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Cover: Main entrance, Plymouth Dining Commons. Architect: The Office of Frank Kennett, Jr.

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FIFTY CENTS A COPY THREE DOLLARS A YEAR
Carter Appointed

John A. Carter, AIA of Nashua, has been appointed to the New Hampshire State Board of Registration of Architects, replacing Irving W. Hersey of Durham. Other members of the board include W. Brooke Fleck, Hanover, Andrew C. Isaak, Manchester, John R. Holbrook, Keene, and Malcolm Hildreth, Nashua. All are AIA members.

A Firm Fee

Several months ago an architect was interviewed by an industrial client to design a building. At the close of the interview the architect was asked whether he would be willing to reduce his fee to meet that offered by other architects. Although this particular architect at the time wanted the job, he graciously apologized and indicated to the client that he must stand by his fee for the kind of work and services he, the architect, was expected to perform.

Undaunted, the client pressed ahead and asked whether the architect would at least assume the cost of the blue prints. Evidently the other interviewed architects had agreed to this. With this request by the client, and showing real disappointment, the architect rose, started to leave with the statement, "I can't meet their price."

Then the client stated, "If you had cut your fee you would not have this job."

It is the thick-headed client who doesn't realize that one seldom gets more than one pays for; that beating down the price — particularly of professional services — can be costly and risky. Yet this situation occurs every day and the tragedy lies in the fact that many architects become parties to a process that guarantees they will suffer financial losses and/or diminishing public, professional and self respect.

One of 12 architectural firms in the nation lost an average of 5% on last year's gross business. Architects are currently averaging a loss on one project out of four. This is serious for the architects, but it has deeper implications for the owners.

City building inspectors say too many architects, including some of the best known, present plans for approval that are sadly deficient.

Contractors say architects would get better bids on their work if plans and specifications were better prepared. They add that a major reason for sloppy work is that the architect just isn't getting enough pay to feel that he can afford the time it would take to do better.

This is a serious indictment of
some members of the profession, but the blame and the penalty must be shared largely by the owner, who thinks only of cost and not of value.

We are in an era when more and more technical skills are being required. Much more sophisticated structural systems and other influences are being envisioned and incorporated into buildings today. Programming, designing and integrating the increasing array of technical building components requires much more of the architect's time in research and coordination.

The functional requirements of buildings are changing rapidly in every building type. The need to avoid the pitfalls of obsolescence and create buildings with an economic life equal to structural life demands more research by the architect.

It is also true tighter building budgets are being experienced as well as greater speed of construction and the need for more knowledge of needs of specific building types. Although these can work to the advantage of the owner in savings, they do require additional architectural and engineering time.

Rapidly changing building costs, increasing variety of materials and systems from which to select, affects price. The architect is now required to have a much more sophisticated cost control system within his office.

Office rent has been increasing, as well as fringe benefits, which are required to obtain and to hold the right kind of employees, and increases in Social Security taxes have all added to the cost of doing business.

Two years ago the FAAIA introduced the recommended minimum fee schedule which is presently being reworked, and in 1968 "The Elements of Architectural Services and Customary Compensation" will be introduced. This document, old and new, was introduced to provide increased benefits to both the owner and the architect. This will result from improving the quality of architectural-engineering services, raising the level of programming and analysis and renewing efforts at superior design, budget-setting and adherence, systems selection, materials selection and research into new ideas. It will result in more competent preparation of complex drawings and specifications, produce better bids, require fewer change orders and build better buildings.

For the architect, this compensation schedule will provide for more appropriate salaries for staff members, better working conditions, higher level of design achievement, additional services where required, and increased personal satisfaction in the profession. In fact, it may provide opportunity for additional professional study and continued education, which we all want and need, and which are necessary to keep abreast of technological advances and to serve clients properly.

In short, you, the architect, must know your cost of doing business and more adequate compensation will result in higher professionalism, increased client satisfaction and better buildings.

(Reprinted from the Florida Architect)
There is growing concern among laymen over the rising costs of school construction, both on the local and the college level. In fact, the Legislature at Concord has occasionally debated the possibility of creating several sets of plans which could be sold to the towns, supposedly saving architectural fees.

For reasons obvious to architects and builders, these bills have always been rejected by legislators but if another argument against standard plans is required then the Plymouth State College Dining Commons and its counterpart at Keene State College should be considered.

Both buildings were authorized at about the same time to serve similar purposes and approximately the same number of students. Yet each Commons is vastly different from the other especially in relation to site. Although each is a prize winning design, neither building could have been placed on the other campus. In 1966, the firm of Carter and Woodruff received a first award in design from the New Hampshire Chapter AIA for its work at Keene (see GSA April '67), and in 1967 the Office of Frank Kennett Jr., was accorded similar recognition for Plymouth.

When architect Kennett was selected for this project, state officials at Concord suggested a large single space similar to the Air Force Academy dining hall and one executive asked for "nothing but a mess hall." The architects, however, argued for a less regimented atmosphere, one more in keeping with the informal character of the campus. The design finally evolved as a structure with three volumes for dining which could be used separately or together.

The site, roughly a rectangle, lies along the North side of High Street, slopes in two directions and has a handsome rock outcropping some seventy feet to the North. This site is shared with two large dormitories and the Commons was placed as near High Street as zoning regulations would permit to create a green area enclosed by the three buildings.

The slope of the site and its relation to the street caused the problem of where to locate the service entrance. Countless studies indicated that it should be placed adjacent to the student entrance off the street. Students also may enter the building on the upper level from the West. The tower at the east end includes the stairway to the second floor. Because of the heavy use this area receives, the architects called for a generous interior. A narrow vertical window extends the height of the tower providing a bright, spacious atmosphere.

A single story building would have covered much of the site eliminating most of the green area and it (Continued on page 9)

The Office of Frank Kennett, Jr. Architect
Francis L. Piermarocchi, Inc. General Contractor
Glass wall extends the length of the building opening to a green area.

High Street Elevation
Specially designed lighting fixtures plus the use of harmonious building materials give the dining rooms a distinctive atmosphere. The projections formed by the interior and exterior walls plus the varying ceiling heights create three individual volumes for dining, albeit one large space.

was for this reason that a two-level Commons was designed. The food service supervisor was at first hesitant about a two-story operation but was most cooperative and, with his assistance, a plan was devised in which all food is prepared on the first floor and served on the second. An elevator is supplemented by a dumb-waiter during busy periods. Either of two serving lines can be used independently when demand decreases during vacations, for small conferences or on Sunday mornings.

The kitchen, bakery, refrigerators, dry storage, various service facilities and offices are on the lower level. The office of the chief cook overlooks the kitchen, while the food service supervisor has an office near the lobby where he can be available to groups arranging for functions in the building.

On the second level is the serving and dining area. The serving lines are reached by a gallery with a solid wall facing the street or South side. The architects oriented the building toward the North using the rocks and the green space to advantage. Correspondingly, the small windows in the South wall of the kitchen are intended solely as visual relief for the staff since the area is artificially lighted.

Three dining rooms, each with a distinct character, are created from a large open space through the use of different ceiling heights and sizes and from projections formed by interior and exterior walls. Folding partitions permit them to be divided or combined and virtually any size group up to 500 persons can be accommodated. Since this area opens to the North and the sun is no problem, the wall over-
Adjacent to the serving lines is a short order grill used during less demanding meal times, such as on Sunday mornings. (below) The East facade. The main entrance is behind the tower at left.

Looking the green is glass. The clerestory on the South, of heat absorbing, glare reducing glass, provides warm, amber interior light and permits the sun to enter during New Hampshire's winter days. A small private dining room serves faculty or administration personnel for functions or limited size conferences.

Each of the main dining rooms has an opening to a conveyor belt which carries tableware to a dish washing center. All silverware is cleaned on this floor.

Materials were selected for durability and low maintenance. The construction was primarily cast-in-place concrete and left exposed with a "bagged" finish. The concrete finishing was personally directed by an experienced member of the Piermarocchi firm. Most walls,
Plan at Dining Level

Sections
April, 1968
The base of the tower encloses a small foyer.
except in the serving area, are water-struck brick with some antiques, laid with a very narrow joint. The quality of both the concrete and the brick work lends distinction to the building. Sand finished plaster was left unpainted and the steel door frames and sashes are painted munk brown. Birch was used for the hand rails, doors and for rub rails which protect the dining room windows. Floors in the food preparation section are quarry tile with battleship linoleum elsewhere.

The South wall of the dining room is covered with Tectum, a board of shredded wood which absorbs sound. Vertical ribs here protect the relatively soft material and offer a large scale texture. Tectum on the ceilings gives both acoustical and heat control.

Lighting fixtures in the main dining room, containing speakers for the sound system, were designed exclusively for this building by the architects.

In setting up the project requirements, design elements and throughout the actual construction, the architects received valuable assistance from the Office of Physical Development, University of New Hampshire at Durham. Day to day supervision at the site was provided by Earl Garipay, under the direction of Joseph X. O'Connor. Working with Mr. Kennett were Judith Anderson, William Mead and Mary Case.

The process of selecting a new facility for a growing campus requires more than just requesting a box-like structure for a piece of land. In the design of the Plymouth Dining Commons, the Office of Frank Kennett Jr., combined imagination with function and specified complementary materials which were placed by competent workmen. The result is a pleasing building where students and other groups may join for meals in a relaxed atmosphere.

April, 1968

Site Plan
CURRENT architectural design usually stresses the most contemporary elements possible but Douglass G. Prescott, AIA, of Laconia was faced with a different set of circumstances when he accepted the challenge of his alma mater to restore and enlarge an 1840 New Hampshire meetinghouse.

Officials at Tilton School acquired the former Free Will Baptist Church of Canterbury. Moved to the campus, it would serve the growing student body both as a chapel and for additional classrooms and offices.

Following extensive research and review, Architect Prescott evolved a multi-phase program: retain as much of the original church as possible and accurately reproduce new elements, enlarge the seating capacity from 200 to 450 by doubling the length of the building and provide for classrooms in the basement.

The architect is quick to praise the work of building mover Brackett Hill of Tilton and his men who had the responsibility for dismantling the church, then labeling and storing all those pieces which were to be used again. The principal elements incorporated into the finished restoration were the tower and its supports and the vestibule. The slender spire atop the tower

(Continued on page 18)

Douglass G. Prescott Architect
The MacMillin Co., Inc. General Contractor

(opposite) The completed project included an enlarged steeple.
(above) The building mover carefully dismantled the front of the church for later use.
The architectural awards jury particularly commended Mr. Prescott's treatment of the new choir loft.

First Floor Plan
With the exception of its length, new chancel and different lighting fixtures, the interior of the new (below) is much the same as the old (lower.)
The new side entrance was designed in keeping with the style of the original building.

(Continued from page 15)

is new, enlarged in proportion to the increased length of the chapel. A new side entrance to the nave and a rear entrance to the classroom area were incorporated into the project.

Mr. Prescott also continued the design of the cornices, pediment and the pilasters, and kept all of the original windows. Of course additional ones were required but all were faithfully reproduced.

Inside, the architect created a new chancel suitable for non-sectarian services but, again, he retained the old pews and commissioned new ones to match. Lighting is by indirect units above the windows and from hanging colonial reproduction fixtures. A small room over the vestibule, extending the width of the chapel, was converted into a choir loft. Here the distinctive shape of the openings into the nave was dictated by the diagonal and vertical tower supports.

The basement includes three offices, mechanical and utilities room plus five classrooms, three of which are separated by folding partitions and can be opened to make one large area. The completed project also included new wiring, heating, and plumbing plus a comprehensive public address system.

For his design efforts, Mr. Prescott received a special commendation award at the annual meeting of the New Hampshire Chapter of the AIA.

With the exception of a new coat of paint, a taller steeple and increased length, the chapel looks very much like the original building. The major difference is that the same old church bell now calls young men, instead of a rural congregation, to worship.
High Rise Concrete Masonry Seminar

Arthur Whitcomb, Inc., and Duracrete Block Co., Inc., the New Hampshire members of the National Concrete Masonry Association (NCMA), sponsored a seminar on high rise, load-bearing concrete masonry recently at Duracrete's new convention center and office building in Hooksett.

New Hampshire members of the AIA, engineers and masonry specialists reviewed many of the new concepts in concrete masonry in slide-lecture presentations given by executives of the NCMA.


Henry Toennies stressed the structural aspects of high rise construction, highlighting some of the newer projects which have been built nationally. He explained that new concepts are allowing architects to plan much higher concrete masonry buildings than in the past. He stressed that there must be a willingness for architects and clients to approach concrete masonry as something new but also as economical. He pointed out the ease, simplicity and the speed of erection for concrete masonry structures.

Toennies, the NCMA's Director of Engineering, has vast research experience in this particular field.

Kevin Callahan, liaison man for NCMA, discussed background information on reinforced masonry research and testing to support design contentions.

Seatel at the head table were Maurice Downy, President of the N.H. Society of Engineers, AIA Chapter Director, John A. Carter, AIA Chapter Secretory Richard Dudley, architect Alex Majeski, liaison man for the seminar, AIA Chapter President Guy K. C. Wilson, AIA Chapter Treasurer Donald Dennis, AIA Chapter Directors Henry Erickson and Roy Palhof, and Jim Pananos, past president of the Society of N.H. Professional Engineers.
The Philadelphia Chapter AIA Silver Medal went to Hassinger & Schwam for this tree house designed by Herman Hassinger for his children. The jury commended it because it expressed both sophistication and a willingness to inject fun into a process which sometimes takes itself too seriously. GSA editors, in reprinting this article from Charette, The Pennsylvania Journal of Architecture, agree with the jury.

Program
To design an elevated module, to provide for maximum play activity involving the use of large muscles together with the creation of a situation which would engender a maximum sense of detachment, leading to a use of image and illusion for the creation of a heightened play situation. The structure had to satisfy clients at various age levels whose psychological needs differed widely, and whose preconceived notions about the recreation module were wildly separate. This need for a recreation module had been long felt by the client and over a long period of time they had been pressing demands for its construction.

THE KIDS HAD BEEN BUGGING THE HELL OUT OF ME TO BUILD THEM A TREE HOUSE.

Site
The site selected for the construction of the elevated module was one in which the natural vegetation had achieved a full state of maturity, substantial portions of which were indigenous plants material of various annual varieties. The site was selected for its remoteness and inaccessibility. Its relations to other structures of the area were carefully considered. Every attempt was made in selecting the site to disengage the module from the other structures in the area.

WE HAD THIS OLD WEEDY CORNER OF THE GARDEN WHICH WAS REASONABLY FAR AWAY FROM THE HOUSE. SO THE KIDS WOULDN'T BOTHER US.

Structure
It was felt that to maximize the integration of this structure with the surrounding environment it would be necessary to select an organic system. A structural system deeply rooted in the ground evocative of the natural forms and capable of bearing the various dynamic loads imposed on it. It was felt that an unidirectional structure, namely one that was round, would provide an non-axial reference for the elevation module which would heighten its spacial qualities.

YOU SEE, WE HAD THIS OLD DEAD BEECH TREE WHICH HAD TO BE CUT DOWN ANY-WAY, SO I THOUGHT IT WOULD MAKE A GOOD BASE FOR THE TREE HOUSE.
“Designed with warmth, honesty and humor. Especially commend the consultants.”

The Jury

Mechanical

Because of its distance from existing utilities it was felt that the unit should basically be self-contained. All provisions for circulation of air are by means of the ventilation areas — which are part of the fenestration and the side walls. Through the clever use of an overhead light slot in the shed roof portion, natural light floods down the roof shaft and gives to the inside of the module the soft mysterious light that is highly conducive to the creation of the play situation. This feeling of mood created by the lighting is directly related to the external environment and often reflects directly the existing clinicalogical light phenomena.

WE LEFT OPENINGS IN THE SIDE WALLS. ON DARK CLOUDY DAYS IT'S NOT AS BRIGHT AS ON SUNNY DAYS.

Design Team

Because of the involved nature of this project it was necessary to consult with technicians of many other disciplines. Experts in the various fields were most helpful in providing an interdisciplinary total environmental approach. However, we must point out throughout the entire process the architect remained as the leading member of the environmental team. Scheduling and programming consultants created a brilliant new departure in construction scheduling. It involved the use of isolated periods of intense construction activity with the intervening periods being spent on the ordering of materials and scheduling of the next phase of the work.

I BUILT THE DAMN THING ALL BY MYSELF ON WEEKENDS.

Material

It was felt that the use of familiar residential materials would give the users of this module a reassuring sense of identification with familiar situations. The deliberate creation of an intimate domestic scale was felt to be conducive to the creation of certain play situations which are a necessary preparation in childhood for adult life. The deliberate selection of a small scaled material made possible this objective. A roof system was selected which would combine a residential pitched roof and a three-dimensional interpretation of space. An upper roof form was erected of inner penetrations of solids and voids which allowed by their configuration the possibility of using this upper roof form for an observation platform. A fenestration system was selected to provide maximum visibility and ventilation while at the same time providing a sense of intimacy and security within the module.

WHEN THEY BUILT THE HOUSE WE HAD A COUPLE OF BUNDLES OF SHINGLES LEFT OVER PLUS A WHOLE PILE OF TWO BY FOURS, SO WE BUILT THE THING LIKE A LITTLE DOG HOUSE. THE ZAPPY SHED ROOF IS ON THERE JUST FOR KICKS. WHAT THE HELL, EVERYBODY ELSE IS WINNING PRIZES WHEN THEY USE A ROOF LIKE THIS.

Circulation

Since the module is elevated some form of vertical circulation system was felt to be desirable. After examining many systems among them elevators, escalators and self-levitation devices, it was decided in the interest of simplicity to create a system of horizontal bars one placed upon the other which would allow alternate handholds and foot-holds by which the occupant could then ascend into the elevated module. This circulation device has, we believe, much potential and its use on construction projects should be unlimited.

WE USE A LADDER.
Planning Educational Facilities For Tomorrow's Schools

from a speech
by Dr. Robert H. Anderson.

This feature, plus others which will be presented in forthcoming issues, resulted from a special conference on school planning held at St. Paul's School in Concord and attended by AIA Chapter members, educators and interested laymen.

One of four main speakers, Dr. Robert H. Anderson is Professor of Education at Harvard Graduate School, a former superintendent of schools and a pioneer in non-graded schools and team teach-
Illustrating excerpts from Dr. Anderson's speech are photographs of the advanced P.S. 219 Satellite School, Flushing, N.Y., designed by Caudill Rowlett Scott, Architects.

Now my plan is to describe the Educational Reform Movement. And as it happens I am going to do this by referring to ten dimensions of this reform movement. This is new for me. The last time I gave this speech there were only nine, but I've come up with another category.

First of all, I'd like to discuss with you The School as an Instrument and Symbol of Societal Progress and Change. Gordon Lee in a 1966 yearbook of the National Society for the Study of Education discussed the changing American school and pointed out that we have in recent years shifted from a provincial, locally oriented and locally controlled attitude toward the curriculum and educational services, toward a broader definition in which we see ourselves trying to meet the broad national need and facilitating national policies, for example, civil rights and compensatory education for the less privileged, and so on, through locally operated schools. And increasingly we have seen the school as an instrument of federal mission and we have come to view with some suspicion the tendency of local educators to perpetuate those local habits and ways of living and of thought, which from a federal point of view have come to be unthinkable, such as racial desegregation and so on. And so, in effect,
The satellite school departs from the conventions of school design by providing a domed structure for a teaching environment free of interior walls, in which 150 children from kindergarten to second grade will advance through an ungraded program of instruction based on team teaching. Informal dividers are used between class groups, and all furniture is movable, permitting flexibility and innovation as space needs and functions vary. Observers may watch classes through one way windows at the perimeter.
we find the schools right in the middle of many of the most agonizing and important events that are taking place as America strives to realize its international role.

In relationship to this, then, we have seen a massive intervention of federal government to the provision of financial and other kinds of support. And the school, as I have already implied, has almost literally become the battleground, or one of the most important battlegrounds, for example, for the achievement of more status and power by the downtrodden minorities. And among its manifestations are the increasing eagerness of neighborhood groups in the cities to wrest control of even the operations of the schools from the bureaucracy of education. And one example with which we are all familiar is this P.S. 201 in New York where these groups have wanted to influence the decision as to who will be its principal and its teachers and what its policies will be like.

Lee, also, in this chapter made some interesting comments about the way teaching is itself changing in the direction of specialization at all levels including even the primary years. And he points out in addition that the nation is beginning now as never before to accept the idea that education does not have any fixed beginning or end points. So we find ourselves thinking about institutional education dealing with two, three, four, as well as five-year-old children at the lower end and continuing to serve all adults through the medium of adult education and community schools and so on all the way to the end of life. My first point, then, has helped to remind us that among the important dimensions of reform which we must take into account as we view the changing school is that it has become in many ways the instrument of social and political and economic change.

A second dimension in the reform movement can be described in terms of the conference's goal, the increasing intensity of the educational profession's commitment to serving the individual across the spectrum of individual differences as mentioned. We talk these days about an "explosion of knowledge." Zacharias recently suggested that perhaps it is really an "implosion of knowledge." But whatever it is, however we should describe it, the fact is that old knowledge is changing, in many ways being rejected, sometimes merely modified; new knowledge is being added so that it has become increasingly difficult for educators to make the curriculum decisions that must be made. There is now almost an infinity of possible topics and choosing which they wish to teach becomes each year a more challenging task.

One of the effects of the knowledge explosion is that we are adding to our knowledge about human beings. And ours is probably the first generation in all of human history to have available to it as it makes its education decisions an essentially authentic definition of human development of the human creature that it attempts to serve. In all previous generations the educator has been crippled most times unknowingly by a variety of mythologies, a variety of prejudices or superstitions and misconceptions about what interests children and how they develop and what is possible to do and what is necessary to do at any given period in life. And so for the first time really we are taking essentially accurate information about how children learn and what they ought to learn and putting it together in new curriculum. I am embarrassed to report that thus far our efforts in this direction may be described at most as moderately successful and at worst as shockingly inadequate. But nonetheless it has become possible for us to adjust our behavior and professions to the needs of children in ways that our predecessors would not have been able to.

A third dimension of the educational reform movement is, of course, the updating and overhauling of the curriculum itself. And this is an almost infinite topic on which we could spend not only a day but perhaps a year together thinking of the many different ways in which curriculum offerings are being modified and should be modified to keep pace with the need. Suffice to say here, that increasingly we realize that it is wasteful and futile to try to teach the kids everything, to stuff all of the knowledge into their heads that we once thought was possible. And in fact the more imaginative and thoughtful curriculum people are now telling us that for all practical purposes
The round, carpeted mezzanine incorporates the library and is used for small group instruction or individual study. Beneath it is the learning area which, enclosed by a lead curtain, is used for noisy events: music, plays, gym classes.

we should probably ignore content goals, that there isn't really any volume content that is a sine qua non of adult existence; but that rather we should use content as to vehicle of the more important curriculum objectives that we have and that is how to teach children to learn and to approach new knowledge and to formulate concepts and hypotheses out of data that are available, how to find information, how to use computers, how to use adding machines. It may be that for most adults in the future, once you get beyond the simple learning of tables and processes, and so on, that most mathematical processes are better left to the ad hoc decisions that people will make on how to use equipment. However, that is merely one side commentary on our general realization that we have in the curriculum a vast amount of dead wood. We are still teaching children about Hans Brinker and the Wooden Shoes, and about the woods Indians, and about Eskimos and igloos,
and about the postman. We affront the intelligence of seven-year-old children by daring to waste their time talking about the community helpers when any self-respecting seven-year-old has already learned much more than he needs to know about firemen and policemen and postmen and all the rest if he has gone to a decent kindergarten. All of that stuff is in the bank already. And what a seven-year-old, believe it or not, really ought to be thinking about are the problems of pollution and of population and of poverty and some of the real social problems that exist in the world.

One of the other things that I wish I had time to tell you is the argument for emphasizing creative and expressive arts in the curriculum, and de-emphasizing the three R's. The general idea being that the more time children spend in dramatics and in rhythms and in art, music, and crafts, and things of this sort, the likelier they are going to end up as good spellers and good writers and persons who can use numbers effectively.

The fourth category has to do with instructional technology. Electronics and other mechanical inventions of this century have made it much more possible than ever before to present information to children in a variety of ways, to diagnose the learning styles of children by turning them loose in a program that adjusts itself to the peculiar responses that children make to certain kinds of tasks. And allow for, not an infinity perhaps, but great variety of side experiences that children can have who make this kind of mistake or that. And yet, although the computer is already here and computer assisted instruction is a relatively familiar phrase, at least in our literature, the fact remains that probably 60% or 70% of American teachers in this last week didn't use a strip film or a movie film or a tape recorder or some of the simple gadgets that have been on the scene ever since I first began teaching and that, believe me, is a long time ago. So that we still have a lot of ground to cover before we will have been

(Continued on Next Page)

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(Continued from page 27)

using the available technology in suitable ways. But an interesting thing happens that I’d like to mention right now. And that is team teaching which I am going to refer to later. It has among other things the capacity of alerting not only one teacher at a time but groups of teachers at a time to the potential uses of these pieces of equipment. And almost without exception in schools that have had only one tape recorder (it usually is dusty) and one film strip machine and so on, when they go out for things like team teaching and one teacher in the school uses it in front of the rest of them, all at once you have a six-fold or a ten-fold increase of interest in utilization of equipment. And so it seems almost certain that in the schools that you are going to be planning in New Hampshire in the immediate future you are going to have to take into account a ten-fold or so increase in the utilization of technology.

A fifth category in the reform movement might be described with the word “cooperative” as will several other categories. Cooperative approaches to teacher education with local school systems assuming their share of the responsibility for training teachers, and with university and college personnel and the administrative teaching staff of the public schools literally join-
ing together for the first time really in the history of teacher education, and of building programs that allow for a continuing dialogue not only for the students themselves but across the institutions between the veteran people in the schools and the veteran people in what used to be an ivory tower.

The sixth category, one within which I spend probably a majority of my time these days, is in new approaches to in-service staff development. Summer clinical training programs for experienced teachers, academic year programs, workshops, institutes, and various activities that bring experienced people together within the context of their working life and make it possible for them to study their profession and its development more intently. As a general observation it may be said that the current knowledge is increasing so that therefore the curriculum of ten years from now is going to include stuff we don't even know now because we are learning so much more about children and because our repertoire of teaching procedures is proportionately increasing and changing, even the most perfect teacher on the face of this earth at this moment, the best teacher in New Hampshire, if she continues to teach in exactly the same way, will be at least 50% obsolete within another decade or so. And if we assume a career of 30 or 40 years for the really committed teacher, then it follows that by the time a teacher reaches his maturity, his ultimate professional development, about 10% of his repertoire at that point will have been learned prior to certification and 90% or so will have necessarily been learned on the job, that is while in service. Now my 90 and 10 could be wrong. Maybe it's only 87 and 13 or 80 and 20 or something, but it means that we must now make certain that the very life of the school system will be very similar to the environment within a graduate school in education. And if there were no other reason for team teaching, this would justify it. The fact that team teaching makes possible the constant and continual professional dialogue with staff that we associate with professional growth. And so the school has to be built in such a way that teachers are literally going to see each other and work together, that they are literally going to have their work station alongside the work station of at least one or two other teachers and so on.

Now the seventh I've already virtually described; and that is the new staff patterns and roles that have emerged. Cooperative teaching is an alternative to self-containment in both elementary and secondary schools. The emergence of the non-professional or sub-professional and paraprofessional, whatever you want to call them, the aid and the clerical assistant, the library helpers, the audio-visual technicians, the programmers, all of these people who are being added to the staff are in roles that didn't exist before. And then a new group of roles that are emerging because of research development. Lots of school systems are adding people whose role it is to stir up trouble, to keep the ferment going. University City, Missouri, for example, (Continued on Next Page)
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(Continued from page 29)

hired a person, I’ve forgotten the exact title that they used, but they were building their argument on an article by Philip Coombs in which he proposed that we should have in each school system a “Vice President for Heresy,” someone who keeps the conventional program off balance.

An eighth category for reform has a tremendous effect on schools by redefining what we mean by an elementary school or a junior or a senior high school. And that has to do with the reorganization of school units. At one level school district reorganization and consolidation. In a state like New Hampshire this has been a trend and you have tended to reduce the number of small and inefficient school districts. Sometimes, at some expense, the school buses and all that, have mitigated a blessing and whatnot, and the loss of community identity with schools has had to be fought in various ways. Now, the big cities on the other hand are trying to break down the monstrous school system into something

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more manageable. Well, that’s a story all its own. But an important part of this whole reorganization effort has been to redefine units. We see the “Middle School” emerging to replace the old junior high school and to embrace some of the units like sixth grade and sometimes fifth grade that we have in the past always associated with elementary education. And this has created all kinds of interesting problems for us with reference to articulation of the units. And also how far do you go in a middle school, for example, in providing those specialized science facilities and libraries and so on that we have customarily associated with the 7th, 8th, and 9th grade kind of junior high.

The ninth category is, in my opinion, the most important of all of these things. But it’s the one on which it is harder to get a real grasp. And that’s better ways of dealing with pupils in the schools. The abandonment and repudiation of rigid graded structure and its elements like conventional report cards, promotion-failure mechanism, grade-level expectancy standards and all these other evil things that we have inherited from the 18th and 19th centuries and in which there was a very puritanical view of motivation, and flexible and appropriate groupings.

And then, finally, appropriately for this conference, School Architecture, a growing realization within the culture that schools ought to be comfortable and beautiful and not just cheap and easy to maintain. The argument between having glazed tile all the way up with its hard surfaces and sort of glariness and something softer and colorful and with a nice texture and so on. The argument for the carpet on the floor instead of tile. The argument for building a little color into it and spending a little money on internal arrangements for display and things of that sort. Concern for landscaping which is quite frequently missing in the budgets of schools that are being built. But more important in most discussions, the need of flexibility, of functionality and efficiency in the layout (Continued on Next Page)
Well, now, in these ten categories of reform, every one of which has some important implications for all of the rest, combine to constitute the changing American school. One of the interesting things is that this reform movement is really all ten of these things happening at once. It’s not 8 versus 2, or some things as opposed to others; but in fact those schools that are doing the best job for children have been moving forward in all ten of the areas that I’ve described. They have both nongrading and team teaching. They have technology along with it and major curriculum reform and in-service education and improvements in architecture. One of the sad things, however, is that the word hasn’t gotten around enough, that, although there is now almost unanimous agreement among the theorists concerning most of the things that I’m talking about, when an architect is brought in and when school boards and school building committees and so on are talking about the kinds of schools that they want, in more than half of the cases even now the buildings that they end up with are almost assuredly going to be obsolete or significantly unsuitable for 1975 requirements even before the architect has finished his work. So I think we have an important mission in this conference and the opportunity that is ours for examining all of these reforms and considering their architectural implications to prevent the construction of obsolete buildings in the state of New Hampshire and in all of New England is a very precious one.
UNH Construction Report

UNH's Physical Plant Development office reports work under way or about to be started at Durham, Keene and Plymouth totals nearly 23 million dollars, including construction, furnishing and equipping costs. The jobs range from building a $96,500 pesticide greenhouse to a $3.7 million facility for the New England Center for Continuing Education.

Seventeen separate projects are under construction with 12 more scheduled to start in the next year. Estimated cost of projects now in design or bidding stages is approximately $14½ million.

Funds to support this construction program come from many sources — New Hampshire legislative appropriations, grants from federal agencies, self-amortizing bond issues, private foundation support, and alumni gifts.

In many cases, a single project draws its financial support from several sources. The New England Center, for instance, is supported by funds from the UNH Centennial Development Fund, a grant from the W. K. Kellogg Foundation, grants from the federal Higher Education Facilities Act, and a repayable state bond issue.

Among the major UNH projects are:

**ON THE DURHAM CAMPUS**

A $1.7 million social science classroom and office building on College Road, to be completed this summer, which will house the University's history, psychology, sociology and allied departments and activities. It is being built by Harvey Construction Company. Skidmore, Owings and Merrill is the architect.

A major addition being done by Davison Construction Company which will double the floor space in the University's main Dimond Library. Structural steel is already in place for the additions being

(Continued on Next Page)

**Dodge Report**

The F. W. Dodge Company, a division of McGraw-Hill, Inc., reports January 1968 contracts for nonresidential construction in New Hampshire showed more than a 100 percent increase over figures for January 1967. According to George A. Christie, Chief Economist of Dodge, the latest month's construction activity followed this pattern:

<table>
<thead>
<tr>
<th></th>
<th>1968</th>
<th>1967</th>
<th>Per Cent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL CONSTRUCTION</td>
<td>$11,985,000</td>
<td>$7,901,000</td>
<td>Plus 52%</td>
</tr>
<tr>
<td>Nonresidential</td>
<td>$8,270,000</td>
<td>$2,810,000</td>
<td>Over 100%</td>
</tr>
<tr>
<td>Residential</td>
<td>$3,143,000</td>
<td>$3,223,000</td>
<td>Minus 2%</td>
</tr>
<tr>
<td>Nonbuilding</td>
<td>$572,000</td>
<td>$1,868,000</td>
<td>Minus 69%</td>
</tr>
</tbody>
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April, 1968
(Continued from page 33) built to the rear and above the existing facility and the $2.8 million project should be completed by summer of 1969. Irving W. Hersey Associates is the architect. The $2.08 million building which will house the UNH Whittemore School of Business and Economics is under construction on College Road and is scheduled for completion by the summer of 1969. This structure was made possible by gifts from alumni and friends of the University. It is a Harvey Const. Co. project. The architect is Skidmore, Owings and Merrill.

As noted earlier, work began March 1 on the $3.7 million New England Center projects. Completion of the first-phase program should require about two years. Davison Const. Co. won the contract. William L. Pereira & Associates is the architect.

Twenty-eight apartments for married students were accepted in February and are already occupied, with about 20 more expected to be ready in April. This will cost $1.02 million and will be wholly financed out of rental income. C & L Construction Co., is at work on the project. The design is by Koehler and Isaac.

Bids are now being received or considered for several projects — construction of a science laboratory building for the Thompson School of Applied Science; the development of the proposed Jackson Estuarine Laboratory on the shores of Great Bay in Durham; and further renovations to DeMeritt Hall, the University's Space Science Center. Other projects to be started soon include expansion of Nesmith Hall, building of a central warehouse, an addition to the Memorial Union, and construction of a new 450-student residence hall and a dining hall, as well as second-phase construction on the University's modern chemistry building.

Smaller projects scheduled for completion by summertime include expansion of utility lines, re-location of the poultry farm, and erection of a pesticide greenhouse. A Carter and Woodruff designed, $1,342,153 graduate residence hall has been completed. It was built by Davison Construction Co.

AT KEENE STATE COLLEGE

On the Keene State College campus, two new buildings are nearing completion and two more are in final drawings stages and ready for contractor bidding.

Virtually completed is a $550,200 industrial arts and vocational building, done by the MacMillan Co. Although ready for occupancy, full utilization will not be possible until
necessary equipment arrives. John R. Holbrook is the architect.

A physical education building under construction by the Joseph E. Bennett Co. at a cost of $1,749,000 was started a year ago and is scheduled for completion during this summer. The project has been behind schedule, however, and an exploding space heater and fire damage in January may make the project several months late. The design is by Perry, Dean, Hepburn & Stewart.

Ready for bids is a $300,000 alterations project for Spaulding Gymnasium, which must await completion of the new gym. Hopefully work will begin at the end of this summer. Almost ready for bidding is a new residence hall to house 300 students. Cost of the hall should be approximately $2.4 million. The architectural work is by John R. Holbrook.

PLYMOUTH STATE COLLEGE PROJECTS

Two projects have recently been completed at Plymouth State College, two more should be finished by the fall of 1968, and another is just under way.

A $1.1 million women’s residence hall built by Francis L. Piermarocchi Inc., was occupied last month, with only minor items remaining before completion. Completed except for final details is a $1.6 million science and arts classroom building accepted from Harvey Construction Co. this month. Andrew C. Isaak is the architect.

Now in the works are 30 married student housing units begun in December by the Connecticut Valley Construction Co. and designed by Frank J. Barrett and scheduled to be completed by September at a cost of $580,000, and a $2,225,000 physical education building being done by the MacMillan Co., with Perry, Dean, Hepburn & Stewart as architects. It will be finished by early fall, 1968.

Just started this month was a 202-bed residence hall being built by Franchi Bros. Const. Co. at a cost of $1,343,235. Carter and Woodruff are the designing architects.

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Central High School Addition,
Manchester
Andrew C. Isaak

Stoke Hall — Phase Two, Durham
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