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# ARIZONA ARCHITECT



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# 5

JANUARY 1958 Vol. 1, No.

In this issue: What About Our Schools?

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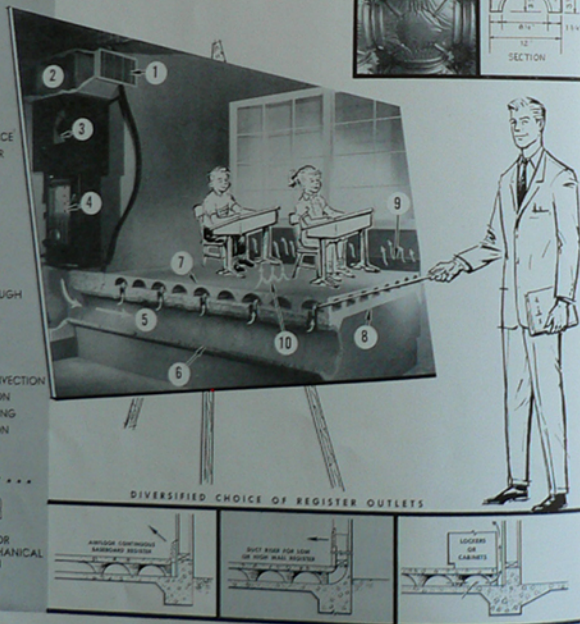
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Phil Stitt ..... Managing Editor

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Signed articles reflect the views of the authors and do not necessarily represent the official position of the Arizona Society of Architects or the Central or Southern Arizona Chapters, AIA.

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ARIZONA ARCHITECT

## THE PRESIDENTS' PAGE



SOUTHERN ARIZONA CHAPTER

Santry Fuller



CENTRAL ARIZONA CHAPTER

David Sholder

I know I speak for all officers in saying we intend to continue the fine work accomplished in the past two years and to work for an even better community understanding and professional status.

This past year has been "open season" on architects with the derogatory articles concerning the profession which have been published in Harpers, Ladies Home Journal, and the Reader's Digest. As noted in the AIA Memo of December 16, 1957, excellent articles refuting this unfavorable publicity appear in the Forum, Record, and School Board Journal. I would urge all members of our profession to read these and, if possible, to get newspaper coverage concerning them. As usual, it is again the case of persons in responsible positions making irresponsible statements which appeal to a general public overly saddled with taxes. This damaging attack on architects, contractors and American public education in general should be very gratifying to the Communist nations whose published intent has always been to destroy America by national bankruptcy and educational sabotage.

It is up to us to ever enlarge on a public relations program which will educate the general public and insure them against this type of propaganda.

Southern Arizona Chapter has a committee at work making an analysis of architects' opinions concerning some of these problems which confront our local school boards. A final report has not yet been formulated but should be available by the next issue of *Arizona Architect*. In this whole connection it is interesting to note that complete elementary school plants in the Tucson area have been running between \$10.00 and \$11.00 per square foot and under, so could hardly be classified as "palaces."

One of the important reasons why school construction costs have not risen as much as costs of either houses or industrial structures, has been the very fact that conscientious architects and school board members have consistently been working to keep costs down. And without the benefit of great publicity, it might be added.

January, 1958

Facing all the responsibilities of president of the chapter makes me fully aware of the fine leadership given by Martin Young. His was a year of real progress in the life of the AIA in Arizona, and he deserves much credit for the steps that marked that progress.

Looking ahead, there are urgent problems still confronting us. Really they are public problems which we must make ours.

Heading the list is the matter of school construction. Newspapers have made it headline news; bond issues have been defeated; the legislature is finding that school support is causing its biggest headache. It is to be hoped that the public and public officials will analyze the problems intelligently rather than emotionally, and will seek solutions rather than scapegoats.

To that end it has been proposed within our Chapter that we make an effort to bring various interested groups together for an on-the-ground, face-to-face appraisal of school facilities in the Valley. Here's how our proposal, now being made by letter to the groups mentioned, would work:

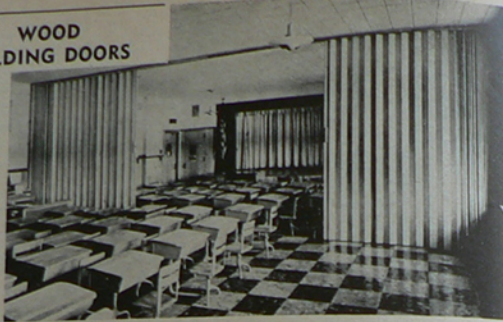
As soon as possible a bus will be chartered to tour a number of the schools in the vicinity of Phoenix. Invited to be aboard will be architects, engineers, newspaper editorial writers and reporters, educators, legislators, and representatives of P.T.A.'s, trades unions, contractors and others. Purpose of the tour will be to detect any elements of recent school construction on which significant economies might have been affected. Such a tour should provide architects and engineers an opportunity to explain the long-range values and actual economies that they have already designed into school buildings. Through first-hand inspection in company with others whose proper interest it is to protect and report on the public's expenditures of money, architects will have a chance to appraise again their own responsibilities to the public interest.

So there may be no suggestion of influence or obligation by anyone, we are proposing that the cost of the tour be shared equally by all who participate.

Five

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## CHAPTER NEWS

### CENTRAL ARIZONA CHAPTER

Two gatherings of chapter members were on schedule for the month of January, and again in February.

Installation of 1958 officers was held at a dinner-dance at The Flame Restaurant January 11, at which time Dave Sholder accepted the duties of president; John Brenner became vice-president; Jimmie Nunn secretary, and Kemper Goodwin secretary. Martin Young became a member of the executive board for a 3-year term. An entertaining talk was given the gathering by Mark Barker, past president of Mesa Toastmasters. Certificates honoring past presidents of the chapter were awarded to James Elmore and Martin Young.

Scheduled for 6:30 p.m. at the Valley Ho in Scottsdale on Thursday, January 23, is the joint meeting of chapter members with those of the Arizona Society of Professional Engineers. Dave Sholder and Dwight Busby, in charge of arrangements, announced that LeG. Moore, vice president of the Valley National Bank would be speaker. The meeting has been arranged to honor new state registrants in architecture and engineering.

Next regular monthly meeting of the chapter will be Thursday, February 6 at 6:30 p.m. at the ABC Club. Appointments of chapter committee chairmen will be announced.

On Thursday, Feb. 20, members have been invited to meet again at the ABC Club at 5:30. There they will be met by officials of the Union Gypsum Company, who have arranged a short tour of their Phoenix plant. Architects will be transported by bus to the plant and then returned to the club for dinner at about 7:00 p.m.

### SOUTHERN ARIZONA CHAPTER

On Wednesday, January 8, the following officers were installed at the dinner meeting held at the Elks Club, in Tucson: President, Santry C. Fuller; vice president, Edward H. Nelson; secretary, David S. Swanson; treasurer, Robert Ambrose; director for 3-year term, D. Burr DuBois. Holdover directors are E. D. Herreras and Emerson C. Scholer. Present chapter membership consists of 31 corporate members, 1 member emeritus, 22 associates and 6 junior associates.

February chapter meeting will be held February 5.

— AIA —

The Styles of Louis XIV, XV, XVI or Gothic are to Architecture what a feather is on a woman's head; it is sometimes pretty, though not always, and never anything more.

— Le Corbusier

January, 1958

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Next month: Soils investigation for small structures.

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Seven

## The Editor's PERSPECTIVE

In these times of great public concern over many things, including individual tax bills, there is a need to cut through the surface of problems and get to the fundamentals.

There's no question but that Arizona can afford excellent schools and excellent teachers. Well-paid teachers.

Consider these things:

Last month Arizonans paid more than a quarter of a million dollars in taxes on the tobacco they smoked up.

Last month Arizonans paid another quarter of a million dollars in taxes on the liquor they drank.

That's taxes, mind you — more than half a million dollars of taxes — and a bare fraction of the multi-millions of dollars they spent for the products themselves. In one month.

It cannot be argued that Arizona has an unusually high tax on these products. According to *Changing Times*, *The Kiplinger Magazine*, Arizona has a cigarette tax of only 2¢ per pack. Forty states charge more than that. Twenty-six states charge from twice to four times as much tax on cigarettes as we do.

Last fiscal year the state collected over a million and a half dollars as its tax on parimutuel betting. That, again, is only a small portion of the total that people felt they could well afford to gamble on the swiftness of horses and dogs.

What people need to understand is that the real problem is not the total amount of state taxes, or even of property taxes, but the maldistribution of the tax load. Representative Douglas Holsclaw (R-Pima) suggests in his letter, printed in this issue, that the home-owner is carrying more than his share. The reason is that the burden of school taxes has been heaped onto the local school districts — to somebody else's relief. That's why the homeowner is so worried about his taxes.

Much has been said about Federal Aid to Education. But Dr. R. L. Johns, head of the Department of Educational Administration, University of Florida, shows that in effect certain rich states already get "federal" aid for their education. And the poorer states help pay it. To illustrate, he says:

"Texas derives many millions of dollars annually from severance taxes levied on petroleum. These severance taxes constitute a substantial portion of the state revenue used to finance the public schools of the state, but these severance taxes for the most part are not paid by the people of Texas, but by the users of petroleum products in other states." Other examples would be "New York with its concentration of money

and banking and Michigan with its domination of automobile production."

Is Arizona missing a chance to do the same thing? It's a proper question at the very time the state legislature is involved in finding some measure of relief for the school district homeowner who is being hurt by his local tax bill.

Arizona does not have a severance tax on minerals by which we can let the people of Michigan, New York and Texas help support our schools. As Rep. Holsclaw points out, mining even pays only 1% sales tax as against 2% sales tax paid by homeowners and others on their retail purchases.

Recently it was reported that last year's Arizona copper output was the highest ever in volume. Over half a million tons. Even in a weak market this meant that over \$300 million dollars worth of copper was removed from our soil and shipped to other states. Another \$20 million worth of lead, zinc, gold and silver was produced and shipped away.

Home-owners — and that includes architects — would do well to become more interested in this subject of the maldistribution of the tax load.

For years the legislature has been faced with the problem of "equalization" of school taxes. They're struggling with it again right now. And it may safely be predicted that they will be arguing the same matter next year and the next.

Why isn't the load equalized? Why have all efforts to re-evaluate (equalize) property assessments in the state failed? These questions have real pertinency to the recent defeat of school bond issues and to the criticism of hard working and conscientious school boards.

Could the answer to these fundamental questions possibly be that our political institutions themselves are not equalized? Could the answer be, for example, in the fact that with some 70% of the state's population in Maricopa and Pima counties, their four state senators can easily be outvoted by the other 24 senators on any bill that might involve taxes and their equalization?

This is not the place to dwell on the political facts of life, but there seems to me to be merit in urging individuals to look up from their designing boards and kitchen sinks and ask their own critical questions. Then look for the answers. Until they do, they will continue to find it difficult to answer the person who is stinging from his tax bill and who can only vent his anger on the things close at hand, the things he sees. Too often, and unfortunately, these are local bond issues or school boards and their architects.

## 40 NEW ARCHITECTS

Thirty five applicants for registration as architects were approved last year, after examination, by the State Board of Technical Registration. They will be included in the new technical registrant directory, now in preparation. Below is the list as furnished by the Board:

Albert Alexander . . . San Francisco  
Samuel Reisbord . . . Los Angeles  
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Karl J. Collins . . . Phoenix  
Harry Dean Lane . . . El Paso, Texas  
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R. Franklin Outcalt . . . Ohio  
Ralph E. Parachek . . . Phoenix  
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Burroughs Alvin Teal, Jr. . . . Los Ang.  
Calvin H. Vanness . . . Phoenix  
Dwight Thomas Black . . . Missouri  
W. Miles Brittle . . . New Mexico  
Charles E. Cox . . . Tucson  
Edwin W. Carroll . . . El Paso, Tex.  
David Ellsworth Hilles, Jr. . . . El Paso  
Harvey Richard Jernigan . . . Tucson  
Bernard E. Kinsock . . . Tucson  
Elmo K. Lathrop . . . Phoenix  
Arthur Edwin Mann . . . Los Angeles  
Ragnar Collin Qvale . . . Los Angeles  
David Winburn . . . Salt Lake City  
Robert DeeWitt Garland Jr. . . . Texas

In addition to the above, five applicants were granted registration during December, 1957, and were expected to become effective January 1, 1958. They are:

Duane Kieth Cote . . . Tucson  
George E. Cronin . . . Phoenix  
William Goldblatt . . . Tucson  
Richard Otto Nelson . . . Phoenix  
Harold W. Underhill . . . Los Angeles

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Doors shall be flush type solid core as manufactured by Glen-Mar Door Manufacturing Company, Phoenix, Arizona.

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- Edges** — Shall be softened 1/8" wide after trimming. All double beveled edges shall be a minimum of 1/2" after trimming.
- Core** — As described in CS 171-55, paragraph 24 for floating core block construction. Consisting of vertical blocks interspersed with a wire and rail frame with one intermediate rail. Blocks to be fire density surfaced of one species.
- Faces** — Shall be of three sizes of sander, hot press bonded, or of Oak-Lite Resinite, 1/2" thick and smooth sanded.
- Adhesives** — To conform to CS 25-36 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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ARIZONA ARCHITECT

## CAN ARIZONA SUPPORT GOOD SCHOOLS?

By DR. ROBERT W. ASHE, Professor of Education,  
Arizona State College, Tempe

"A little decoration to a building does what lip-stick does for a woman — and the comparative cost isn't any greater."

The answer to this question is "Yes." This "Yes" answer applies equally as well to good school buildings as to good educational programs. But under the present methods of financing schools — both building programs and operational costs — the answer must be "No" in many communities of the state. The term "good schools" must be defined and reasons for the "Yes" answer should be given.

"Good schools" means the kind of schools that you and I would like for our children to attend. We want good teachers, good administrators, good janitors, good instructional supplies, good buildings, and a lively interest by parents and members of the community. "Good schools," just like "good clothes" or "good automobiles," cost money. This doesn't mean that money should be wasted; it must be spent so that for every dollar spent a dollar's value of education is returned to the students in attendance. Low salaries paid to poor teachers is wasteful. Poorly constructed buildings that will not withstand a half century of wear and tear are wasteful. Buildings with a lot of "gingerbread" would also be wasteful. However, a little decoration to a building does what lip-stick does for a woman, and the comparative cost isn't any greater.

Yes, Arizona can support good schools. The personal income for Arizonans has increased from \$497 per capita in 1940 to \$1718 in 1956. Arizona leads all other states in employment growth and income growth. But along with this it must be said that Arizona is high in population growth; ranking second to Nevada. But the single best criterion for ability of a state to support any governmental operation is the personal income of the inhabitants of the state.

Yes, Arizonans can afford good automobiles, good homes, good churches, good bank buildings, good clothing, good food, and good schools. These are some of the reasons manufacturing establishments are trekking to Arizona. They want good opportunities and high standards for their employees. They want good schools. They don't want money wasted on schools but they want good schools. And it's everybody's job to help obtain good schools.

Good school buildings are not expensive. In Arizona for the school year 1956-57 the expenditures for debt service and capital outlay amounted to only 14 cents for each school dollar spent. This happens to be the national average for new construction and equipment. One would expect to find a higher rate of expenditure in Arizona because of the necessity of build and equip so many new schools each year. It is a

credit to the architects, school boards and school administrators that the costs have been held to the national average. Money has not been wasted on elaborate and ornate buildings. If any waste exists it is probably by the expenditure of inadequate funds for buildings, thus getting buildings that will require high maintenance costs and will not withstand the wear and tear of pupil use for 50 years.

"Good schools" cannot be maintained in all school districts of the state by the present system of financing. Too great a burden is now placed on the local school district property taxpayer. Wealthy districts can afford good schools under this system but most districts find it impossible to secure adequate funds by this tax alone. Three of our neighbor states finance education at the state level to a degree that is more satisfactory than the method used in Arizona. Texas, New Mexico and California tax many products produced in those states but sold in other states. Thus, consumers of gasoline in Arizona help pay for good schools in New Mexico and California. Consumers of natural gas in many states help support schools in Texas and New Mexico. Texas has neither a sales tax nor an income tax. Nor legalized horse racing and dog racing that can be taxed. California has no state property tax. New Mexico provides each school with almost 90% of the money needed to finance school operational costs. Yes, Arizona can support good schools, but not solely by the property tax at the local level.

What must be done before Arizona can support good schools? The state legislature must guarantee each school pupil a minimum essentials education program and must guarantee each property taxpayer a fair and equitable tax rate for such a guaranteed program. Legislation is needed. Education must be supported on the needs for the current year, not on last year's needs. Poor school districts will need some help with school construction costs. If the state doesn't help in this financing, the schools will continue to run to Uncle Sam for a hand-out. Over twenty states now help local school districts finance the costs of new buildings if they are unable to do so with fair tax rates.

Yes, Arizona can support good schools. Good schools are an essential in the growth of the state from the industrialist's point of view. Good schools produce good scientists, good business men, good designers, good teachers, and good citizens. And it is everybody's responsibility to do his part to secure and maintain good schools.

January, 1958

Eleven

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— AIA —

A house is infinitely communicative, and tells many things besides the figure of its master's income. There are houses that confess intellectual penury, and houses that reek of enlightenment.

— Robert William Chapman

— AIA —

Mediocrity requires aloofness to preserve its dignity.

— Charles G. Dawes

## THAT "READER'S DIGEST" ARTICLE

(A grossly inaccurate and misleading article appeared in the November 1957 issue of "Reader's Digest," and readers were invited to send for reprints. The editors of "Architectural Forum," in November, declared that the "Digest's" remedy for the classroom shortage "is so disconnected from reality, and its discussion of economics is so indiscriminating, that the article can only set back attempts to overcome the school shortage and to aid communities in getting their money's worth for every school dollar spent." Herewith is a review by Fred Weaver, AIA, of the "Forum's" answer.)

Everyone who has been exposed to the recent *Reader's Digest* article, "Do School Pupils Need Costly Palaces?", by staff writer Holman Harvey, should be sure to read the critique of the article which appeared in the November issue of *Architectural Forum*. The *Forum* staff has done a splendid and constructive job of showing the *Digest's* article is wrong and that its entire thesis is based on figures that are often incorrect, only partly correct or misapplied.

Since the *Digest* is more easily obtained by the general public than is the *Forum*, it can be assumed that Harvey's misleading piece of journalism got considerably more coverage than did *Forum's*. Hence this review.

The *Digest* article appears to be the old story of trying to increase circulation by eye-catching heads on news stories that publishers know will excite the public, but which — to maintain interest — contain half-truths or repeat the old shop-worn phrase, "A recognized authority told me..." I suppose the theory still works that if you modify or enlarge upon the truth often enough you can get a certain number of the people to believe a deception.

It should be noted in reviewing the *Forum* reply to the *Digest* article, that Mr. Harvey did not attempt to identify the particular schools cited for extravagance, nor would he name them at the *Forum's* request. However, the *Forum* was able to identify a majority of them with a considerable degree of certainty, either by tracking down the person who gave the information to Harvey, or by pinpointing the only school in a named area to which the accusation seemed to have relevance. In this manner it was ascertained that the *Digest's* claim of extravagance for schools was a thin one.

The *Forum* shows that of the nine specific examples of wasteful or extravagant schools mentioned in the *Digest*:

- Three were not in accord with the facts.
- Three had some truth, but it was exaggerated and then used to fix responsibility where it did not belong.

- Two were unidentifiable; and of these two, one would appear to be an example of thrift and the other a freak.
- One example was true as far as it went but the omissions could make the difference between seemingly indefensible folly and reasonable judgment.

The *Forum* article continues with the statement that of "the remaining two, although given different geographical locations, they are actually one school. This is very interesting because most of the *Digest's* argument and logic rest on the existence of this one exceptional school, which the *Digest's* writer has made to appear as two, and hence, by implication, has multiplied into a trend. Without this school the *Digest* would hardly have had an article."

The school mentioned as being a trend was Heathcote School in Scarsdale, N. Y. It is a fine school and the district for which it was built has long been recognized for its excellent school system, including good pay for teachers. The district is possibly the richest in the nation and can well afford a costly school if it desires. The average disposable family income in the district is \$21,505. This is an important school and it has pioneered new ideas in design to fit new ideas in education. The cluster plan which was pioneered at Scarsdale has been adopted successfully by many hard-pressed communities in the nation. Hence, because of the wealth and pioneering spirit of a community which had the money and was willing to try new ideas under expert guidance, the taxpayers and children in the remainder of the nation are beneficiaries.

The *Forum* points out that the *Digest* article ignores the value that other districts have gained from the Heathcote School because of their ability to research and pioneer.

If the Heathcote School, which the *Digest* has pictured as a lavish school befitting an expensive club, had been designed in a stern and economy-minded manner it still would not have added "one penny to the resources of any other school district."

School building costs cannot be singled out locally or nationally as being high compared to other costs. School building — "not just here and there, but as a rule — is a prize U. S. example of low cost construction. Compared with 1925-26, also a period of prosperity, school building and rising population, school construction costs on a square-foot basis have only doubled. During the same period house building costs have tripled, and industrial-commercial costs have risen 175%."

This remarkable achievement has not been made by a handful of specialists. It shows the combined



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Reader's Digest

(Continued)

efforts of "massive numbers of architects, engineers, contractors, educators and school board members. It has also been achieved, unfortunately, by a certain amount of penny-wise, pound-foolish compromise with quality, and for this reason the astonishingly low record on school costs is probably, in fact, already too low for optimum economy."

There is a story in school design and construction costs. It is a great story, but it is not to be found in such articles as published by *Reader's Digest*. It will only be found in the honest reporting of factual information gathered from reliable resources and interpreted by individuals trained to understand the knowledge they have gathered.

Comparisons of anything without all the background information and facts is a dangerous pastime. This is true in the comparison of building costs and especially school building costs, since all taxpayers have a well-established interest in them. Staff writers and newspaper reporters are oftentimes able to sway public opinion — with the best intents — to the actual detriment of the people they believe they are trying to help.

The real story in school costs is not to be found

in the few and isolated examples of "lavishness" or "freakish design," but in the over-all economy. Over-all economy to the writer means not only first cost but eventual costs. We have not achieved our goal if we are successful in the first cost and fail in the eventual cost. Cheap roofs are an example of first cost economy but eventual cost extravagance. Windows that require painting "are not considerate to the taxpayer," even though they decrease first cost.

"Economy" that is derived from the use of high-maintenance materials is false economy. It is much better to obtain economy through clever design and well-thought-out simple principles. This can be obtained and is consistently being obtained across the nation.

A serious and misleading comparison which is common in the *Digest* article is the play with cost per square foot, which as often as not leaves quality of educational design and function wholly out of the picture. Says the *Forum*:

"A school so skimmed in its classrooms that work in them is severely circumscribed may boast a low apparent cost if you omit to see what the money bought. Quality also has its intangibles: is a school library which is oppressive, rather than inviting to young readers a bargain at any cost? Does a school

which visibly advertises cramped meanness of spirit render full value to the community for the sacrifices it took to build it?"

Square footage quotations are further misleading in the *Digest* article in that they will quote figures such as \$11.82 per square foot as the cost of a high school. While it is probably true that this was the cost of the classrooms, the article does not further state, as reported by *Forum*, that other buildings in the school group cost \$22.85, \$11.73, \$12.63 and \$16.77, averaging \$13.83.

This gimmick of "square-footage cost" is not, I'm afraid, the child of Holman Harvey. I can recall that it has been used by members of our own profession, who quite obviously should know better. When staff writers and reporters use such figures we probably should forgive them since they don't know any better, but when architects use low cost-per-square-foot figures, which are obtained from single buildings within groups, in order to obtain commissions from trusting school boards, they are hurting the whole profession and building industry, since other school boards which have the complete picture on building costs in their own program then cry out and wonder what is the matter with them and their architect.

*Forum's* article states the very basic premise that "comparative cost figures are useful only if they compare comparable things. Such comparisons, if they are to mean anything, are extremely complex. If used without understanding of first costs, long-term costs, space efficiencies and educational values bought, they can make School "A" look like more of a value than School "B" when in reality it is less."

In reviewing the *Forum* critique on the *Digest* article on school costs, I am reminded that over the past several years local architects and school boards have from time to time been severely criticized for so-called extravagances and frills in school plant design and construction. We have remained silent because as architects we knew that the great majority of the charges were without basis and represented only a very small percentage of the total volume.


I believe that oftentimes we have remained silent because of the fear of being controversial. Such silence does not dignify our profession. Each time we hear of, or read an article that is composed of half truths in order to make a point, we should see that it is answered. The public is not dumb, I believe they want to be told the story of good architecture and I think it is our duty to tell it.

— AIA —

Very much of what we call the progress of today consists in getting rid of false ideas, false conceptions of things, and in taking a point of view that enables us to see the principles, ideas and things in right relation to each other.

— W. O. Hoard

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Fifteen

January, 1958



... a generation of children have one opportunity for an education. They will not pass this way again."

## HOW MUCH SHOULD A GOOD SCHOOL COST?

The American Association of School Administrators and the National School Public Relations Association, both departments of the National Education Association, have assembled a valuable portfolio on this subject of current widespread interest. The portfolio should be in the hands of every architect, school administrator and trustee.

The portfolio may be obtained for \$2 from either of the above organizations at 1201 Sixteenth Street, N.W., Washington 6, D.C.

Faced with an enormous task of education which may determine American survival, taxpayers are asking pointed questions—not only about the quality and effectiveness of teaching given to modern American children—but about the school plant in which this teaching takes place.

Following are excerpts from many of the 14 timely reprints and pamphlets gathered together in this portfolio:

1. *How To Compare School Costs*, from "Architectural Forum", November 1957. This article provides a practical guide for measuring the relative construction costs of various kinds of schools. The formula is neither too elaborate nor too abbreviated, and is designed to allow two schools to be compared on a really comparable basis. It includes "a reliable corrected cost figure, an adjusted cost figure per pupil, per gross square foot and net square foot, and a design efficiency ratio."

2. *Prefabrication's Changing Role*, from "Architectural Forum", November 1957. This article demonstrates how the disadvantages of complete packaged schools led to the use of packaged parts.

"The American mind turns naturally to prefabrication. For in this idea in its broadest sense—the building of complete units of something in factories, ready for use—is embraced the whole forward-moving technology and economy of American mass production, the productive wonder of the world.

"But the adaptation of prefabrication in widest form to . . . architecture and building is studded with failures . . . For schools, despite the glib reasoning of some tax-bitten citizens, are not Chevrolets. No two schools are exactly alike in requirements, curricula, purposes, student pattern, size, site and other more subtle physical needs, even in the same community. Moreover, prefab school design runs afoul of the vast diversity in code requirements from state to state and city to city. In fact, the school is one of the most subtle design problems . . .

"If the package school does not answer the great demand for more classroom space at reasonable cost,

what is the alternative? For most manufacturers it is modular design, an idea which has been used for a full generation by school architects to simplify custom work. This means standardization not of buildings but of building components which can be incorporated in virtually any architectural design."

3. *Money for Schools*, from "Architectural Forum", November 1957. Here is a serious evaluation of present school finance methods.

"The cost of high interest rates should not be minimized, although it is frequently overestimated. On a hypothetical \$500,000 issue of 25-year serial bonds, a difference between 3 and 4% in interest rates could mean a difference of 13% in the total cost over the life of the bonds. But, as steep as the price of money is, inflation can be even more costly. The Federal Reserve Board has figured that even interest rates at 5% until 1965 would not cost so much as a 2½% price inflation each year to that date."

4. *Designing the School Plant as a Learning Environment*, from the "Nation's Schools", January 1957. The changing purposes of education require changes in school design.

Of the six essentials for child growth, five are provided by the modern school. These are discussed, as well as the impact of a changing world on education—and the environment of education. The effects of automation, speed of travel, population increase, television, etc., on education and school design will be significant. "Education is the greatest power that man has to change his own environment, to improve his own living conditions, and our concern should be to give the child the utmost of this power to improve the world in which he will live."

5. *The Individual School*, from "Architectural Record", April 1956, shows how attention to detailed requirements keeps standards up and costs down.

"The big battle is always to keep cost of construction within bounds. Construction entails a large capital outlay, all at one time. The cost of operating and maintaining a school bulks large over a span of years, but it is paid piecemeal and besides it lies in the future. The reduction in maintenance and operating costs, the success of the school's functioning, that might be improved by a little more money initially spent here or a few more square feet provided there, seldom count for much when bids are being received. At that moment one would think the architect was out to rob the community purse, when actually in a fair appraisal of school building costs he has something to be proud of."

6. *The New High Schools*, from "Architectural Rec-

ord", October 1955. A discussion of the growing idea of subdividing the large high school into smaller units more manageable, more human, more stimulating and less frightening than the monument we built in 1929.

7. *Schoolhouse Economy Forum*, from "Architectural Forum", October 1953. A distinguished panel of architects, engineers, school consultants, public representatives, government, city and state school officials agreed on ten major ways to stretch the schoolhouse dollar. Among the recommendations:

(a) Larger administrative districts to spread the tax base; (b) Long-range planning to reduce the high cost of land acquisition; (c) Better programming to make classrooms do a full day's work; (d) Restudy of the building to see what can be subtracted and added; (e) Intensive use of nonclassroom facilities to save square footage; (f) Careful study to bring mechanical equipment in line with need; (g) Revision of obsolete codes to protect, not exploit, the child; (h) Standardization without loss of self-respect—not stock plans; (i) Professional know-how to solve each school's differing problems; (j) Imaginative financing to gain the easiest, biggest saving of all.

8. *Fifty Ways to Schoolhouse Economy*, from "Architectural Forum", October 1953. Wide-ranging ideas, the collective recommendations of the same experts (see above).

"Remember our children are the purest gold we have, and no economy is real that tarnishes their

chance for a magnificent future. The future of these children is America's future."

9. *Stretching the School Building Dollar*, from American Association of School Administrators. Several means by which schools can get greater mileage out of the dollar.

10. *The Stolen Years*, from "School Life", November 1957. A discussion of the effect on 1.5 million children who last year were forced to occupy crowded and inadequate quarters, and 840,000 who could attend less than a full day of school.

11. *Use the Schools the Year Round?* from "Changing Times, The Kiplinger Magazine", April 1956. A discussion of why schools that have tried year-round use have given it up.

12. *Where's the Money Coming From?* from "The NEA Journal", October 1957. An analysis of our unequal tax structure, and plea for national policy for public school financing.

13. *How Large Are Our Classes?* from "The NEA Journal", October 1957. A report on the size of classes in urban school systems.

14. *The School Building Situation*, from "The School Executive", November 1957. A report on the ability vs. national willingness to build needed schools now.

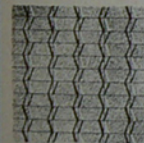
"I am clear that when people decide they need and want a school building to do certain things they have determined, the result will be a good building. And they will find a way to get it."

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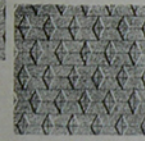
ARCHITECTURAL CONCRETE

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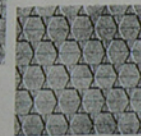
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you have to be smarter than anybody!"

## CAN STANDARD SCHOOL PLANS SAVE MONEY?

By Dr. Charles W. Bursch

(Educational consultant, former chief, Office of School Planning, California Department of Education)

(Editor's note: It has been well-documented that stock plans for school construction have not worked satisfactorily, where tried throughout the nation over the years. At least 15 states have tried them and abandoned the idea. One reason was found in the testimony before a California legislative committee that contractors, from experience, add substantial contingency fees when bidding on such plans to make up for the difficulties and changes they know will be encountered. This testimony suggested that the higher bids more than offset any possible savings on planning and architectural services. The following article by Dr. Bursch is part of a reprint issued by the American Architectural Foundation, American Institute of Architects.)

Whoever plans a school building exercises considerable control upon the type and cost of the educational program to take place in the proposed building. Education in this country is a state responsibility but the task of providing and managing educational enterprises has been assigned to local agencies—school districts. As an important part of that assignment, school district officials are responsible for planning school buildings. It would follow then, that local school officials may properly decide whether or not to use stock plans for a given project. These decisions, however, should be based upon thorough knowledge of implications of using such plans.

In the first place, when stock plans are used, many crucially important planning decisions are made by persons not responsible to the school district concerned.

Stock plan proposals usually provide that they be prepared and made available by the state. A state agency having this responsibility would of course, include only such plans as it chose. It would follow therefore that their use by local school districts would be tantamount to increasing state control of education at the expense of local decision and control.

Another inescapable implication of the use of stock plans is that genuine functional planning suffers. For example, when plans for a project are being developed on an individual problem-solving basis, inclusion of a recommended feature is easy and a natural part of planning procedure. However, if the recommended feature is not found in the stock plans, it becomes

necessary to determine if its incorporation will, because of plan changes required, nullify the cost and time-saving intended when the decision was made to use stock plans....

### Ways to Lose Money

Time and place are of crucial importance in rendering services. Outstanding plans and specifications for one location at some past time may be woefully inadequate and inappropriate at another place or time. Unless the architect incorporates the latest appropriate construction features and procedures, and unless he is entirely free to use plans, materials and specifications appropriate to the place where the project is to be constructed, the (school district) well may lose, in unnecessary construction, maintenance and operation costs, many times over, the saving in planning cost made by using a ready-made plan designed to solve a hypothetical problem which in fact does not exist anywhere!

### Plan Values

When confronted with the need for a school construction project and for a decision between ready-made plans and a problem-solving approach, school building officials should weigh the values listed below:

- Is careful, complete, timely and competent planning of sufficient importance to justify an individual project problem-solving planning procedure?
- Is there a sufficient variety of available and cataloged stock plans to justify the hope that one can be found that substantially fits the requirements of the needed project?
- Does planning time that may be saved by using stock plans, represent prudent offset to threat of impaired usefulness of the building which represents a large outlay and which would probably continue in use for 30 to 50 years — even though functionally inadequate when constructed?
- Are the advantages expected from the use of stock plans sufficient to justify the local school district in surrendering part of its prerogatives and obligations to the agency furnishing stock plans? — when stock plans are used, the district loses control of who does the planning, when and

(Continued next page)

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### Standard Plans

(Continued)

where it is done and to what degree of completeness plans are to be developed.

#### Saving Time and Money?

Pressures for using stock plans are pressures for saving planning time and for saving money on the total project. It should be emphasized that planning time can be saved only in situations where the educational usefulness of the building, completeness of plans and specifications for really competitive bidding are not rated very highly and where sufficient variety of stock plans is available to permit selection that fits the specific site. Similarly, cost of the project can be reduced by use of stock plans only when the school is willing to settle for inadequate and incomplete planning, and therefore willing to settle for less than the most appropriate functional provisions in the building.

In brief, use of stock plans for schools, whether authorized by a school district or used without such authorization, constitutes a repudiation of the validity and importance of the planning process, and abandonment of responsibility for attempting to make improvements. Such repudiation and such abandonment of responsibility are untenable in any important aspect of public education in a democracy.

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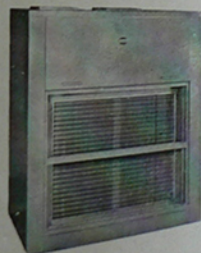
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ARIZONA ARCHITECT

## CRITIQUE

EDITOR, ARIZONA ARCHITECT.

The dilemma of providing emergency aid to schools and at the same time tax relief for school districts will be the subject of a battle royal in the current session of the Legislature.

To understand this troublesome problem, here are some revealing facts:

Today, only about 23% of the cost of education is paid by the state, whereas about 53% is paid by the local school district property owners. (Arizona in bygone years paid about 60% of the cost of education, and even now — nationally — 55% to 65% is paid by state governments from statewide tax sources.)

School districts pay the full cost of school buildings in their district from local property taxes, with no help from the state.

Obviously, then, the property tax burden must be taken off the school districts. But the question of HOW to do this creates the battleground between the House of Representatives Tax Study Committee and those legislators opposed to its plan.

1. The Tax Study Committee would solve the dilemma by a 50% across-the-board increase in sales taxes and a 1% real estate transaction tax. These plans would provide about \$10 million for school aid. Of this, about 80% would come from Mr. Wage Earner — the home-owner who already pays a 2% sales tax. It would not come from the big industries of the state which own over 50% of all assessed property but pay far less than 50% of the school district taxes. Furthermore, industry pays only 1% sales tax, and accounts for less than 20% of all sales tax income.

A 1% real estate transaction tax will fall chiefly

on the home buyer and seller, since the big industries seldom sell their properties.

The net effect of these two plans would be a small decrease in the local property tax rates, but a much greater payout in sales taxes. And of course a large tax if one sells or buys a home.

2. Under a counter-proposal that has much legislative and public support, aid for schools, and school district tax relief would come from the state level via an increase in the state property tax rate. This would reach the property of the big industries of Arizona. This plan would provide about \$10 million for school aid — approximately the same as the Tax Committee plans.

#### Summary

Here is a comparison of the costs to home owners under the proposed plans:

#### 50% Increase in Sales Taxes

This means a jump from 2% to 3% on retail sales. The average retail purchases per person in Arizona amount to \$1,273. An additional 1% for family of three would mean about \$40 per year added outlay.

#### 50% Increase in State Property Tax

The present rate is \$1.35 per \$100. A 50% increase would be 67½ cents per \$100. The average home in Arizona which has a \$2,000 assessed valuation would therefore have an increase of only about \$15 per year in property taxes. Thus it is readily seen that the Tax Committee's 50% sales tax increase plan would cost the average homeowner about three times as much as a like increase in the property tax rate plan. But best of all, the latter plan will do the job of providing emergency aid to schools and tax relief for school districts by simply shifting the responsibility of education costs back to the state level where it rightly belongs.

DOUGLAS S. HOLSLAW  
State Representative, Tucson

— AIA —

"We cheerfully pay \$125,000 a night to a man who entertains us with frivolities on TV, but can't spend one dollar on the adornment of a building in which our children are to acquire much of the taste and culture for their mature lives. The building must be shorn of everything except what is practical, however devoid of charm that may make it . . .

"In passing let it be noted that there is no justification for excluding beauty from the purely functional requirements. A school is for education, which involves not merely learning facts but the inculcation of taste in the arts, including architecture."

— William Roger Greeley, FAIA



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January, 1958

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## IN THE BOOK WORLD

"A Fourth of a Nation" by Paul Woodring (McGraw-Hill, \$4.50).

While architects are primarily concerned with the physical environment in which the educational process takes place, they cannot ignore the philosophy of education, for the current philosophy greatly affects the environment which they must be planning.

Public apprehension over the numerous Sputniks has caused a flurry of concern over the existing philosophy of education. If more emphasis is to be given to science training, it will affect the architecture as well as the costs of education. It will necessitate detecting potential scientists earlier and more surely than at present.

"The educational philosophy for a democratic nation cannot be created by one man or by a professional group. It must emerge from the convictions of the people and must stem from their mores, their folkways, their ethical beliefs, and their concept of the good life," says Paul Woodring in this new book, recently published.

The author has had experience in nearly every level of teaching and served as consultant to the National Citizens Committee for the Public Schools. He is now a full-time consultant for the Fund for the Advancement of Education of the Ford Foundation.

Dr. Woodring states the aim of education in one sentence: "In a society of free men, the proper aim of education is to prepare the individual to make wise decisions. All else is but contributory."

"The education of free men must include the education of those of all levels of capacity. Today there is a growing fear among both parents and teachers that our schools are neglecting the brighter children. . . . The possibility that our schools are neglecting such children is a frightening one, for these are the boys and girls who are most likely to be our leaders a few years hence."

The author is convinced there is sound basis for this fear. The solution, he says, "consists of grouping students on the basis of learning capacity during such periods of the day as they are engaged in learning activities. . . . While learning mathematics, students should be grouped on the basis of ability in mathematics, while studying English they can be regrouped on the basis of competence in English."

A drastic reorganization of our school system is recommended in this book. His new system would begin the formal education of children in an ungraded primary school which would combine the work of a good kindergarten with that of the present first and second grades. After an indefinite period, normally two or three years, the child would advance to the graded elementary school, in which major

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stress would be placed on developing the skills of writing, spelling arithmetic and reading.

The average child would enter high school at about 12 or 13, where he would be grouped and re-grouped for the study of mathematics, science, history, and literature, as well as for social activities.

Graduation from high school would occur at the age of about 16, after which the student would go to work, enroll in a trade school or junior college or, upon examination, in the liberal arts college. The latter would in most cases be separate from the universities and preparatory to them. Professional education would come later at the universities, but could be completed with no greater delay than now occurs.

This timely study of our educational system may have considerable effect on the organization — and architecture — of education in America. At least it comes at a period of ferment in that field.

"Schools for the New Needs" an Architectural Record Book, with foreword and introduction by Frank G. Lopez, AIA, senior editor, Architectural Record, (F. W. Dodge, \$9.75).

While this book was published in 1956, it has great pertinency to this issue of *Arizona Architect* and in this time of growing public concern over education. The book is devoted to the subject: How can we continue to hold the cost of building in check and at the same time maintain acceptable quality? Throughout the book's two sections — one on elementary and one on secondary school buildings — cost data constantly appear in recognition of the need for economy in design. Another entire section is devoted to cost studies. The book covers the whole range of recent school building experience, from the quite conservative to the frankly experimental.

The effect of building and architectural quality and esthetics upon staff performance and upon the pupils is discussed.

"Architectural quality depends on both the practical and the esthetic, if indeed one can separate the two; and the importance of esthetics to the learning process can not be over-emphasized. Should the pupil mature knowing nothing better than the poor average of things cultural, or even hating his student days for their ugly surroundings?"

— AIA —

The most important function of education at any level is to develop the personality of the individual and the significance of his life to himself and to others. This is the basic architecture of a life; the rest is the ornamentation and decoration of the structure. As such, it is desirable but only in a supplementary sense.

— Dr. Grayson Kirk

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