

Better Classrooms for Less Money

By John Hersey, the novelist, who, as a public-spirited citizen of Southport, Connecticut, has made an intensive study of the latest trends in school design. Captions under the illustrations are by Geoffrey Baker, New York architect.

LAST year the communities of this country spent \$1,400,000,000 on new school buildings. We also spent \$1,700,000,000 on television, but that's another story. The expenditure on schools built 49,500 classrooms, a number which was short of current needs by 6,500 rooms. The good people of many places, worried about how to catch up with minimum needs for school buildings in face of a growing reluctance to pay for them, have begun to wonder whether we can't build schools more economically in order to get them built at all.

But what is "economical"? There is no single yardstick for economy in school construction. A figure often mistaken for a yardstick is the square-foot or cubic-foot cost of buildings. That leaves out how the space is designed and how used and for how many children. Some of the factors that need to be considered as factors are: cost per square foot; cost per classroom; cost per pupil; putative cost of maintenance; efficiency of design; probable time of onset of obsolescence; cost of future rehabilitation; and, at the sad end, cost of demolition. And overriding all of these is one paramount question: What is good for our children?

The application of a complex test of economy like this, rather than the simple square-footage test, leads directly to one conclusion, which should forthwith be disposed of: Our solution is not to be found in very cheap "temporary" construction to meet

crisis needs, or in jerry-built one- or two-room shacks of the hen-house variety which may be described as semi-permanent additions to existing plant. These meet neither the practical tests listed above nor the test of what is good for our young people. These ways are worse—they will prove more costly—than double sessions.

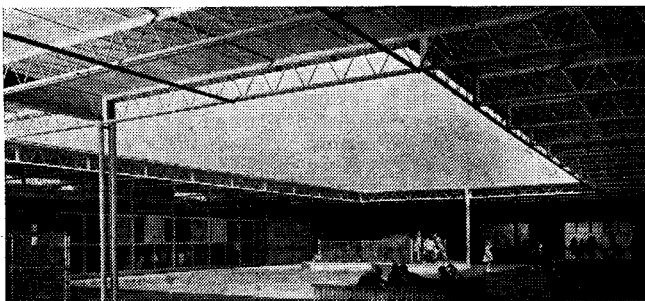
There are, however, a wide variety of ways in which we could save *some* money; ingenious and diligent application of a combination of them might allow us to save quite a lot of money—and therefore, more importantly, get the job done soon enough and well enough.

The first great opportunity for savings lies in long-range planning. A town that has the energy and foresight to survey its population trends carefully and plan future building as much as ten years ahead can save substantially by buying roomy school sites, not only before they are needed but in many cases before they are valuable. Empty land is far cheaper than land on which condemnation proceedings are necessary. Land acquired before a huge housing development is undertaken is far cheaper than land opposite, or carved out of it, later. Much can be done in promoting local and state laws to help this kind of planning along. Under an admirable state law, the State of California has been enabled to put up money for future school land for its municipalities and to hold the land in

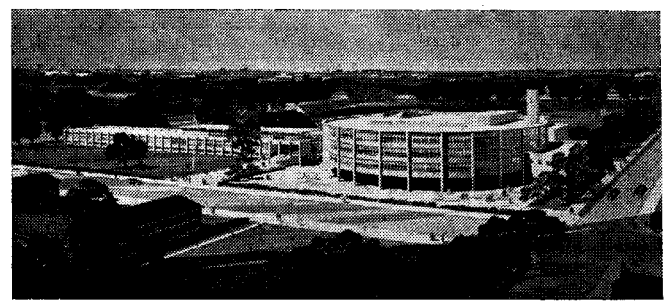
ally to be built. At the other end of the scale, under local ordinance, some communities require developers to post their exact intentions with their school boards or planning commissions before beginning work. (The plan of having developers build their own school buildings and sell them to the communities, however, has been found unsound, because by and large developers' standards of construction are simply not up to school requirements.) Some communities have combined the acquisition of school land and town land to be used for parks, playgrounds, and public buildings.

The second big area of possible saving lies in the hands of the public schoolmen. Many educators have begun to revamp their programs, with the primary aim of improving the children's education, but with a secondary result of saving space and money. Some of them feel that teaching has become overspecialized, with a consequence that school space has become overspecialized. An elaborate science room that lies idle for three hours each school day is partly waste space. The trend is toward self-contained classrooms, in which all subjects can be taught—rooms which belong to pupils rather than teachers. Teachers are moved from room to room rather than pupils. All activities except physical education and group music can be carried on in this kind of room. Some schools have developed portable equipment for such subjects as science—relatively primitive equipment to be sure, and necessitating relatively broad teaching, which, at the elementary and high-school levels, many educators now feel is desirable.

FLEXIBLE programming offers many chances for economy. Some school administrations are getting more and



The classroom blocks in this very inexpensive Brazoria County, Tex., elementary school are set in T formation, spreading out from a large "Common Room" space at the junction between stem and arms of the T. Each classroom block consists of two rows of classrooms separated by a large play court. In the mild Texas climate wide roof overhangs provide sufficient protection from the rain. Architects: Donald Barthelme & Associates.



The General George W. Wingate High School being constructed at Brooklyn, N. Y., will serve 3,200 pupils in vocational, commercial, and academic courses. A circular building like this, with a single corridor serving the band of perimeter classrooms, smooths out pedestrian traffic, just as vehicular traffic at intersections is eased by a traffic circle. This marks the first departure from traditional design in NYC schools. Architects: Kelly & Gruzen.

better use out of their school space by lengthening and rearranging periods of instruction. Some towns are programming so as to use existing public buildings on a part-time basis—what better civics classroom than a corner of the town hall? Some school systems are providing more efficient buildings by shuffling traditional concepts of grades, building different kinds of schools, for instance, for primary (one through three), elementary (four through nine), and high (ten through twelve) schools; the gradeless school is still many a schoolman's distant dream. Some towns are examining the possibility of keeping their schools in session for twelve months instead of nine, rotating blocks of pupils on nine-month sessions—thus adding 25 per cent to the school plant without putting up a single room.

The third major area for savings is, of course, in design. Here architects and educators are thinking in several fresh directions that can certainly save money and may improve education.

ONE promising line of exploration is toward decentralization of the school building—scattering it, in fact, in pieces. A number of elementary schools are now being built which have a core unit consisting of administration offices and one or more large multi-purpose rooms, and have, disposed around this core, a number of small units, of two or four classrooms each. These units may be connected to the core by corridors (“finger plan”), or they may be separate buildings (“cluster plan”). Each unit has its own heating and bathroom facilities; each classroom is self-contained. There is economy in such plans, because for the most part heavy construction is eliminated; simpler materials and methods can be used; modular and prefabricated elements may

be introduced: walls can be reduced by lowering ceilings, since light is abundant; small home-type heating units can be used, and a heavy load of night heat need not be carried; fire-proofing is unnecessary since egress is easy; and waste space can be dispensed with. There may also be good education in such plans, as they tend to fragment big schools into small, almost familylike groups.

Another line of thinking leads another way—towards the creation of a highly centralized space, consisting minimally of a roof and a floor, with provision, by means of easily installed and easily removable partitions, for a flexible interior. This plan allows a school administration to use its school space with maximum efficiency in relation to its current educational program. It practically eliminates the factor of obsolescence, since the school can be cheaply adapted to new educational methods and requirements.

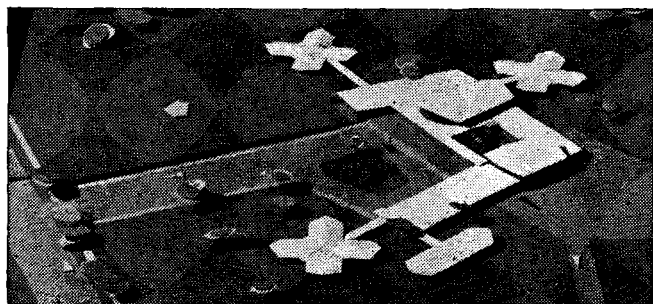
Both the scatter plan and the flexible interior plan can realize the main objective of the economy-minded designer—the cutting down of waste space. The most scandalous waste in the past has been the corridor, 15 per cent or 20 per cent of the school area used only for occasional traffic. The cluster plan has no corridors. Several highly successful centralized schools have been built that have eliminated corridors altogether by incorporating them in effect into classrooms; classrooms are interconnected and children simply walk through successive rooms. With the activities programs so widely used nowadays, some schools are converting their corridors into teaching space, making them into something like multi-purpose rooms.

Both architects and educators have begun to take a very close look at the big rooms in schools—gymnasiums, auditoriums, and cafeterias. A recent

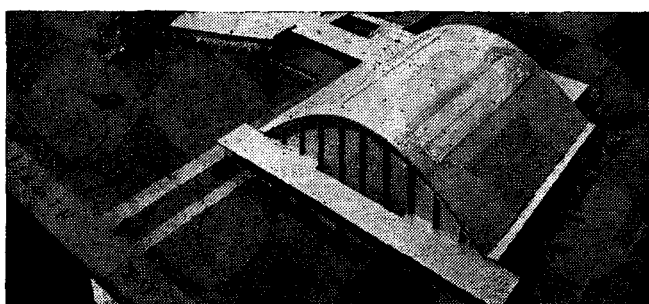
survey of fifty schools in New York State brought out that between 20 per cent and 40 per cent of their cubic footage was taken up by gymnasiums and auditoriums. Multiple use of big rooms ought by now to have become axiomatic, but it hasn't, and towns that cannot afford it go on building huge spectator-sport gyms that are more community centers than educational necessities; in other words, school boards or building committees are letting themselves be charged for perhaps desirable town facilities—and are being blamed by the town for buying “frills.” Educators are not sure that big cafeterias, into which scores and perhaps hundreds of children are crammed in order to cram themselves for a few noisy minutes each day, provide good education towards the table habits of their lifetime; certainly they do not often mean efficiently used space. Some schools now have smaller dining rooms that can be used for other things; some schools are quite happy with serving trays in classrooms.

THERE are other ways to save. Building codes are in many places exorbitantly antiquated and need sharp scrutiny. New materials are constantly being developed which make some of the expensive traditional materials into luxuries that can quite properly be called “frills.” New economical lighting techniques are being found; for instance, top lighting, which is the best lighting, saves glass.

None of all these economies saves a penny to a sleeping town. The greatest, indeed the only, hope for future economies of the kind that will be best for our young people is, it goes without saying, an informed and active citizenry. In any case, we must get out of our heads the idea that education can be, or should be, cheap. It will always be as expensive as our children are precious.



In this Scarsdale, N. Y., elementary school the central block of offices and auditorium is connected by thin corridors to clusters of hexagonal classrooms. Four of the six walls in each classroom are of glass, so the low-pitched roofs are swept out beyond them in a wide overhang to give protection from too much sun glare. The central hall in each cluster is low-ceilinged, sheltered, and can easily be darkened for shows. Architects: Perkins & Will.



This Seattle, Wash., junior-senior high school can be expanded as its community grows. By putting each of the main elements of the school—auditorium, shops, library, gymnasium, cafeteria—into a separate building block, future extension is greatly simplified and the designer finds it easier to fit the building group into an irregular site. The construction is factory-type, but economical and of proved quality. Architect: Ralph E. Burkhard.

Pass the Word, Not the Buck

By Hodding Carter, editor and publisher of the Greenville [Mississippi] Delta Democrat-Times, author of "Where Main Street Meets the River," and other books.

WHEN my wife and I returned to Greenville in 1945, after nearly five years of military service, we became personally and acutely aware, for the first time, of the issues which confronted the parents of schoolchildren in every post-war American community. Our town had grown by nearly 40 per cent since the 1940 census, but our last new school had been built in 1937. Our state, Mississippi, had a seemingly insoluble problem in public education, for our per capita income was the lowest in the nation, our birthrate and proportionate school population among the highest, and our state constitution and local mores alike dictating separate educational systems for white and Negro children.

Of course, we had known of most of these factors before 1945. I had written many a view-with-alarm editorial about them. But now they were worse, and, additionally, they had personal meaning. Our oldest son was ten years old, and would attend school in Mississippi for the first time; our second, who was six, would enter the first grade; and the youngest would be ready in a few years to add to the town's doubled school population. So one night we took stock of ourselves in relation to the schools and decided that we would stop passing the buck, editorially and individually, and become as active as we could in working as parents for our schools. And so we did.

That was eight years ago. During these eight years my wife has been a P-TA president over and over, and has been continuously active in P-TA work. I became, briefly, a school board member during a controversial period and, although I was not reappointed at the end of my term, I believe public interest in the schools was stimulated and the schools themselves helped in the long run by a fight involving some basic principles. Throughout these years, too, our newspaper has printed an extraordinary amount of school news, over and above routine items, and taken sides vigorously in school matters. I am sure that this helped to build the four new schools, two for each race, that have gone up or are now being built. We have insisted with increasing success that our separate schools be equal

in fact, and we have tried to make our fellow citizens aware of the need for better teachers, better pay for teachers, and intellectual freedom for teachers. Reluctantly we have endorsed the principle of Federal aid, and have insisted that our state government undertake needed reforms in our school systems. We have supported the truly fine efforts of such statewide groups as the Mississippi Economic Council to bring legislative realization of our school needs. I have served on the National Citizens Commission for the Public Schools, the only independent fact-finding and clearing-house organization for our schools, and one which can be an effective correlating force in the nation.

This is not intended as a satisfied resumé of what two parents have tried to do in their own town, for it is inconsequential except that it represents part of the necessary aggregate. What I am trying to say is that the only way we can end the buck-passing to state and Federal governments is to become active as individ-



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ual citizens in our own communities, and to join with independent state and national organizations which seek to correlate the work and objectives of the individual and the local groups. The National Citizens Commission, it seems to me, has served as a pilot plant for such correlation, and when and if it ceases to exist as presently constituted and financed surely some other central agency must be devised to carry on the work.

CONVERSELY, no national organization or state unit, no matter how aggressive and able, is going to accomplish much unless parents—and other citizens, too—realize that inadequate and inequal school plants cannot be replaced or improved by somebody else's activity; nor will the spirit of free inquiry, so often threatened in the public schools, be kept alive by letting George do the protesting. We've had fun helping fight for the public schools in our town, and we have learned that this is a continuous assignment and not something to be engaged in spiritedly for one time and then forgotten. And it has been more than fun to learn, through the reports of the National Citizens Commission and other sources, how parents and groups elsewhere have fought and won battles for our children.

Instead of passing the buck, these American parents are passing on information that helps each other in dealing with the complexities of mass education. All of us can join in. We can begin by enlisting more attention from our local newspapers. They want to help. I know, because we run one, and we are convinced that almost every American editor is a friend of the public schools, the principal handicap being that he has to be reminded in our global times that book-burners in Podunk Center also are dangerous.

Positive interest on the part of the newspaper can almost always be gained if someone or several someones take the time to see the editor. And this adds up, too. I can cite what has happened in our state, where most of the newspapers got behind the evolutionary program of the Mississippi Economic Council, which calls for tremendously higher expenditures and, just as important, for changes in creaky machinery and creakier legislative attitudes toward equality of educational opportunity. It is safe to predict that the legislature will take action at its next session in line with the MEC's recommendations. And this has come about through the organized efforts of parents, backed up by their home-town newspapers, who are passing the word instead of the buck.