Arizona Building and Contractors Association.

Central Chapter members were all personally invited to make a 30-minute tour of the Union Gypsum plant in Phoenix the evening of February 20th. The tour was followed by a buffet dinner at the ABC Club.

Fred Weaver has found out that it pays to have a wife who fills out coupons at drug and grocery stores. Out of well over a million names turned in at Rexall stores last fall, Mr. & Mrs. Weaver were drawn to receive an all-expense trip to Brazil. Two other couples in the United States also received this grand award. They will be accompanied by a tourist guide on their 14-day venture.

Following are committee appointments for 1958. (Chairmen indicated in italics):

MEMBERSHIP: *R. Helgeson*, Jimmie Nunn, Hugo Olson. OFFICE PRACTICE: *Fred Weaver*, Robert Sexton, George Myers. CHAPTER AFFAIRS: *Russell Roller*, Lloyd Ware, John Dellisanti. URBAN DESIGN & HOUSING: *James Elmore*, George Walsh, John Scully. HOME BLDG. INDUSTRY: *Ralph Haver*, Steven Clowacki, Dean Rendahl. EDUCATION & REGISTRATION: *George Allan*, Dale Campbell, George Cronin. RESEARCH: *Kemper Goodwin*, Howard Story, Donald VanEss. AWARDS, SCHOLARSHIPS, ALLIED ARTS: *Henry Arnold*, Blaine Drake, Murry Harris. PRESERVATION OF HISTORIC BLDGS.: *Fred Guirey*, Clarence Shanks, Allen Pejza.

HOSPITALS AND HEALTH: *John Brenner*, Max Kaufman, Earl Horlbeck. SCHOOL BUILDINGS: *Edvard L. Varney, Jr.*, Charles Hickman, Jack Meadows. RELATIONS WITH CONST. INDUSTRY: *Martin Young*, James F. Lindlan, Robert Starkovich. GOVERNMENTAL RELATIONS: *Lestle J. Mahoney*, Lloyd LeBaine Pike, Francis Bricker. PUBLIC RELATIONS: *Lester Laraway*, Fred Guirey. COLLABORATION WITH DESIGN PROFESSIONS: *Richard E. Droter*, David Haumerson, B. M. Gonzales. PROGRAM: *Rex McIntire*, Dom Martino, J. B. DeRemiah.

SOUTHERN CHAPTER NEWS

The thorough analysis of Tucson School facilities made by Southern Arizona Chapter members at the request of the Board of Trustees, School District 1, has been completed and released to the Board. The report concluded "that Tucson is getting its money's worth in its schools. From the unit costs, which are a matter of record, we are getting more for our dollars than most places in the country."

Many useful suggestions were made, and the report will be carried in considerable detail in the March issue of *Arizona Architect*, which will again be devoted to the important subject of school construction.

The Chapter's "Relations with the Construction Industry" Committee has been given the proposed new Tucson Plumbing and Electrical Codes for review and will make an early report.

Southern Arizona Chapter will be participating sponsors of the March Symposium on Urban Renewal.

The February meeting featured an instructive talk by Porter Homer on "Minimum Housing — As It Affects Urban Renewal."

The following have been accepted into Chapter membership:

Virgil L. Avis, Associate, 5725 E. 6th St., Tucson; James Hill Hockings, Associate, Rt. 4, Box 96, Tucson; and Lawrence Melville Wood, Junior Associate, 209 N. Rojen Court, Tucson.

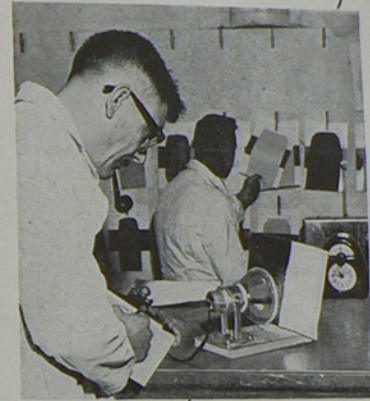
Southern Arizona Chapter will function in 1958 with the aid of the following committees (chairman shown in italics):

MEMBERSHIP: *DuBois*, Silberschlag, Rider. OFFICE PRACTICE: *Friedman*, Pfeffer, Cote. CHAPTER AFFAIRS: *Atkinson*, Jobusch, McClanahan. URBAN DESIGN & HOUSING: *Cole*, Sakellar, Bailey. HOME BUILDING INDUSTRY: *Reid*, Hastings, O'Hair. EDUCATION & REGISTRATION: *Luepke*, Jobusch, Huie. RESEARCH: *Swanson*, Brown, Flickinger, Lawrence. AWARDS, SCHOLARSHIPS & ALLIED ARTS: *Cain*, Dunham, Hazard. PRESERVATION OF HISTORIC BUILDINGS: *Herreras*, Luepke, Deno, Eastman. SCHOOL BUILDINGS: *Brown*, Scholer, Goldblatt, Green, Torsell.

HOSPITALS & HEALTH: *Atkinson*, Horton, Beck. RELATIONS WITH CONSTRUCTION INDUSTRY: *Ambrose*, Herreras, Aros. GOVERNMENTAL RELATIONS: *Starkweather*, Sundt, Spooner. PUBLIC RELATIONS: *Ambrose*, Scholer, Hazard, Maassen. COLLABORATING WITH THE DESIGN PROFESSIONS: *Ed Nelson*. PUBLICATION: *Scholer*, Wilde, Swanson, Kinsock. PROGRAM COMMITTEE: *Swanson*, Cain, Green. COMMUNITY DEVELOPMENT: *Ed Nelson*, Starkweather, Sundt, Bailey. BUDGET: *Swanson*, Ambrose, Nelson, Cain. BUILDING CODES: *Jobusch*, Herreras, Cain.

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Load bearing values are also obtained from various empirical tables when the gradation and Atterburg limits of the soil are known.

Next month: Soils investigation for residences

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The Editor's PERSPECTIVE

AN ANGRY MAN — Henry Kohler, AIA — has written from New York and asked our comments on his letter. (See *Critique*, this issue.)

We like angry men — men of spirit and conviction and courage — and wish there were 100,000 more of them. They're needed because today there is grave danger that America is falling into a complacency that may spell its downfall. The "average man" is becoming more than a statistic — he's becoming "only average," and he's becoming weak.

Lo G. Moore, whose excellent talk at the recent Architect-Engineer dinner is printed on these pages, told of the statistician who drowned in a stream that averaged only two feet deep. If he was only an "average" statistician, two feet was probably enough. And maybe it was just as well.

Architect Kohler is angry about the lack of professional attitude among architects, though his arguments, it seems to me, are seriously weakened by his emphasis on fees. The real justification — and the most valid argument for more professionalism among architects and in architecture is to be found in the safety, the permanence, the esthetic and economic values that better architecture will produce. And in the self-respect and public respect the architect himself will gain. Any hope of legislative action to correct the serious and very real abuses Mr. Kohler cites must lie in response to these reasons, not in any "demand" that will insure proper fees for architects.

We're reminded of a poem by Kenton Young that struck a responsive chord a long time ago:

"Work thou for pleasure — paint or sing or carve—
The thing thou lovest, though the body starve.
Who works for glory misses oft the goal;
Who works for money coins his very soul.
Work for the work's sake, then, and it may be
That these things shall be added unto thee."

It is the often shameful race for "an easy buck" that leads the "contractors, draftsmen, carpenters" and the rest to do all the things which anger Mr. Kohler.

Right here in Arizona there is evidence that unbridled competition among many contractors has seriously reduced the quality of our buildings.

There have been disturbing reports that some builders deliberately order lintels shorter than called for in specifications, install plumbing that is of inferior quality, or use a mortar mix on masonry walls that is way below the compressive strength of the masonry units themselves. Certainly not all builders — but enough to be a serious headache to the responsible persons in that business.

Architects — partly for the reasons cited by Mr. Kohler — have some control over only a part of the total construction. The tens of thousands of homes erected by merchant builders are subject only to the supervision of the contractor's own employees and the limited staff of the F.H.A. In the absence of county building codes there is no law covering most construction now going on.

A beginning toward stronger regulations of building in non-incorporated areas of the state has been made in the revised Rules and Regulations of the Registrar of Contractors. Adopted January 2, they provide that "All work must be done in workmanship manner. Failure to perform in workmanship manner may subject the licensee to suspension or revocation of his license after due notice and hearing."

In order to determine what shall constitute workmanship, the Registrar has adopted the minimum construction standards (M.P.R.) of the Federal Housing Administration for residential new construction or remodeling.

On all other construction, minimum standards set forth in the Uniform Building Code of the Pacific Coast Building Officials Conference are recognized, except those portions relating to plumbing, electrical or mechanical refrigeration work. For those phases, other codes are prescribed.

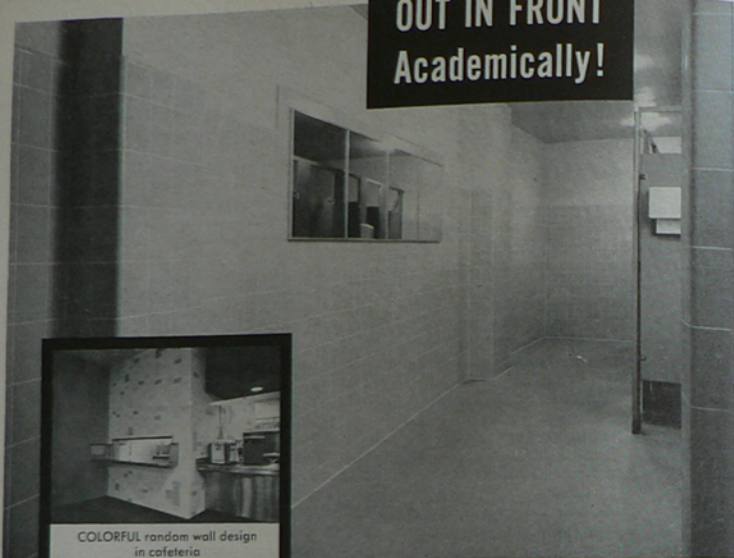
The state legislature has had before it Senate Bill 78 which would give added sanction to the Registrar of Contractors to enforce these regulations. Architects could do much to protect the public against some serious construction practices if they would phone or write their state senators and representatives and urge passage of S.B. 78.

It would be grossly unfair to the responsible, professional architect who rigidly inspects the workmanship on his jobs to have less responsible architects tell school boards that they can build cheaper schools — then prove it by showing lower bids from contractors who have found they can get by with inferior workmanship with that architect.

The AIA sets high standards for membership. It must guard those standards and see that they are meticulously observed. In that way they can best attain and demonstrate the high professionalism for which Mr. Kohler pleads. Then, by demonstrating the danger and costliness of only "average" and inferior services, they can easily secure public support — and blessing — to correct any and all of the abuses that now exist.

In the process, "it may be that these things" — recognition and adequate financial rewards — will also be added.

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ARIZONA ARCHITECT

THE PERNICIOUS "OR EQUAL"

Two Approaches to a Troublesome Problem

By MARTIN RAY YOUNG, JR., AIA

The writer who specifies certain materials "or equal" is laying himself open to future trouble with the contractor, the owner, or both. Probably no one phrase in specifications has been subject to such severe criticism as these two words, "or equal."

It is almost impossible for the specifications to include the names of all competitive materials or products which the architect might use. To allow for the possible use of other brands or makes, some specification writers have placed after the names given the words "or equal."

This nearly always leads to a conflict between architect and contractor as to who determines if it is equal, each claiming his own rights.

We have found in our office that writing a closed specification, then inserting in the supplementary General Conditions the following paragraphs, has made it possible to obtain competitive bids and still allow the architect to decide if and what materials conform to his specifications:

- Where items of equipment and/or materials are specifically identified herein by a manufacturer's name, model or catalog number, *only such specific item may be used in the base bid, except as hereinafter provided.*
- If bidders wish to use items of equipment other than those named in their base bid, Contractor shall apply in writing to the Architect at least six days prior to the opening of bids for approval of substitution, submitting with his request for approval complete descriptive and technical data on the items or item he proposes to furnish. No blanket approvals for substitutions will be granted; approval will be granted only upon individual request from prime bidding contractors.
- Unless requests for changes in base bid specifications are received and approved prior to the opening of bids, as defined above, the successful contractor will be held responsible for furnishing specific items under his base bid. After contract is awarded, changes in specifications will be made only as defined under "Substitution of Equipment."

SUBSTITUTION OF EQUIPMENT:

- After execution of the contract, substitution of equipment of makes other than those specifically named in the contract documents will be approved by the Architect for the following reasons only:

- That the equipment proposed for substitution is equal to and/or superior to equipment named in construction, efficiency and utility, and further that the equipment named in the specifications cannot be delivered to the job in time to complete the work in proper sequence to work of other Contractors, *due to conditions beyond the control of the contractor.*
- To receive consideration, requests for substitution must be accompanied by documentary proof of equality or difference in price and delivery, if any, in form of certified quotations from suppliers of both specified and proposed equipment.
- In case of a difference in price, the Owner shall receive all benefit of the difference in cost involved in any substitution, and the contract altered by change order to credit Owner with any savings so obtained.

The standards set up in our specifications have evolved through our experience from project to project. We have learned one thing positively: that the closed form has produced better bids and closer bids, and the architect knows exactly what he is getting in the final job.

We have found that on public works our method of writing specifications has been a great advantage and still allows for competitive bids.

The specification writer will be wise to avoid extremes — either the slovenly "or equal" on the one hand or on the other a multiplicity of alternates or an absolute restriction to the materials specified. We have found the happy solution in the method outlined above.

— AIA —

By ALBERT G. HANN

(Reprinted from Michigan Society Bulletin)

Architect specification writers many times investigate thoroughly the merit of a product which they intend to specify. They pick out the exact characteristics that will accomplish the purposes they desire, and then name the product, — but, to keep in good graces with competitive materials, they add two little words "Or Equal." With these two words they lose full control of the entire specification, because every contractor down the line, can use his own judgment as to what might be "Equal."

An immediate effort to bring control back to the specification writers would be to use the words "or Architect's written approved equal." This would at least force the contractor or sub-contractor or owner

(Continued next page)

February, 1958

Eleven

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"OR EQUAL" (continued)

for that matter, who wants to substitute, to contact the Specification writer and prove to him that the substitute material is "Equal" in all its characteristics, to those desired by the Architect.

To illustrate the point, a Specification writer may specify that terrazzo be sealed with "T" companies Terrazzo Seal. He knows that particular product is deep penetrating, non-discoloring, and durable. The Terrazzo sub-contractor, however, has bought a competitor's Sealer alleged to be a protective coat, but may be only a "surface coating," which may discolor within a short period, and wear off in patches, — and may not be "Equal" at all.


Every type of floor, wood, composition, and variations of stone and marble are relatively porous, and should be properly treated before the building is turned over to the owner. If this runs up the cost and the owner objects, the owner should at least be advised what should be done, so he can perform the necessary work with his own labor.

For your own, and your customer's protection, don't say "Or Equal," say "Or Architect's written approved Equal."

— AIA —


It is as fatal as it is cowardly to blink facts because they are not to our taste.

— John Tyndall



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Twelve

ARIZONA ARCHITECT

THE ARCHITECT-ENGINEER TEAM

By LE G. MOORE

Vice President, Valley National Bank

(Condensed from a talk before the annual dinner, Central Arizona chapters of AIA and ASPE, Valley Ho, Scottsdale, January 23.)



Program principals at January 23 dinner honoring new registrants in architecture and engineering. From left, David Sholder, president Central Arizona Chapter, AIA, Le G. Moore, speaker; A. John Brenner, chairman, State Board of Technical Registration; Americo Lazzari, president Central Chapter, Arizona Society of Professional Engineers.

To one who has been associated with the construction industry, directly or indirectly, for more than 30 years, the dependence and interdependence within your two professions is apparent. This close association and the resultant intermingling of techniques, ideas and skills for the maximum result in developing the final concept of new projects requires not only a harmony in the combined abilities of the architect and engineer, but a compatible basic individual philosophy which will permit proper interpretation of collaborating contributions into a happy union of design and functions.

I do not mean to infer that associations should be made on the basis of conformity in thinking with regard to processes, techniques or design. Even sharp conflicts in these areas as between the architect and engineer may be most productive of material progress in the final result. For instance, a new or even radical concept of architectural design may present to the engineer problems which, in their solution, could require innovations leading to improved methods; while a new, even startling, approach by the engineer may require sufficient compromises in the architectural treatment as to form the basis of new visions in the area of design. So it is not conformity in thought that I speak of, but a basic understanding of the other fellow as a man, not necessarily an architect or engineer, which will form the basis of congenial relationships necessary for the fullest possible exploration of mutual objectives.

We can't place ourselves apart, either individually, or as a profession, skill or trade, and make the greatest contribution to society of which we are capable. You men give material assistance to the contractors, material and supply dealers, manufacturers of all types of building materials, equipment and appliances. You do this partially by the development of new or improved media through which existing materials and equipment may be more effectively and efficiently employed, and in certain instances creating a need or demand for new products. You give of your vision, experience and ingenuity in solving construction problems which frequently lead to improved methods, better and less expensive operations for the contractor. You contribute in many other ways. And yet you rely considerably upon these same people. You draw upon the experience of contractors, upon manufacturers and their representatives for information and advice without which many of your projects would lack much of the refinement, utility, efficiency and beauty of our present construction result.

February, 1958

The general pattern of functional requirements in many categories of construction projects is established in varying degree by specific usage, experience and habit. There remains, however, a constant challenge to the architect and engineer for improvements in functional arrangement as related to maximum area utilization, convenience of the user, economy in construction cost, and harmony in total project design.

In meeting this challenge, you spend much of your time in research and study; in analyzing changes in habits and moods of people as related to their use of the buildings you design; in familiarizing yourselves with production and operating routines of your client's business in order to better interpret his requirements into an improved function of space usage; in investigating new materials and methods.

You seek advice and counsel from those whose experience in the maintenance, operation and management of physical properties may develop constructive suggestions toward improved utility and function or reduced maintenance and operating costs. These, and other media of information, interpreted in the light of your own background of experience, form the basis upon which your technical knowledge, ingenuity, skill and vision develop the modern structures of today and set the pattern for still greater achievements in the buildings of tomorrow.

The accomplishments of today are a magnificent tribute to your professions. While even the fantastic growth of our area has not yet produced an economic climate which can sponsor the dramatic and somewhat startling themes of architectural treatment now being explored in some parts of the world, we are providing a rather wide range of opportunity for expression of new ideas, methods and design in sound, basic, economical construction.

In this connection, special credit is due your pro-

(Continued next page)

Thirteen

cession for a most valuable contribution in our tremendous school program. Probably nowhere in the country does the taxpayer's dollar purchase more usable facility or more beauty in design of public schools.

Arizona's Amazing Growth

Arizona continues to lead the nation in many indices of growth — as it has throughout most of the post-war period. Taking the decade as a whole, we find that Arizona ranks first nationally in percentage growth of bank deposits, manufacturing, employment, agricultural income, personal income and copper production. According to estimates of the U. S. Census Bureau, Arizona's resident population has increased from 653,000 in 1947 to 1,136,000 as of July 1, 1957. Current residents number about 1,170,000 as estimated by our bank's Research Department.

Bank deposits and loans broke all previous records. Even residential construction, suffering reverses in most other areas of the nation, reached a new high in Arizona. This high was backed up with substantial increases in all other construction categories.

New companies continue to locate in Arizona, and a few recent arrivals, such as Kreser Electronics, General Electric and Sperry Rand, have not yet reached their contemplated employment total. Due to the type of manufacturing located in Arizona, we do not believe that we will witness any serious decline in manufacturing employment or production during 1958. However, our rate of manufacturing employment growth will, in all probability, remain close to static during the 1958 adjustment period.

Our construction industry, based on proposed public spending for new schools, highways and other buildings, along with our residential demand, in spite of the present slow-down, should do substantially as well in 1958 as in 1957, which was a record year. Increased expenditures on the Federal Intra-State Highway Program will also be of great benefit to Arizona. In addition, increased activity at Glen Canyon, where contracts of over \$121 million are presently in force, will add additional impetus to the industry.

Arizona's Future

Now let's do some projecting:

Arizona's present population is	1,170,000
Projected 1965	1,500,000
Projected 1975	2,047,000

Approximately one-half of our present population is in Maricopa County and it is estimated that continuing growth will substantially maintain that ratio.

Based upon the 1950 census of housing, we now have within the state approximately 350,000 housing units.

Based upon a 1965 population of 1,500,000, an additional 93,000 units will be required. At an average cost of \$14,000 this will represent a construction cost

of \$1.3 billion during the next eight years. If projected to the 1975 population estimate, an additional 150,000 units will be required at a cost of \$2.1 billion, or a total investment in new housing between now and 1975 of not less than \$3.4 billion. This housing will be a basic factor in the creation of demand for all other types of construction.

Let's take schools, for one example — and by the way, do you know that the percentage of our state's population under 18 years of age is much higher than the national average? — more school children, percentage-wise — while the percentage over 65 years of age is lower than the national average in spite of the influx of retired people.

On the basis of statistics of the American Society of Planning Officials, new school construction to meet the needs of our anticipated 1965 population will require an expenditure of \$88 million. If we extend this projection to 1975 the total cost of new schools will approximate a quarter of a billion dollars.

To sustain the anticipated 1975 population of the state an additional 700,000 jobs must be available. Of this total 652,000 must be in non-agricultural pursuits with 175,000 of those in manufacturing. Based upon an average investment of \$10,000 per employee for plant and equipment, after allowing for full utilization of present plant facilities, an outlay of \$1.5 billion will be required in the manufacturing field alone.

It is estimated that people employed in wholesale and retail trade will double by 1975. It may be reasonable to assume that commercial buildings and facilities must be increased by 75% of those now in existence, with present accommodations absorbing the other 25% of our expanded activity. I shall not attempt to place a dollar value on this construction requirement, but it will be tremendous.

In addition to categories mentioned are public buildings (city, county and state), libraries, churches, hospitals, public utilities of all kinds.

Since there is no way that I know to add up even an approximation of the billions and billions of dollars of new construction involved in these projections, let's just say it represents a staggering amount.

Sure, we're talking about the future. Nineteen seventy-five — that's seventeen years. But, having been privileged to observe and participate in the growth of our great state for the past 27 years, those 17 years ahead don't seem like such a long time.

To me, and I'm sure to you, they represent a wonderful challenge — a challenge to make the structures of tomorrow a symphony of beauty, function and design surpassing even the visions of yesterday. So that men will say as they look upon the labor and wrought substance of our work "See, this our fathers did for us." (Builders Creed)

T.R.B. 'GRIEVANCES'

By FRED H. JOBUSCH, Member

The State Board of Technical Registration has recently set up a "grievance committee" composed of all members of the Board, whose function is to process part "A" of Section 32-128 of Article 2. Under this section "The Board may take disciplinary action against the holder of a certificate under this act, charged with . . .

"1. Fraud or misrepresentation in obtaining a certificate . . .

"2. Gross negligence, incompetence, bribery, or other misconduct . . .

"3. Aiding or abetting an unregistered person to evade the provisions of this chapter or knowingly combining or conspiring with an unregistered person, or allowing one's registration to be used by an unregistered person or acting as agent, partner, associate or otherwise, of an unregistered person with intent to evade provisions of this chapter."

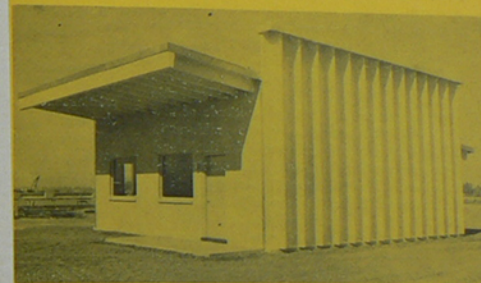
The purpose of the "grievance committee," in quorum when three or more Board members are present, is educational as well as disciplinary. In recent weeks the committee has met twice and heard nine cases. The charges ranged from "plan stamping" to incorrect designation of professional activities.

The committee activity differs from that under part "B" of the same section in that it is very informal, no oath is required of the defendant and the proceedings are not transcribed. If the committee feels that stricter disciplinary action is necessary, it reports to the Board at the next regular meeting, and proceeds with action as set forth in part "B" of Section 32-128.

By understanding the law, all registrants, can help promote their profession and gain the respect of their fellow men. The knowledge that architects and other registrants have respect for their own profession is the basic first step in good public relations.

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TOWARD BETTER SPECIFICATIONS

By NORMAN BLAIR, R.E., President,
Central Arizona Chapter,
Construction Specifications Institute

Many of us who have been writing specifications for years, and using them as architects, engineers or builders for many more years, have been looking for some effective program under which we could hope to improve this important part of our work. Too often we have expected the specifications to be a starting point for young men coming into the field, or, as the old cliché has it: "When a draftsman becomes so old that he can no longer sit on a drafting stool he is given the job of writing specifications."

Specifications today demand more than the mere correction and interpolation of a previous specification. A good specification demands the best that good training and much experience can produce; it requires the writer to be familiar with not only the legal side of a construction contract but the multitude of materials to be used in construction, the problems in the use of these materials, substitutes for them, and the accepted standards to which the construction trades adhere. All of this must be set down in a concise manner to fit the job in question so there is no possibility of a misunderstanding.

The Construction Specifications Institute has set

out to provide just such a program for study and review in order to reach a workable solution for the problems of a good specification on a local and a national scale. Its purpose is "to foster and promote the interests of persons, firms, groups, associations, corporations and others engaged in any phase of the business of writing, preparing, compiling or in any way utilizing specifications in the construction and allied industries; to promote improved specification practices in the construction and allied industries; to gather, compile and analyze statistics and information relating to or useful in the conduct of such activities; to engage in research and study of any and all problems and aspects of specification writing; to establish and maintain the Institute as a clearing-house of unbiased technical information on specifications for the fabrication and installation of construction materials and equipment; to promote closer relations and cooperation among its members and chapters."

The Institute is a "work organization" of individuals striving for a common solution for the many important questions of how to improve our specifications.

— AIA —

Don't learn about faulty specifications by accident.
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Sixteen

ARIZONA ARCHITECT

Central Chapter and "Arizona Architect" Open Office

At long last, Central Chapter has an office, a telephone listing, and a secretary to handle the innumerable details that in the past have been a burden to chapter officers — or neglected.

The address is 1423 North Third Avenue, Phoenix. At the corner of Lynwood.

The phone is ALpine 2-4318, listed under "American Institute of Architects, Central Arizona Chapter." And in the yellow classified section under "Architects."

Mailing address is P. O. Box 904, Phoenix.

Office secretary is Mrs. Arden Taylor, who is on hand five days a week from 8:30 to 5 o'clock keeping chapter records, handling correspondence, organizing an embryo library of architectural books, answering an amazing variety of telephone calls, and preparing for a magazine subscription and technical book purchasing service for members.

Correspondence, circulation, and other activities for *Arizona Architect* will be handled at the new office. The magazine is listed at the same number in the telephone directory, and can be found under "Publishers" in the yellow section.

All chapter members are urged to order magazine subscriptions and renewals through their AIA office, and to order technical books in the same way.

Architects, advertisers, and the public are invited to avail themselves of the services the chapter office is ready to supply.



Mrs. Arden Taylor

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Adhesives — To conform to CS 32-36 Type II water resistant bond unless otherwise specified.

The SOL-I-COR is an extra-strength solid core flush door, designed and engineered for heavy duty use in applications where distortion resistance is of equal importance to beautiful finished appearance.

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February, 1958

Seventeen

CRITIQUE

EDITOR, ARIZONA ARCHITECT:

Is the Practice of Architecture a Profession?

I am becoming more and more bewildered by the confusion that exists regarding this subject. So, I have decided to take the bull by the horns and try to establish the fact that the practice of architecture is a professional act in the highest sense of the word — not less than the practice of law or medicine!

If what I have observed as acceptable in our practice were to happen in the medical profession, there would be a Congressional investigation! A judge would not listen to anyone but an attorney in a courtroom, but we permit builders, attorneys, yes, anyone who cares to, to bring cases before our highest area of practice — the Board of Standards and Appeals!

Contractors, draftsmen, carpenters, even high school boys can build structures without approved plans, provided such structures are supposed to cost less than \$10,000 and contain less than 30,000 square feet. What minor operation does the medical profession permit a man without a license? One must be licensed to cut a corn! x x x

What do we do about it? Worse than nothing! We encourage these unethical practices! Some architects

illegally seal draftsmen's drawings! Our legislative committees consider increasing the exemption of buildings for Departmental approval to larger cubes and higher costs! Our Societies extend their blessings by inviting non-professionals to associate memberships!

Our attitude towards the client is apologetic and over-cooperative. We sell partial service; architects get their plans approved by the Department of Buildings then turn them over to the owner; they make no supervisory inspections; and when the alterations or construction are completed, they are lucky if the finished construction even vaguely resembles the approved drawings. x x x

What can be done about this? Think like professionals! Act like professionals! Be professionals! Insist that our city, state and federal building departments require filing and approval of all construction and alterations by licensed architects. Make existing laws so strict that no one but a registered architect can file drawings to build, alter or repair any structure. x x x Make professional societies exclusively for registered architects. x x x

When are architects going to be as intelligent as television repair men — who not only get paid for their work, but also get an additional fee just to appear at your door . . . or electricians and plumbers who are protected by legislation — so no work can be done unless signed by a licensed practitioner?

I would appreciate your comments.

HENRY KOHLER, A.I.A.
115 East 40th Street, New York 16.

(For comments, see the Editor's Perspective.)

— AIA —

WANTED! AIA ART

An early issue of *Arizona Architect* will bring to its readers examples of the "non-architectural" art work of AIA members.

All architects have studied art; some have done unusual works in water color, photography, pen and ink and other media.

The editor would like to obtain the names of as many architects as possible who should be represented in our "exhibit." Perhaps more than one issue will be needed; perhaps we will regularly feature the "other art" works of AIA members. Perhaps a public exhibit will evolve.

Please — right now — call the *Arizona Architect* office at ALpine 2-4318, or drop a card to us at P. O. Box 904, Phoenix, with your name or that of an associate whose art work you think merits inclusion in this magazine.

We would also be glad to have the names of other members of architect families who have done work in the arts.

Solar House Going Up

A solar-heated house designed especially for "living with the sun" is now being erected in Arizona's Paradise Valley, eight miles northeast of Phoenix. The house is being built from the design which won for Peter R. Lee of Minneapolis the \$2500 first prize in the International Architectural Competition in 1957 by the Association for Applied Solar Energy.

The new Solar House incorporates a unique solution to the related problems of heating the house and warming the swimming pool during the winter, minimizing the cooling load during the summer, and supplying the domestic hot water requirements throughout the entire year. Movable louvers over the north and south patios and the central court serve both as solar energy collectors in winter and as shade-producers in summer. The louvers will be adjusted automatically each day to assume the most effective angle for either collecting the sun's energy when heat is needed in the house and the swimming pool, or for reflecting un-needed radiation during the summer months.

The louver-collectors will be used in conjunction with an insulated underground tank in which hot water will be stored for heating the house at night and during short periods of sunless winter weather.

Auxiliary heating during protracted cold spells will be supplied by heat pumps contributed by the Carrier Corporation. Fans in the heat pumps will circulate conditioned and filtered air through the house at all times, and summer cooling will be accomplished by the conventional cooling cycle of the Carrier units.

Use of the swimming pool as an emergency source of winter heat and as a means of pre-cooling the air going to the refrigerating system in summer will be a unique feature of the Solar House. Another novel feature will be the use of "Airfloor," a system by which the poured concrete floors of the house are supported on a network of metal domes placed over the sub-floor. Conditioned air circulated through these domes warms the floors in winter and cools them in summer before entering the rooms through grills which are located in front of the glass walls on the north and south faces of the house. The combination of radiant and convection cooling and heating is expected to enable the house to be maintained at comfortable temperatures with a minimum of heat addition in winter and heat removal in summer.

Completion of the house is scheduled for mid-March, at which time it will be put on public exhibition. The home will serve as the focal point for the Solar House Symposium which will be held in September, 1958, by the Association for Applied Solar Energy.

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THIRTY YEARS A DRAFTSMAN

—and how they flew!

By FRANK E. WATSON

Reprinted from the FLORIDA ARCHITECT

This opus is dedicated to the Boys in the Back Room without whom the promises made by the Architect would stretch from here to a lot of missed deadlines.

I have decided to catalog the various and sundry characters I have encountered — and without whom my own days on the boards would have been hum-drum indeed.

The Blubber Boy is a lovable character. He has spent twenty-five years at the same drawing board and it is fully equipped, including a bottle opener. As his girth has increased, the size of his board has decreased (he kept carving out the front of the board so he could stay real close to his work.) By now he has become quite a big man in the organization.

The Timid Draftsman — He draws everything very lightly over the entire sheet and will not bear down on the pencil until he has checked and double-

checked with everyone in the office. Guaranteed to give you a complex. Never makes a mistake.

The Eager-Beaver or Brown Nose — This character stays after hours — gets everything all blocked out and ready so that he can get approval from the chief draftsman early in the morning, and not waste precious hours during the day. Ugh!

The Hatcher — He fills in all the block, brick and tile walls completely with cross-hatching, draws every joint line on the elevations of brick walls, tile, etc. But detailed, necessary, technical information is very conspicuous, because it is missing! Beautiful drawings for the Archives.

The Enthusiastic Draftsman — The boss gives him a job to do. Down goes a clean sheet of paper. He attacks the drawing with great enthusiasm, finishing it quickly and with great zest. The Chief Draftsman sticks his big nose into it — quote, "The Boys up front have made a few changes — the orientation is wrong — flop the plan — bed rooms go in here — change the kitchen, etc., etc., etc." Is our man discouraged? Down goes another sheet of paper. He attacks the drawing with enthusiasm, finishing it up with great zest, and so on ad infinitum. Everybody loves the Enthusiastic Draftsman.

The Upside-Downer — Most of these fellows had their early training in Australia. They work from the top of the board, crowding the draftsman in front. It is a known fact that this man will usually sleep at the foot of the bed.

The Lady Draftsman — This item is a great morale booster, and there should be one in every office. The only difficulty is that if the Draftslady happens to be good looking, she usually ends up in the front office. This is decidedly unfair and something should certainly be done about it. Speaking of front and back — and I believe we were — I have some tips for the ladies about their position in the Drafting Room. I refer, of course, to their location on the production line of drawing boards. Ladies, you have heard of putting up a good front — straight up and light — two to a customer and all that. Why wait to be up-lifted? Forget it! Develop the posterior; accentuate the Backward Look. Look good facing away from it, and you will end up at the head of the room. Ladies, in the Drafting Room, behindsight is much better than foresight.

The Operator — He naturally follows the Lady Draftsman. This guy is the Bilko of the trade. He has more side lines than a moored ship — he runs the office pools — takes bets on the horses — starts all the rumors — can get you things wholesale — handles the prize money for the bowling team — arranges the office annual outings, etc. — all to his own advantage. This promoter is indispensable, for without him the job would always get out on time.

(To be continued. Next: the Goferoffer, Meticulous Hush, and others.)

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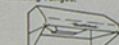


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Twenty-one

IN THE BOOK WORLD

"A Testament" by Frank Lloyd Wright. (Horizon Press, \$12.50) Reviewed by Martin Ray Young, Jr.

It's always difficult to review the writing of the great architect and not become enveloped in his philosophy, and so it is with this, his latest book. It is divided into two main sections, the first autobiographical and the second on the "new architecture."

In section one, Mr. Wright reviews his life in architecture, shortened from his "Autobiography," but still interesting and informative. His introduction to architecture and his going to work for Adler and Sullivan, recalls our own advancement in the same profession. Perhaps it was well that he found Sullivan and was able to learn from him the path he should follow.

There are absorbing accounts of the state of American Culture in the time when Mr. Wright struck out on his own. There are penetrating evaluations of the renowned architects of then and now. (He is still taking pot-shots at them.)

We see how FLW developed his new architecture for the American scene and how he was recognized abroad first, then here. We see all the way through the book his preoccupation with himself and his feeling for architecture. Maybe this is the germ of success.

The book contains over 200 illustrations, photographs, plans and original drawings, beginning in 1888, and including his "Mile High" building and "Oasis."

A very interesting book, which gives us an insight into the man and his work.

— AIA —

The following books have been reviewed in Arizona Architect. They may be ordered from the AIA office. Add 2½% sales tax to price indicated. Make checks payable to Central Arizona Chapter, AIA.

A FOURTH OF A NATION by Paul Woodring. A keen glance at our educational system. This timely study is well worth reading. Single copy \$4.50.

A DOCUMENTARY HISTORY OF ART, selected and edited by Elizabeth C. Holt. The theoretical & practical writings of the artists, architects, clerics & philosophers of the tenth through the sixteenth centuries, which provide the background to the artistic life of the time. 358 pages, 25 plates of illustrations. Single copy \$1.45. (pocketbook)

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ARIZONA ARCHITECT

ARCHITECTURE AND SPACE by Bruno Zevi. Space becomes a vivid experience from ancient Greece and Rome to the architecture of our own day. 186 photographs, drawings and plans, 284 pages. Single copy \$7.50.

BUILDERS' HOMES FOR BETTER LIVING by A. Quincy Jones, AIA, and Frederick E. Emmons, AIA. Within this book all phases of tract development are covered, from the raw land to final construction. Illustrated with well selected photographs and sketches. Single copy \$8.95.

CONVERSATIONS WITH ARTISTS by Seldon Rodman. This book is a current record of thoughts on life and art, gleaned from conversations with 35 American painters, sculptors and architects. 288 pages. Single copy \$4.00.

THE GINGERBREAD AGE by John Maas. Profusely illustrated with photographs and sketches of the rich Victorian period and coupled with a pleasant narrative style, this book creates a fresh awareness of our recent heritage. Single copy \$7.95.

INDIAN ART OF MEXICO & CENTRAL AMERICA by Miguel Covarrubias. This book written and illustrated by the author, presents the arts of the aboriginal inhabitants of Mexico, Honduras and many others. 333 pages, profusely illustrated with line drawings, color plates and a 64 page album of photographs. Single copy \$17.50.

QUALITY BUDGET HOUSES by Katherine Morrow Ford & Thomas H. Creighton. A treasury of 100 Architect-Designed houses from \$5,000 to \$20,000. 221 pages, over 200 photographs and sketches of homes. Single copy \$4.95.

SCHOOLS FOR THE NEW NEEDS. Architectural Record Book, with foreword and introduction by Frank F. Lopez, AIA. The book covers the whole range of recent school building experience, from the quite conservative to the frankly experimental. 308 pages, well illustrated with photographs and sketches. Single copy \$9.75.

SHOPS AND STORES by Morris Ketchum, Jr. Revised Edition. 255 pages, profusely illustrated. Single copy \$15.00.

SOLAR CONTROL & SHADING DEVICES by Olgyay and Olgyay. This book offers the scientific basis from which an intelligent solution to sun control could materialize. 199 pages, profusely illustrated with photographs and sketches. Single copy \$12.50.

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