

expressions

editor john scott rodgers

**student publication of the school of design
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preface

The School of Design represents a dynamic institution of teaching, learning, and doing. It is made up of people, places, things, processes, objects, activities, and experiences; all of which are interdependent and form a comprehensible whole. It is the intent of this publication to present from the students' point of view a small piece of this whole realizing fully the inherent complexity of an institution of this kind.

At a time in the School's development when it is preoccupied with self-examination as one administration ends and another begins, a unique opportunity exists to assess what the School means to students. The dilemma within the student body as well as within the design profession is one of identity. No longer does a distinct role exist for the individual. *Does one ask questions or provide answers? Does one solve problems or identify problems?* Simplistic answers do not suffice—too long has education merely provided one of these options

at the expense of the other. The School provides an environment that challenges the intellect on many levels and in many media. This results in an atmosphere conducive to a spontaneous flow of ideas. Unfortunately, the refined level of thought, whether it be directed toward questioning or answering, has not been accompanied by improved methods of communication. Thus, we have the frustrating situation of thinking without being able to externalize the thought. This publication will, hopefully, form a communication that can be understood. It is *not* meant as a final statement of what the School *is*; but rather, it is meant to be one small contribution to the continually evolving process of design education.

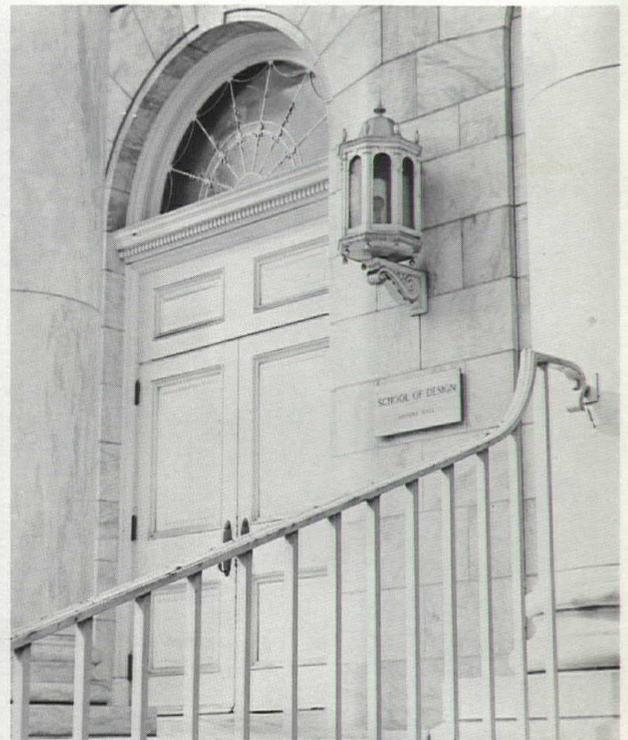
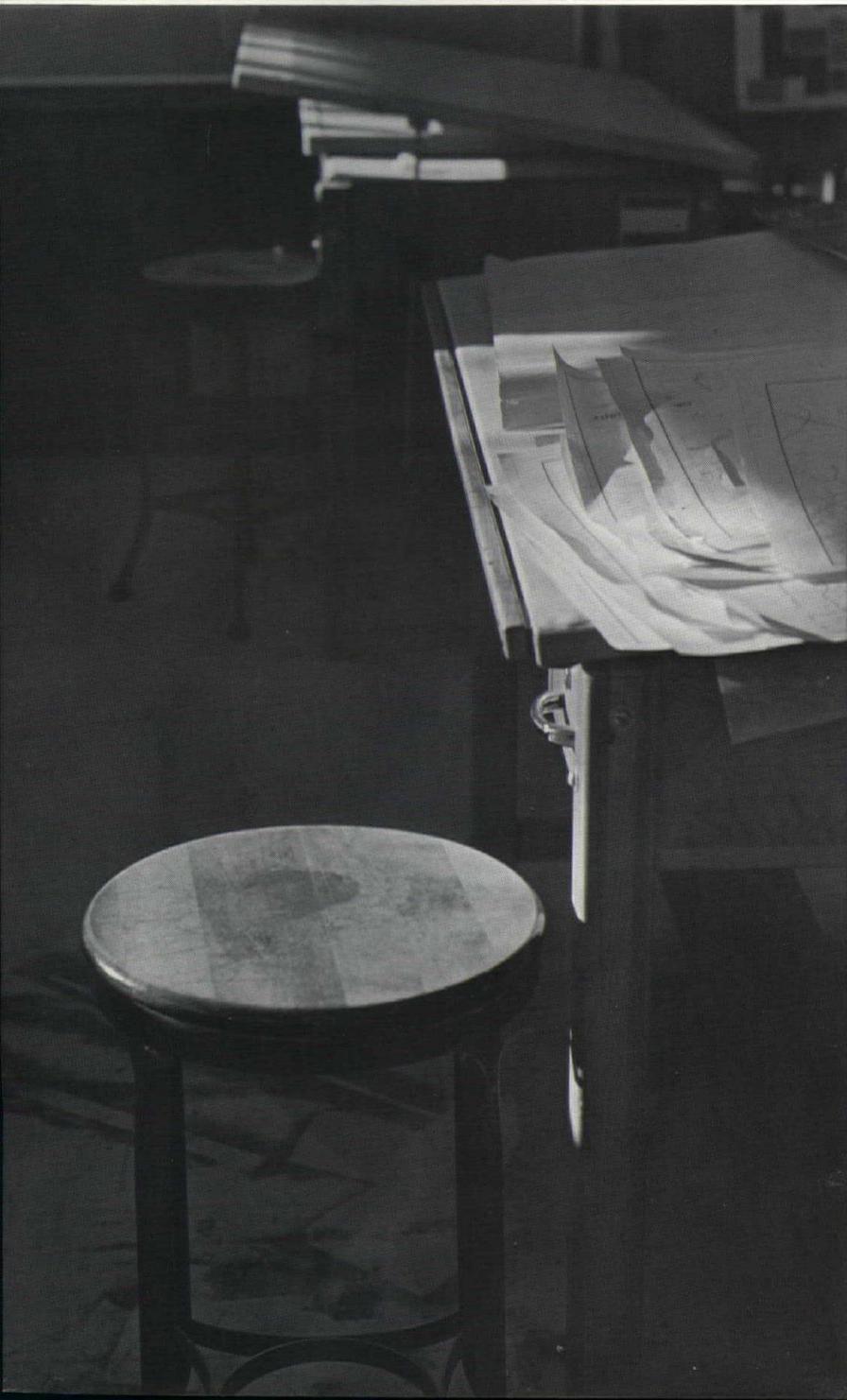
Expressions consists of four parts. The first section is composed of many individual visual statements about the School as a place and as a center for activity. The second section is composed of ten student impressions

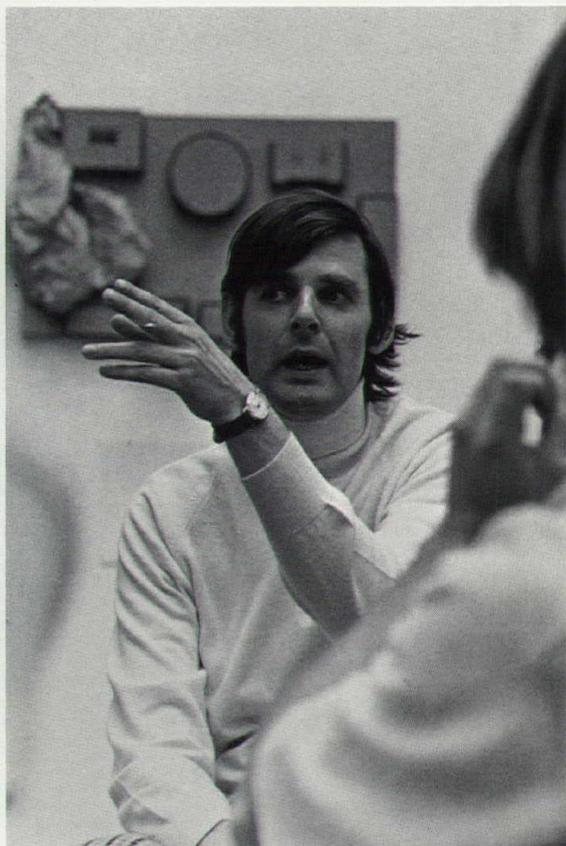
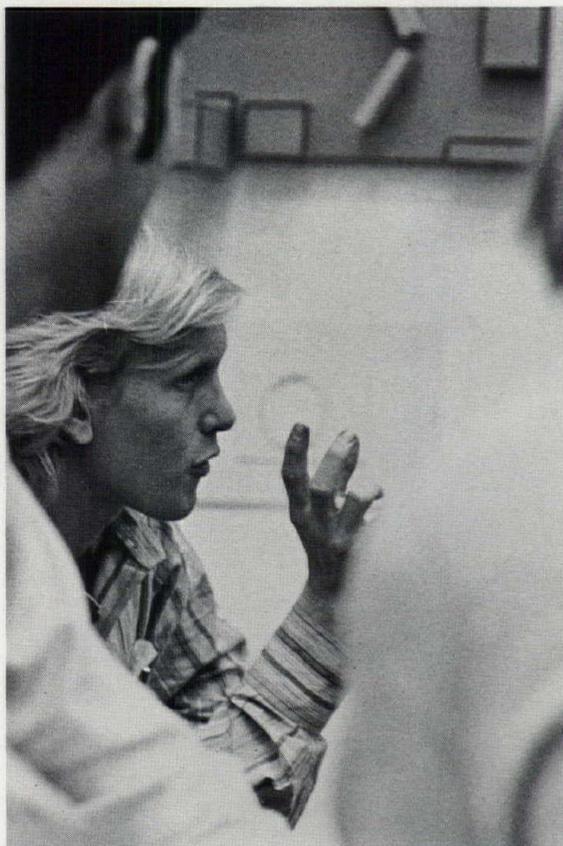
on the education of an architect here, today and the present and future role of the architect. This flow of ideas is not meant to appear as individual, labored, position papers but rather as a free and spontaneous polling of opinion. Individually they may be incomplete but together they form a statement about the education and practice of architecture. The third section is a visual communication on a very personal level of a single aspect of the School. Finally, the fourth section is an analysis of the School as a working model or system made up of components and producing a product.

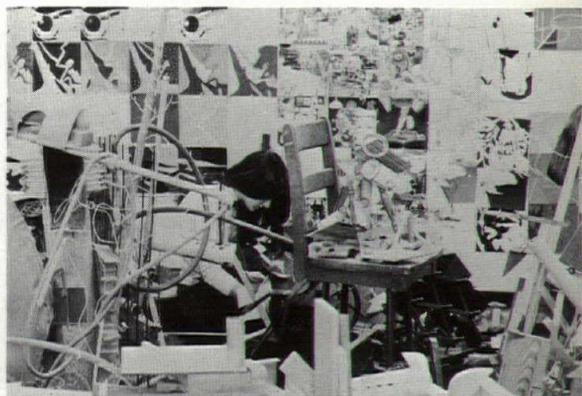
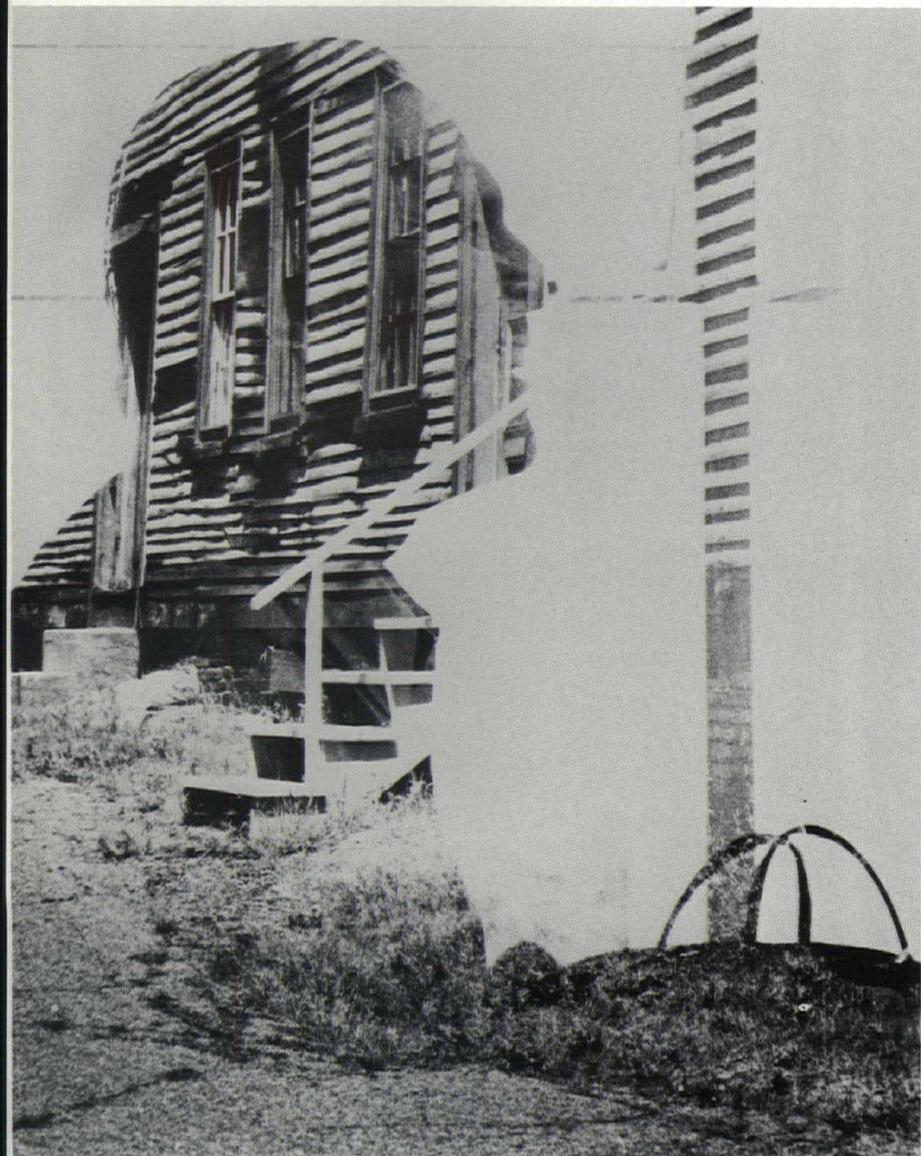
Many thanks to all those involved in the production of this issue; special thanks to the contributors for overcoming the fear of the printed page and producing anyhow.

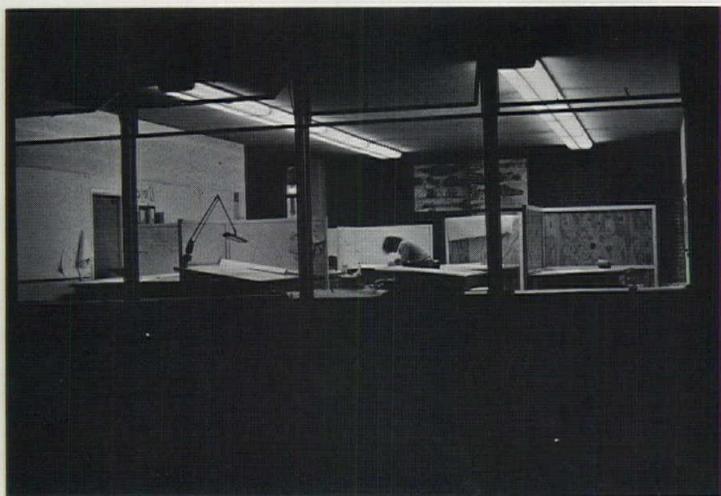
John Scott Rodgers
Editor

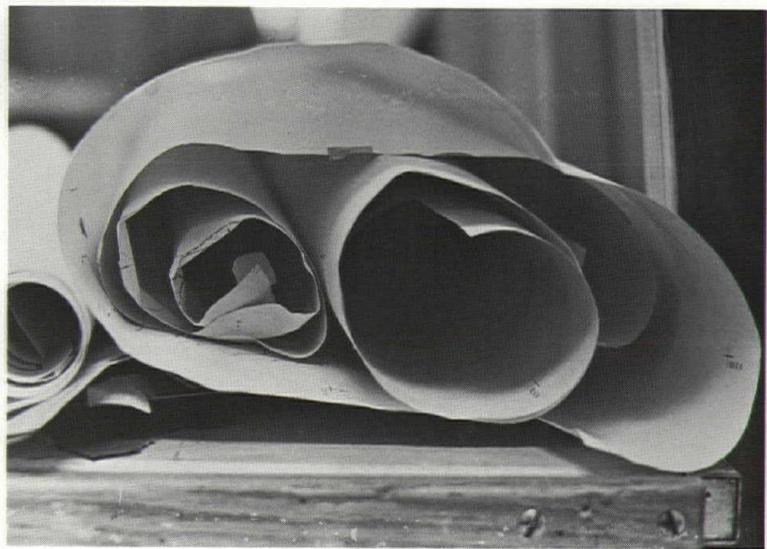
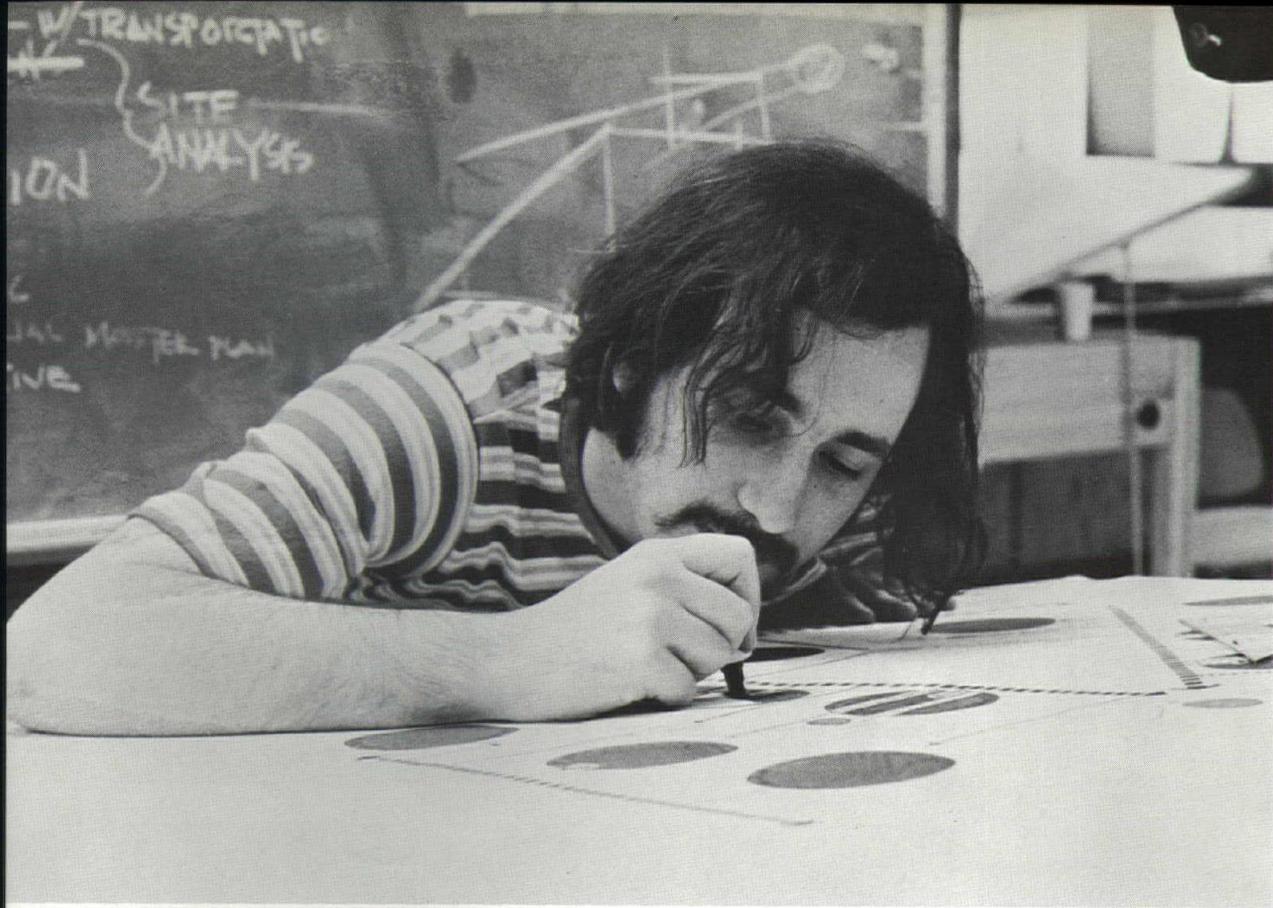
people, places, and things



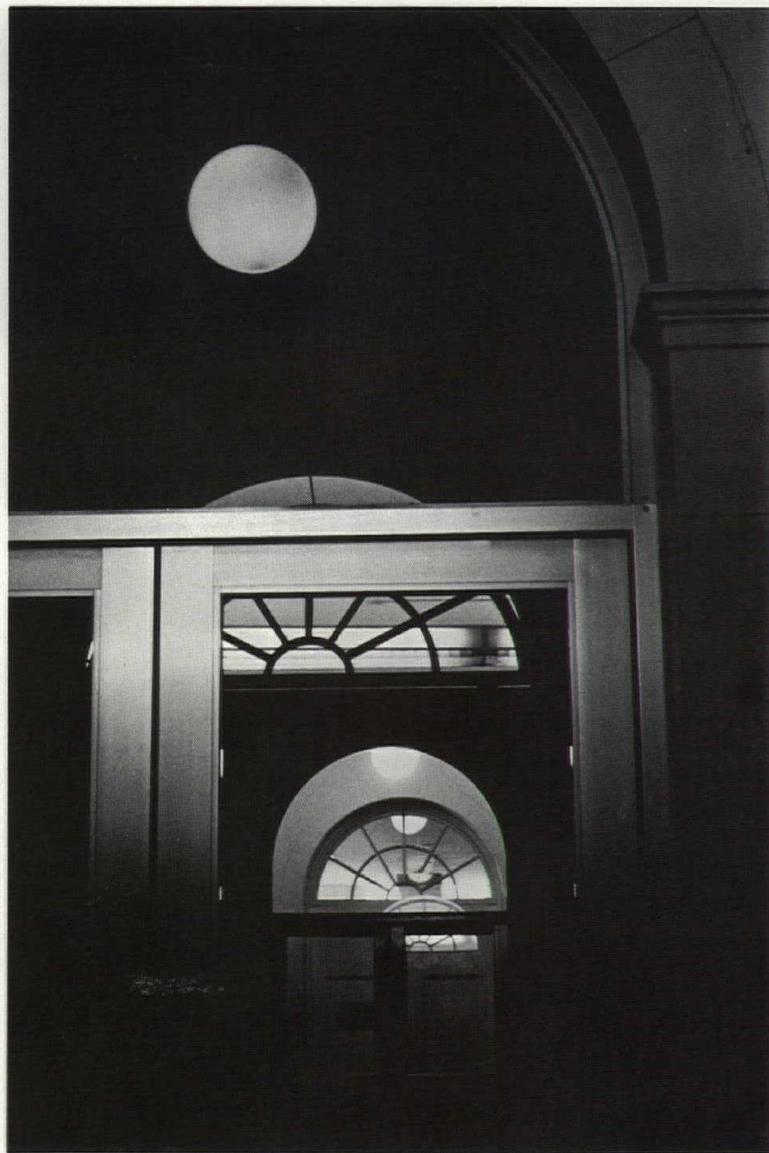
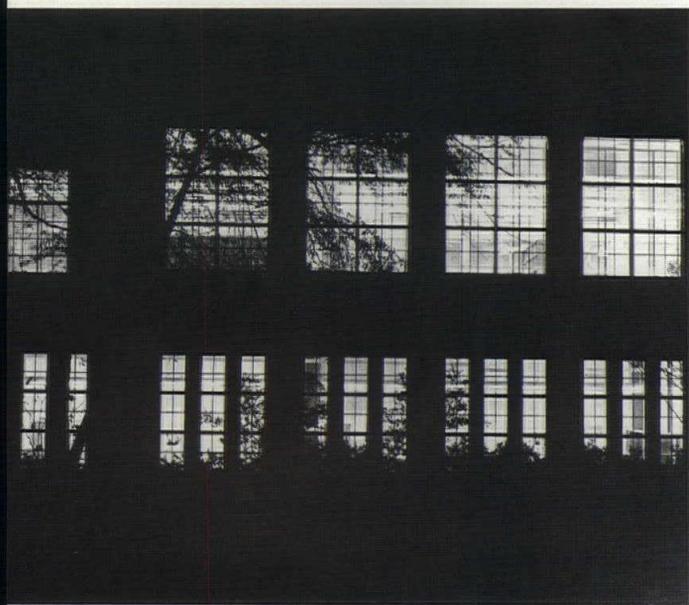


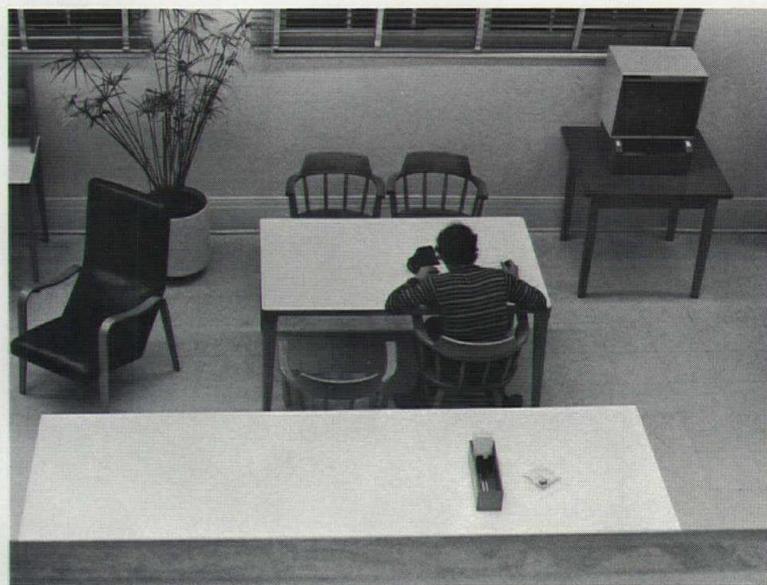
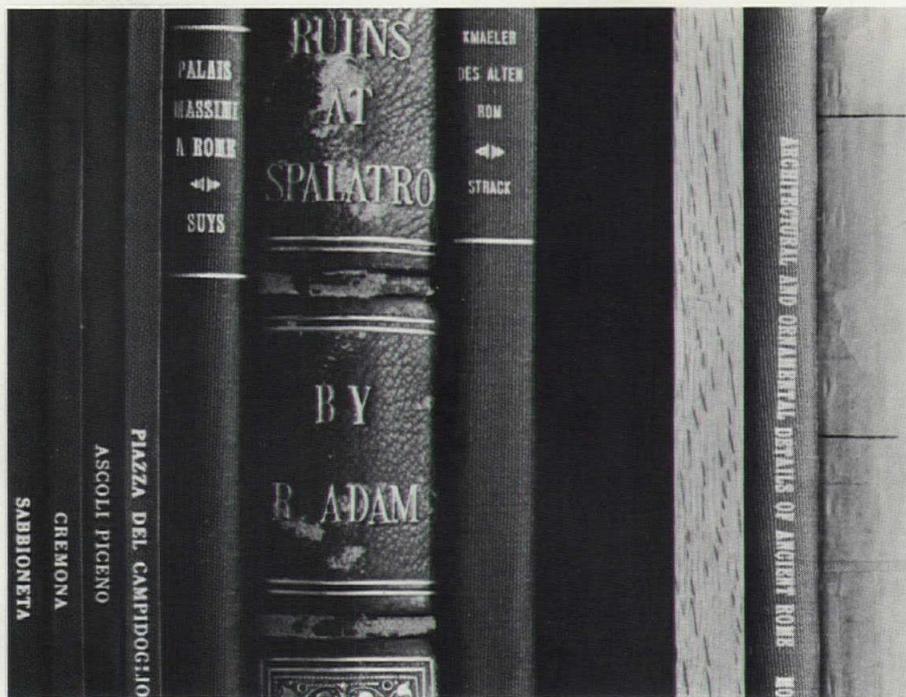


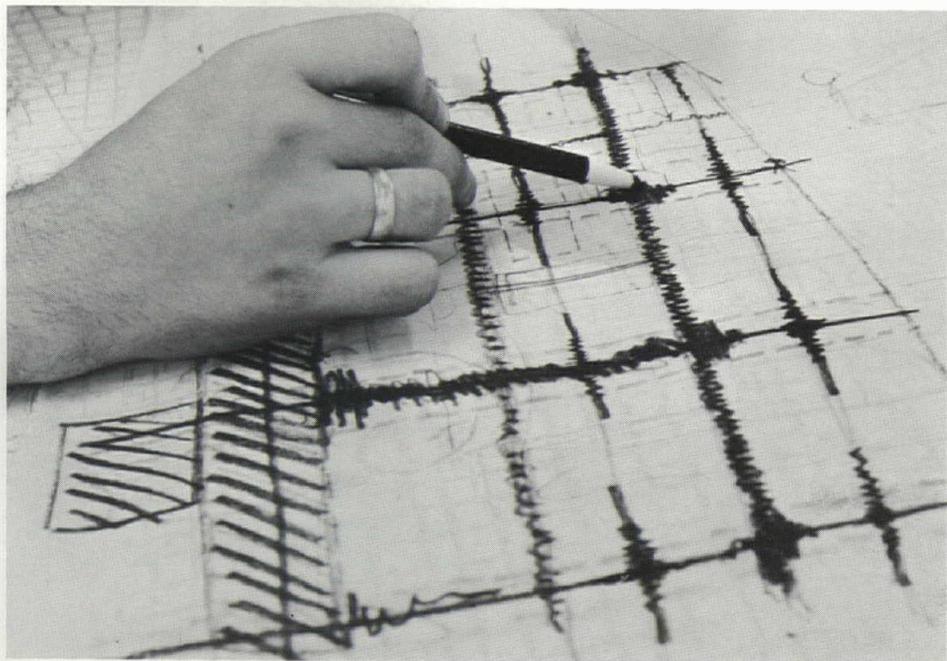
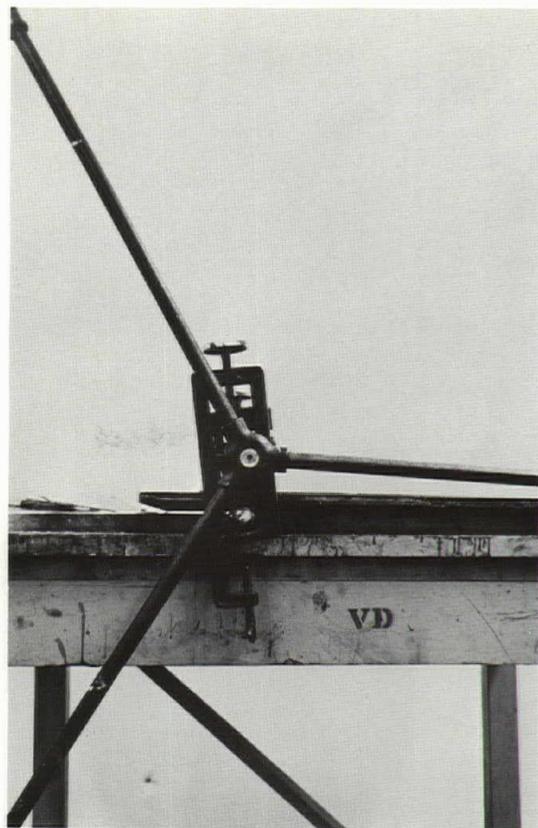


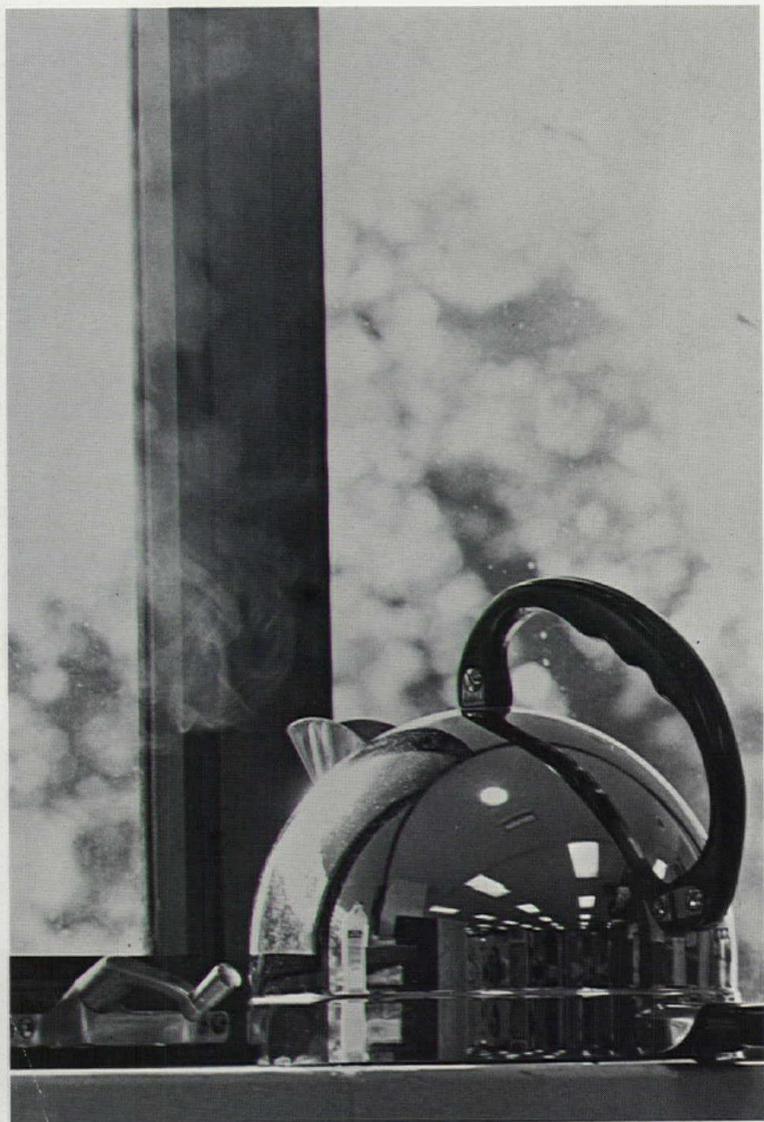
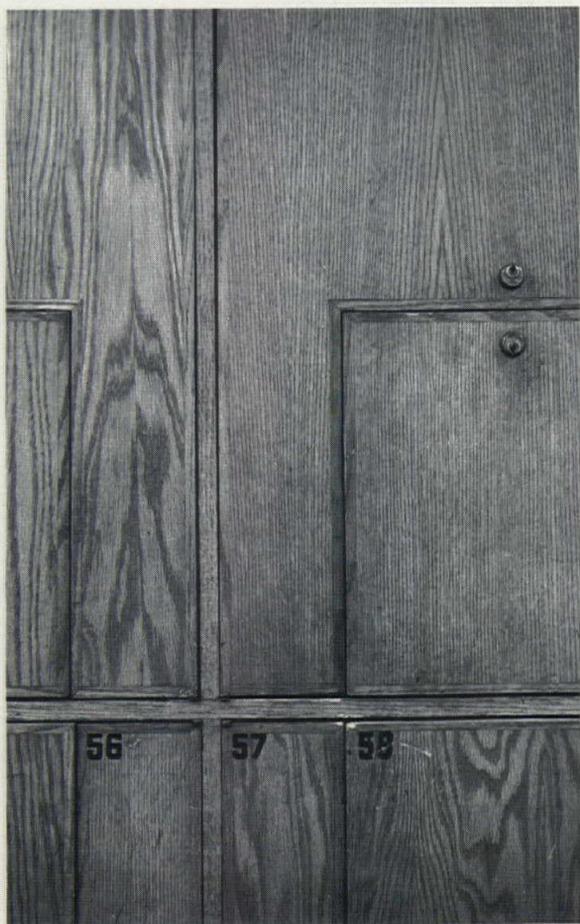


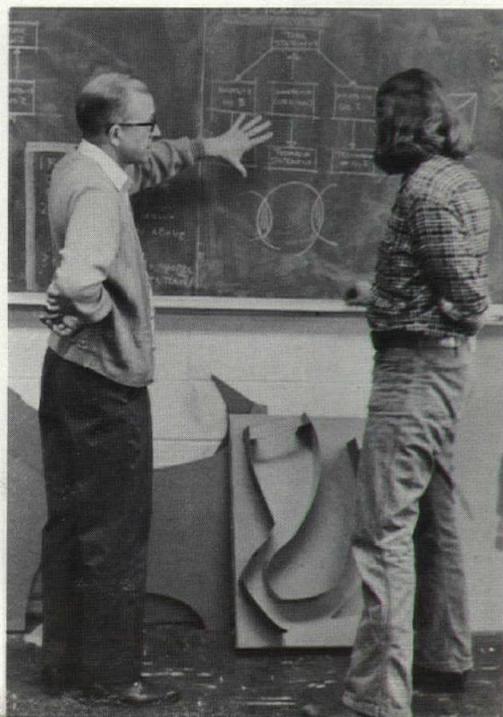
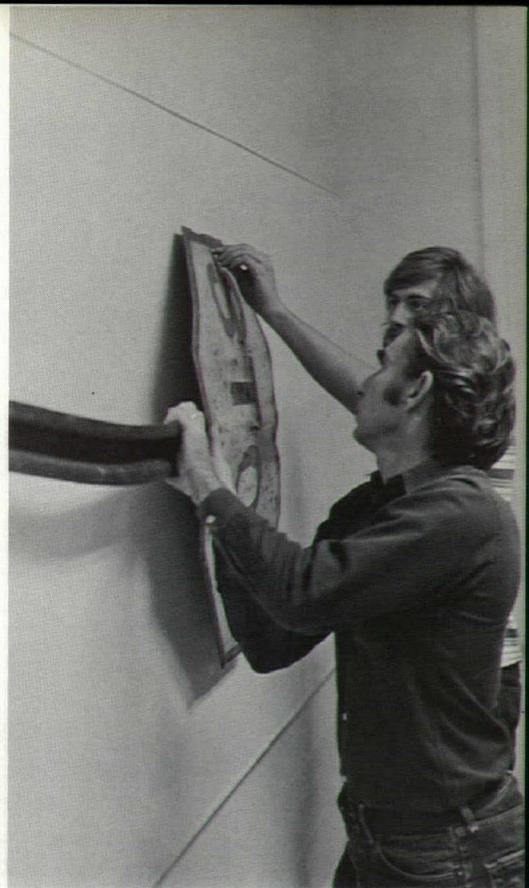
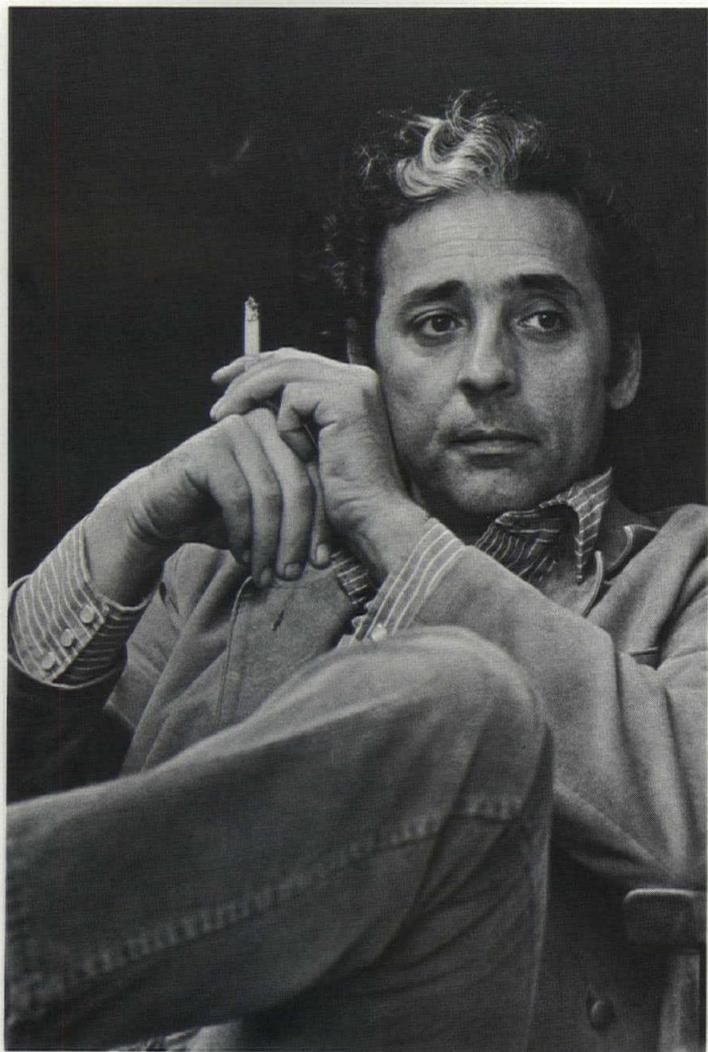


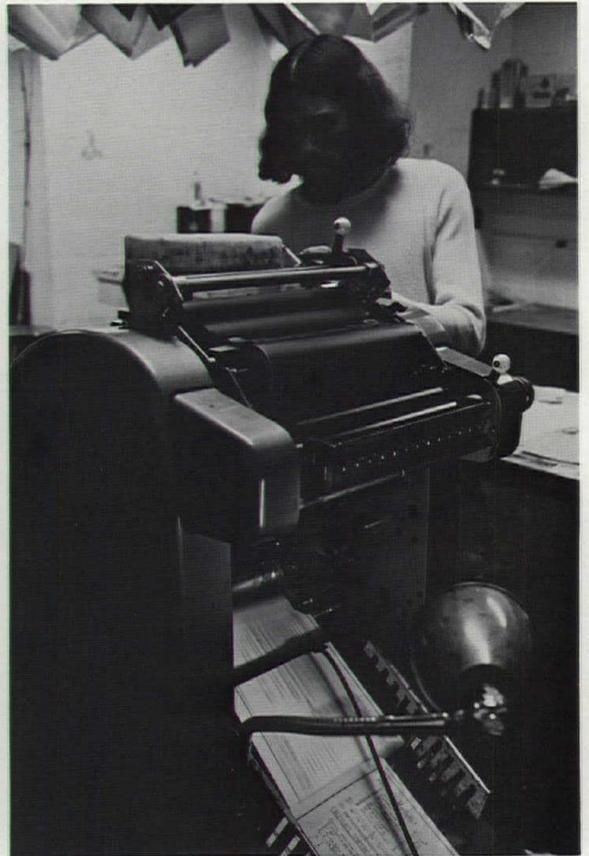
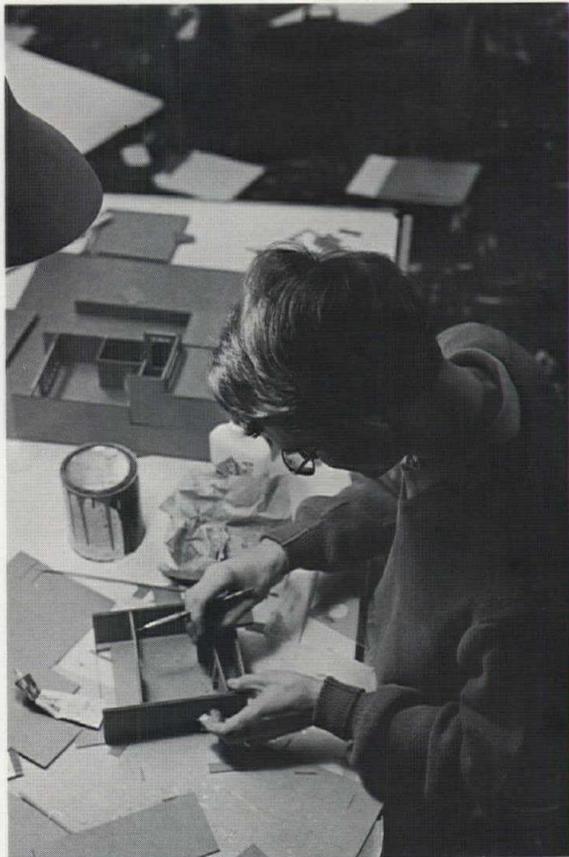


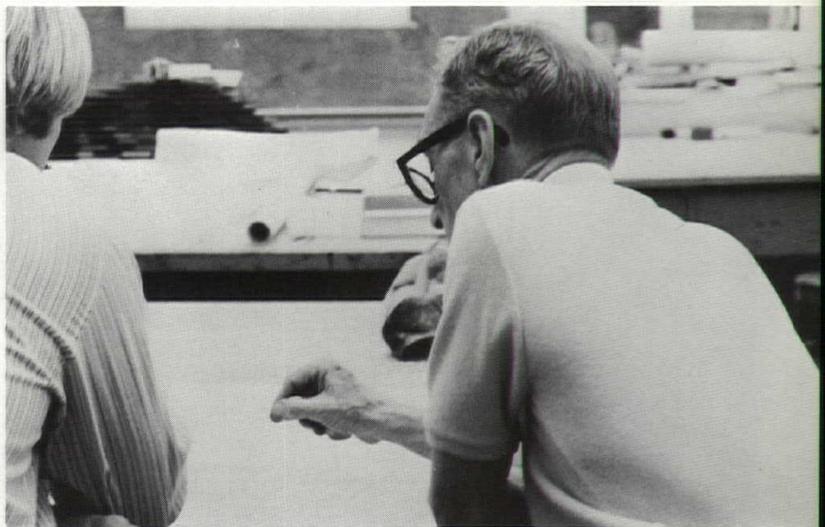




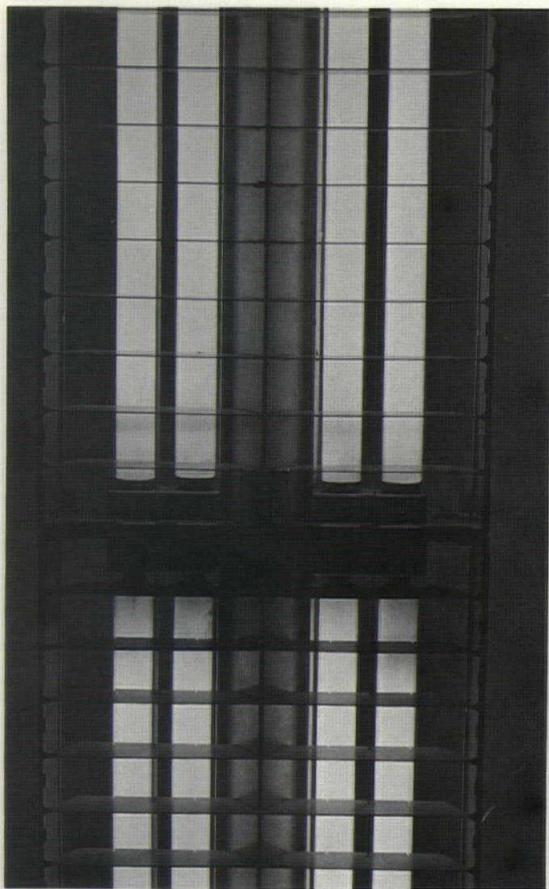




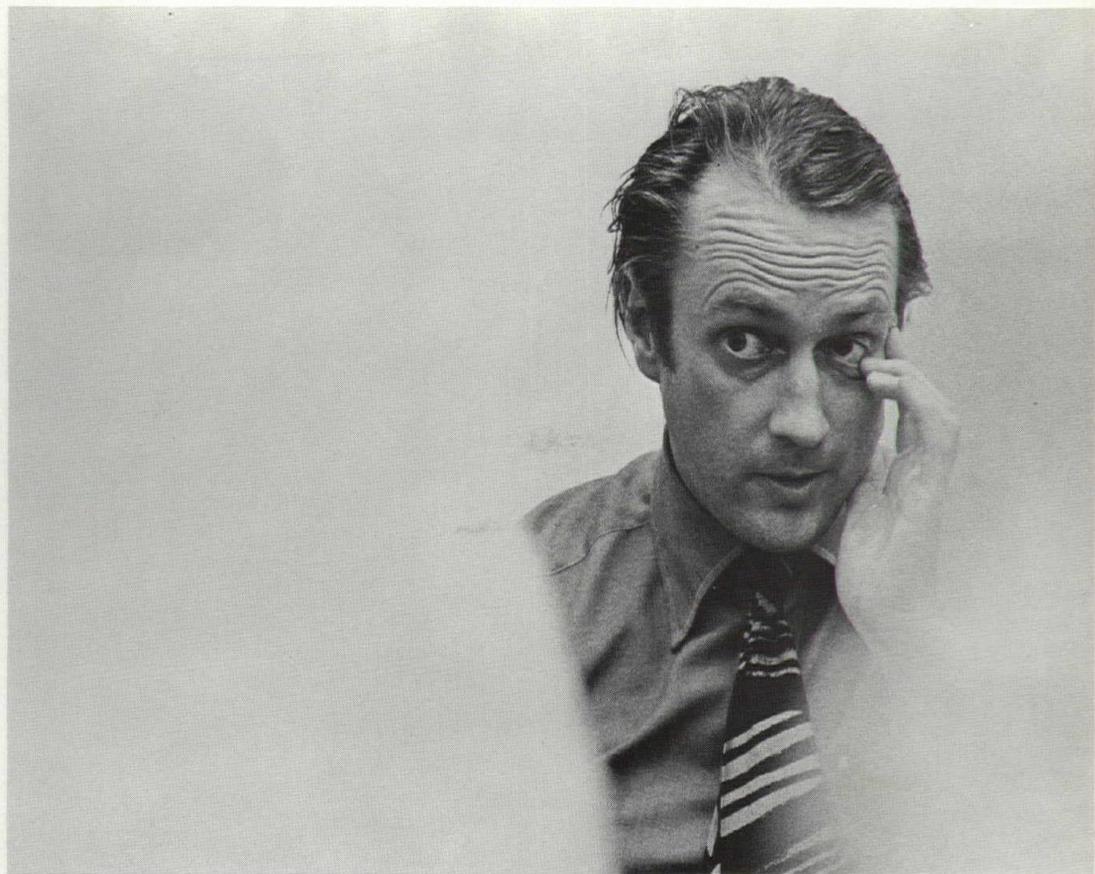












student comments

the education, practice, and future of architecture

david k. tester

The validity of formulating individual personal attitudes into opinions lies in the definitive nature of such activity: present and future goals can thus be determined and evaluated. A collection of various students' opinions can reflect the nature of at least the educational institution, and possibly the profession. The opinions likely will reflect both personal and education based biases.

A prevalent evaluation of the current status of architecture and architectural education is denoted rather tenuously as "change". Change in architecture, (philosophy, the profession, buildings, cities), is of course closely interrelated with the changes in other areas of human existence which apparently have been occurring markedly faster since the beginning of the industrial revolution. Currently, the mass media report some of the change in the architectural field, presenting articles, often on "futuristic" houses or urban problems, and occasionally on the changing scene in the architectural schools.

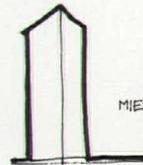
As inheritors of technological advances, we have been programmed to accept, expect, and whenever possible, to introduce innovations. At times, possibly, greater value has been attached to the process of innovation than to the resulting product: its limitations, and possible liabilities. The obvious problem is that what superficially seems to be progress, may, in reality, be regression. A prevailing attitude within the profession seems to be that as soon as the change is complete, architects can all find their places in the "new" architecture, and then settle down to work, simply modernized versions of that romantic architect who was master craftsman, eccentric visionary, and refined esthetician. This viewpoint, at best, can be valid only if we regard the change as revolutionary, and therefore with the assumption that it will come to a perceptible end at some reasonably imminent date. A more accurate conception, it seems, would be that the rapid and vast changes have produced

confusion within the profession. This is more conducive to positive attitudes, since it should encourage architects to find the sources of confusion, to determine why they are sources, and to use this knowledge to facilitate effective change. Such a concept is also more positive with regard to future development; a profession which does not continue to develop becomes stagnant.

Generally, education within the School seems positive rather than negative: any learning process is educational, although some may be more beneficial than others. Most students quickly learn that there can be more to architecture than the creation of a beautiful little building gleaming amid carefully planned gardens. The broadening of perspective which enables students to see architecture on a larger scale parallels the broadening urban scale within which some architects are now designing. One question is, should this aspect, whether new or simply recurring, dominate the profession or become an integral part of total environmental design? If any one aspect is emphasized disproportionately the design will inevitably suffer. The profession, therefore, must be supplied with people who are interested in all aspects of design.

Ideally, education provides two types of knowledge: factual information and principles on which to base decisions. Both are important in the architectural curriculum. A school which overemphasizes factual knowledge may produce students who know how to plan buildings in specific idioms; the buildings may be technically correct, but may not provide for the real needs of the clients. Similarly, students from a school which overemphasizes principles may design conceptually strong buildings which are poorly executed. Theoretically, due to the physical and conceptual complexity of architecture, there is a need for people with both biases, assuming they can work together. The challenge for the School is to provide faculty and facilities which encourage and motivate students in all areas. Certainly such a task is not easy since students' interests are dissimilar. It is further hampered by the difficulty in coordinating the work in various courses. Providing correlations can give relevance to material which might easily seem useless.

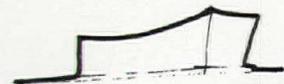
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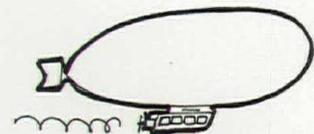
MIES VAN DER ROHE,



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SCHOOL OF DESIGN ?

An even greater challenge to both the School and the profession is to impress upon the public the important benefits that architectural services can provide. In part, this can be done by developing a public respect for the valid work architects are doing, if indeed the public can be educated to distinguish such values. Administrators must be shown the feasibility of employing services of qualified architects, and in turn the architects must provide the innovations which will make their proposals valuable. To help prepare architects to be able to innovate, their education must be diverse and must continue beyond graduation. In the final analysis, architects and the profession need three things: talent, education in theory and practice, and the power to put this talent and education to use.

g. edwin belk

TODAY'S EDUCATION . . . As each student begins his life at the School of Design, he receives a conditional release from passive education. Within the limits of the dominion of the school, the captured thinker within each student is unleashed. This thinker is then confronted with various approaches to architecture and meets with critical judgment. Surrounded by confusion each student begins to order these new confrontations within his world by personally, and analytically, formulating the influence and importance of each new confrontation. As a student realizes that the diversified faculty are each searching for their own truth, and as he sees that they, too, are each subject to the critical judgment of this academic community; then, he discovers his own task. Each student must accept and become comfortable with his own assets and viewpoints.

At some time after these experiences, if he maintains a sufficient clearmindedness and diligence, the student must begin to recapture his freed thinker. This recapture, contrary to the blinders of the first capture, must initiate the personal obligations which will fire future devotion with sufficient energies to faster action. Only after such personal capture, does an

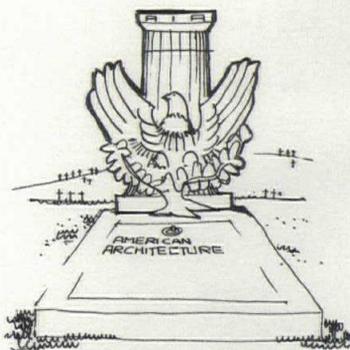
individual begin to live as an architect. An architect's life should be of a dedication which promotes his singularity of purpose; his life cannot be divided into professional and personal halves.

TOMORROW'S ARCHITECT . . . Today many of us are realizing that our lifetimes may be coincident with the lifetime of our society, and possibly of our world. As environmental designer/architects, we must begin to believe and to act on beliefs in the importance of the future implications concealed within our creations. The lives enclosed within our architecture *are* going to become more complex; our architecture *must* multiply in adaptability. We must, as architects, attempt to discover the problems inherent within the total intended lifetime of each of our creations. The discovery of these problems must at least simplify the task and allow only *the most natural solution* to occur. We must attempt to please "mother nature", our client, and society with equal fervor; after all, we do call ourselves "professionals". As young architects, our problem is not to fight against the entrenched convictions of the elder architects. Ours is the far more difficult problem of helping our elder colleagues to create a world they have never seen before; a world where the architect becomes truly both the interpreter and the servant of humanity . . . the hero architect has died; he rests beside the fire-breathing advocate!

Inherent within these problems is the basis of office operation. The ability of the large firms to include many convergent talents on each task must be maintained but without the accompanying tendency to fit each task into an allotted time and effort allowance. We must also maintain the luxury of the small firm which often allocates more time and effort to a project than the fee dictates. This luxury, however, must be extended and refined by a more diversified directory of human and physical resources. It is for these reasons that I see the future architectural practice, not as large production-line firms, nor as small individually prejudiced firms, nor as responsibility hiding corporations; but instead, as finite associations of multiple disciplines. These

associations must be formulated individually for each task with the separate responsibilities explicitly visible.

As the state of our environment becomes more demanding, I believe the public and their institutions will be stimulated to insist upon this foreseeing guidance. The devotion to the communities present and future held by an architect will again become a dominant requirement of these "professionals". If this is to occur before disasterous environmental conditions, the public associations of environmental designers must step up their work to expand the viewpoints of the public. We must all realize the importance of long-term concern in lieu of day-to-day matters.



Equally important, the architects, the architectural schools and the AIA must *actively* realize, the occupational blindness presently exhibited towards the finite range of our freedoms. People *must begin to know* that the greatest freedom is not achieved through sheer irresponsibility. The earth is common ground, it is finite, it is living, it *can die*. Are *we* its overlords?

I wonder if today's architectural monuments will bear their creators' epitaphs, tomorrow?

jim white

The time before I was a design student was long ago and seemingly, a period lived by someone who was not me. That is to say, there has been change in me and in the way I perceive the world. Surely the influence of the School of Design can be credited with a large portion of the responsibility for that change. I still do not know what the School of Design is: I do have ideas, however, or rather impressions, about what it is like, and what the role of the architect might be.

THE SCHOOL OF DESIGN seems to be something which just

happens. There are many things about it which seem unplanned. This impression is due to the School's spirit of creativity, spontaneity, and outrageous speculation. One of the most outstanding characteristics of the School, one which I quickly recognized as a freshman, is that it is different from all other schools at the University. It is not intended to give a technical education. It does not teach students how to be designers, rather it challenges their minds, their pasts, their preconceptions, their talents, their imaginations; it challenges and it turns out designers. The School does not say, "Here is a problem and here is how to get the answer," rather it says, "Here is a problem; if it has an answer, you find it."

The difference between the Design School and other schools is in an attitude toward the learning process. The Design School attitude is that learning is a process of questioning, experimenting, doing, and evaluating. The School provides exercises to free the imagination, to question the past and present, and to speculate on the future. The School encourages innovative expression of ideas. It does not put limits on how design solutions are to be presented. It operates under the assumption that all the senses have potential for communication. The School requires its students to think, to innovate, to sell their ideas, to defend their ideas from attack, and to accept criticism without feeling defeat. By having its students participate in all aspects of problem solving, the School provides the students with the opportunity to develop an appreciation for the overall, comprehensive approach to design, and prepares its students for competence beyond their particular professional interest. Students adept at scientific problem solving and creative thinking are equipped with the basic tools for handling most types of problematic situations—not just the design of buildings.

By the nature of their activities, design students are different, but they remain human and subject to human frailties. Neither the School nor its students are necessarily better than other schools or other students—as some would believe—they are merely different. That difference is often apparent in their physical appearance, in their values, and their life objectives. The School is a refreshing break

the metamorphosis

FRESH



ARCHITECTURE IS:

SOMETHING EASIER
THAN MATH, CIVIL
ENGINEERING ETC.,
BESIDES, ALL THE
LONG-HAIRED WEIRDOS
ARE THERE !

FRICK



ARCHITECTURE IS:

A BALL OF WAX.....

from the rest of the world—a world of rigid conformity where everything and everyone are so much alike. Yet that is not to say that the School is a haven of escape from the world, nor is it to say that there are no conformists within the School.

Students find themselves spending a great amount of time working together. This is one of the more important aspects of the Design School experience, even though it is one of those things which just seems to happen. Fraternal relationships of sorts result—ideal circumstances for sharing experiences, knowledge, skills, and friendships. In the studio, after classes, is where the most important learning takes place.

The School of Design is in a sense a fantasy world. The problems the students solve are in most cases laboratory problems. They seldom involve non-students. Rarely are economic constraints placed on problems or solutions to problems actualized for human use. Reality demands interaction with many kinds of people, it places cost restrictions on design projects, and it commits the designer to building his solutions. Simulated problem solving will be adequate for training design students only if they are prepared to expect greater difficulty and challenge with real problems.

The School of Design is a learning center which can produce competent and qualified designers, but it is also a place which can breed monsters. If it allows a student to leave with the belief that design is the universal solution to all the world's problems, then it has failed to educate that student. If the student leaves with the memory of an experience which allowed him to step forward out of the narrowness of his past into the expanding future by means of the creative use of his present facilities, then the School has succeeded.

THE ROLE OF THE ARCHITECT has changed significantly through time. Historically the architect was an artist, a master, a sometimes imitator, an elite, a rare individual. Today, architects are plentiful, good and bad, their artistry is skeptical, their tendency to imitate grows. There remain few who are artists, masters, or innovators. The

FRUSTRATED



ARCHITECTURE IS:

A COAT, A TIE,
A "WARM STOOL",
AND MONEY, MONEY,
MONEY, MONEY.....

architect today seems to be a businessman intent upon getting the most square feet covered at the least possible cost with the best respectable profit for himself. His last priority seems to be the integrity of the building; and indeed, he rarely considers his building in context with its neighbors. The enemy, he claims, is economy and costs. Financial demands without a doubt are a reality—and a painful one; but a deadlier enemy is the rapid deterioration of the environment. Thus the architect must set a standard for a better and safer environment through environmental design control.

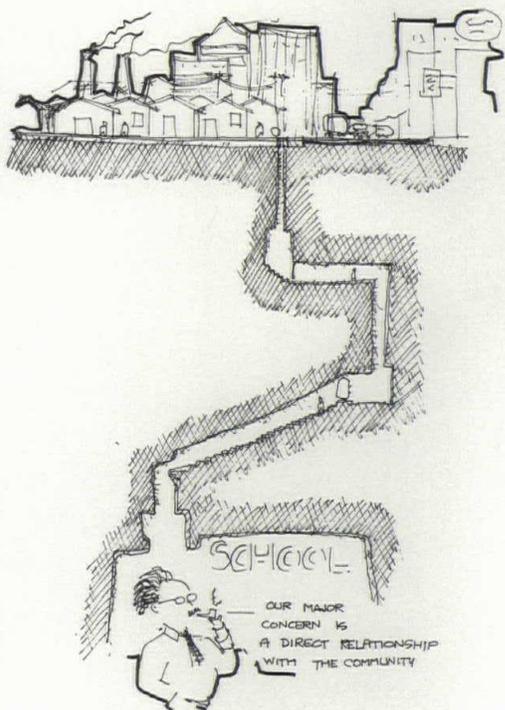
The role of the architect in the future should be as a member of a comprehensive design organization. With all architectural related services under a central control, a vast pool of information, talents, and energies could become readily available and usable for better and more efficient design. In such a firm, architects could well afford to specialize according to their own particular interests and talents. Some could concentrate on the business-public relations aspect of the profession. Others could concentrate on the design-aesthetic aspect giving most of their time to the planning and design of functional, economic, and exciting environmental architecture. There could even be special departments which could concentrate on design and construction research—thereby being in the forefront of the profession. Since men from all related disciplines would be employed by the same principal, loyalties would not be in conflict, and thus experts from the various fields could better work together as a team for realization of good environmental design goals.

kenneth w. burnette

As an architectural student, I have struggled with the questions of what I thought an architect was and what he should be. I have watched the profession with eager eyes, trying to understand what the state of the arts was, feeling sure that it would be filled with nobleness and direction, rendering a great service to mankind. What I have seen has left me disappointed. I admit that my view of the profession has been limited and that it would be risky to draw conclusions so early, but I have seen very little evidence of any strong purposeful direction in our work.

What are the goals of the architects of today? What are they trying to achieve with their work? Has the work become an end in itself? Or is it a means to accomplish other ends? I feel that architecture can be both the end and the means. The work in itself can provide great satisfaction and at the same time can serve as a means of contributing to our society. There is one direction in which architects can develop quite naturally, namely, the *architect as an environmentalist*.

The architect deals directly with the physical environment every day. He has a hand in the creation of a part of it. Because of this, he has a great responsibility to know exactly what he is doing. If we plan to continue our present rate of growth on the earth's surface, then we cannot afford to be ignorant of the ecological systems with which we will be dealing. What are the consequences of our creations? We can never know all of them beforehand, but we can gain a greater understanding of them. We can do this by seeking a deeper understanding of the inter-relatedness of the systems with which we deal. We as students and architects must look at the whole environmental picture and become familiar with all its elements. We must become total environmentalists, understanding that which we create, the environment of which it is to become a part, and most importantly, the union of the two. This is the architect as *environmental designer*. There is a need for people who can think of the man-made environment and the non-man-made environment together, and who can act positively to make this relationship one of mutual complementation and not one of conflict. In this way we can bring about a greater appreciation for each of them. I believe that we as architects of the future can accomplish this goal, but we must begin now.



dan smith

The academic process is a laboratory for learning where the student measures his present needs in education against his future vocation. There are no guarantees for success, but there is potential to those who are aware of present needs and future goals. Success in the

professional world is a measure of self-awareness continually monitored and tailored to individual purpose and drive. In the laboratory of academic architectural education, therefore, a student has the greater potential if, on one hand, he is aware of his present and future goals and, on the other, is able to have the experiences in education that fulfill his needs. An architectural curriculum can offer much, but in itself is only the means; student awareness is an all too important partner for success.

There was once a time when the student was trained and disciplined to be an architect who was highly skilled in every aspect of his profession. With the changing scope and new technologies in the architectural profession, there has been a rise in specialty fields and, consequently, an interest by some students to develop as designers in such areas as computer technology, economics, engineering technology, and social sciences, to name only a few. Schools like this one have undergone extensive curriculum reforms to cater to the increased demands of the profession as well as to the student's own interests in a more flexible curriculum. With an increase in freedom, it should be expected that both faculty and students alike would be more active in the pursuit of education and a new zest in spirit would prevail. On the contrary, this does not seem to be the case when reviewing the total student enrollment and faculty members at this institution. There seems to be basically two reasons for the prevailing atmosphere; the new curriculum offered students demands greater student responsibility, and the transition to a new curriculum has caused an overall confusion for faculty and students alike.

Observing the first point, it is obvious that in any situation where freedom of choice is in the hands of an individual it is also necessary to realize that with self-determination comes the burden of greater responsibility. Although the structure of education has somewhat changed at this institution, the goal remains the same; that is a better educated and aware individual. The important point is that there has been a shift in the responsibility of education. It is no longer the obligation of this school to ensure that a student receive all that is necessary to be a competent designer, but it is the duty of each

individual to monitor his own education by his choice and action within a wide field of courses. The burden of an adequate education, therefore, has become the labor of the student. Students, as adults, have demanded greater control in their education so that it will be more meaningful to them. This school has shown a response to changing needs of the profession and will continue to likewise respond to greater student awareness and responsibility.

As in a free society when restrictions and guidelines become more relaxed and the citizens become more aware of the system, they also find it easier to avoid the greater responsibilities. The new format of education in this school has also opened up the option of many courses available to fulfill certain areas of requirements. In every area there are many courses that vary in difficulty and relevance to design education; to many students the important goal of a design education is their diploma; consequently, good marks and graduation dilate their minds toward less difficult routes. The result is that in each area some students take the least difficult route and, in the final analysis, have circumvented a real education ultimately only to shortchange themselves.

I feel that only a very few students have taken advantage of the new curriculum at this time and have exploited its many avenues. There is a certain logic to a good education, and students with above average potential and incentives seek some fulfillment in their course of study. There is no easy road to a good education, only hard work and a sincere desire to learn.

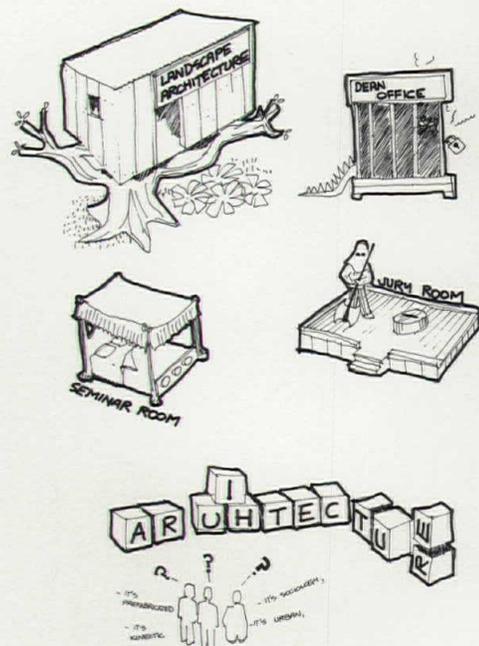
The second reason I believe that the new curriculum has not sparked a totally new spirit in the School is the overall confusion it has generated. Students and faculty alike have had to adjust to reformed courses as well as totally new concepts. Students who were originally in the old curriculum have had to adjust to a new freedom. In the confusion many are lost, it appears, when it becomes their responsibility to plan their own education. An awareness of educational opportunities involves a high degree of concern and understanding of their future, but most students' eyes are often too

narrow in such vision. Faculty have also had to search for their role in the new system. New courses have been instituted and altered by the School and interpretation has been both a challenge for students and faculty alike. This is not to be unexpected. When new theories are to be implemented, courses are derived and examined. It is in this process of constant refinement that students and faculty find the results both disappointing and rewarding. Refinements take time but, after five years, it seems that in the dust of past confusion is the structure for a solid education. Students now seem more responsive than in the past, and faculty also show an increased awareness and zest.

The present curriculum offers the germ of even greater opportunity. It will take greater concern, awareness, and responsibility by students to refine the dynamics of the system and even greater tolerance by the administration to continue to be responsive to change. The School is no longer as it once was and tomorrow offers even greater potential. It will be a challenge to all who participate to prove its merits.

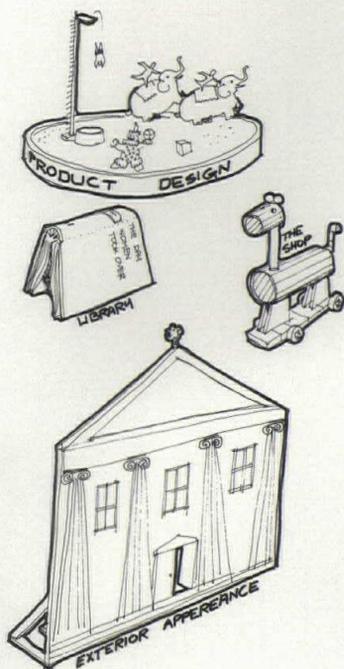
joe sam queen

The past few years within the School of Design have been characterized by fragmentation, isolation and a lack of clear direction. This has been caused by a lack of understanding and cooperation during the restructuring of the School's degree program and the reassessing of the educational needs for today's designers. In the confusion interest groups have sprung up giving the School the fragmented qualities of a school of liberal arts. Students dabble here and there piecing together various issues, approaches and skills as their imagination allows. The saga of man, his ideals, processes, and products are explored from many angles in the studios and classrooms, thus offering a creative liberal education. The task, however, of developing an educational program with the capacity of creating a new breed of designer who can better cope with the pace, scale, and complexity of our times has not been resolved. The School is at the critical point of either determining a new direction and



seeking the working equilibrium to reach this new direction, or institutionalizing the present interest group model characteristic of academia everywhere.

Until very recently the fragmentation within the School seemed inevitable due to the growing conflict of two competing attitudes with respect to the education of designers. The first attitude is that one teaches the known, training designers to function in the archetypical model of their professions. The second attitude is that one teaches how to deal with the unknown, seeking a new breed of problem solver capable of experimenting and evolving solutions for the changing, enlarging environments of the present and near future. These represent the traditional and the pioneering elements in design education. When the School was restructured, dividing the graduate level from the undergraduate level, the two attitudes seemed to gravitate toward each end of the educational sequence. Training in the known centered in the upper professional levels of design and experimenting with the unknown became the main concern of the lower levels of the undergraduate environmental design program. The conflict was one of both heart and mind. Holders of either view have qualms about attacking the other. The resulting cold war of contemptuous murmuring generates distrust and guilt, hampering the communal effort and ability to organize around an issue of common concern.



Just this year the two views were integrated into a single educational program. Duncan Stuart and Vernon Shogren have developed a dual studio program to introduce graduate students with no previous design background into the basics of design. The program is referred to as the task-technique approach. The task portion is roughly analogous to experimenting with the unknown, seeking the unique pioneering solutions. The technique portions is analogous to dealing with the known archetypes of the design professions, developing the understanding of traditional approaches. The dual studios develop both perspectives simultaneously in a *yin-yang* dialogue illuminating the doubts and fears of dealing with the two attitudes separately at different levels of the educational sequence. Presently this

task-technique understanding and implementation is the strongest hope that cooperation can be resumed between the arbitrary interest groups leading to the resolution of the internal dilemmas within the School.

The *yin-yang* understanding of the task-technique approach, also, has the possibility of releasing the creative energies stifled in the lingering conflict. This approach could be used in the technical and professional courses as well as in the studios and seminars. Free of negative competition both attitudes could be pursued to their appropriate depths. Prototypical training of conventional skills, methods, solutions and attitudes could be pursued in depth without seeming irrelevant. Pioneering ideas of both the physical and metaphysical could be generated and entertained without fear of the initial practical incompetence. Research at all levels in the School could take on legitimacy and integrity. The task of educating productive, forward thinking environmental designers for this age must be given this sort of comprehensive effort.

The quest for those generalist qualities must cross the arbitrary boundaries of academia, of institutions in general, to include a fresh glimpse at the entire forest of concerns. To institutionalize interest the group model would be counter productive to the task of developing a hybrid environmental designer. The necessity for an inter-disciplinary effort to environmental problems is unquestionable. In spite of this necessity, the School of Design has remained virtually isolated from the rest of the University and has recently proceeded to fragment its normally together energies. The need is for the School to resolve its internal struggles and open its doors to the rest of the University, confident that it can channel any flood of banality, confusion or counter argument. The world as a totality will be the inspiration of the new environmental designers. It should be welcomed with high intent and struggle.

peter knowland

ARCHITECTURE . . . A CONVENIENT LABEL

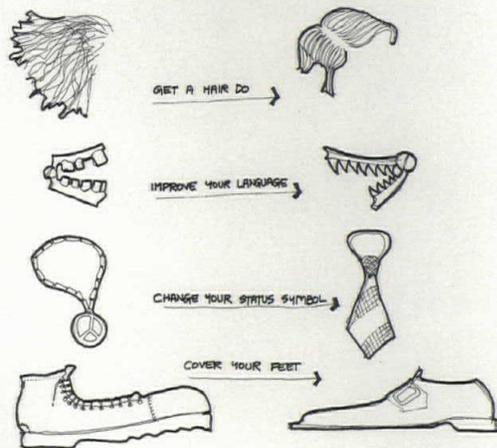
I am not as enchanted with architecture as many of my classmates. Often I prefer to do other things...not out of boredom or disinterest with architecture but from an urge to dabble. I cannot define architecture; nor can the School, and yet it professes to teach the art. However, we can all define the various diversions from academic architectural study. These have the effect of leading the soul astray. Several professors have voiced this concern to me in an attempt to evoke commitment. After all, architecture is my major, my field, my profession. For myself, such a commitment would be crippling. This point is the foundation of my education. The day of the universal man may be gone, but the day of the diversified man is not. Today, to commit yourself to one field to the extent of neglecting the others is suicidal.

Freshman year in design has the objective of reorganizing the student's mind. It throws out old ideas and preconceptions and opens the student's eyes to the fantastic potential of design. Unfortunately, for most students it is merely an introductory or survey course...and not for purely logistical reasons. Too many of the students fail to understand the real potential of their work. Such an understanding comes only from doing. And doing comes only from initiative.

Notwithstanding the inherent difficulty of instilling initiative, the active presence of that initiative in a student is essential to his education. Design problems are not, as many students assume, ends in themselves. A student's first solution is, in fact, the real problem statement... "What do you do with this?" And the real project is not the pinhole photograph or the plasticene experiential model, but the follow-up study that must occur if the design process and his education is to continue. An instructor can ask "Why don't you do this?", but if the student can't ask himself the same question *on his own initiative* then he will never be a designer.

The relation of this discussion to education is clear, a little less

when you graduate



so to architecture. All exploration is educational. Education implies understanding. Understanding is the key to architecture. Here, for purely logistical reasons, universal understanding is impossible. But education, or the mastery of the sensual inputs of architectural design is essential. Thus, diversification.

The problems of specialized vs. diversified education are immense. Can a generalist effectively solve a specialized problem, or can a specialist develop an accurate overview of a diverse problem? This is the uncertainty. But take heart, America . . . they have each other.

rick kattenburg

Almost all animals alter or manipulate the natural environment to create territory, shelter, or identifiable symbols of their own existence. These environmental alterations grow with a species, locking the species into behavioral patterns, and provide the species with objects for identity projection.

Humans, obviously, have the most overt tendency to alter the natural environment. They too create environments that tend to lock their species into behavioral or social patterns. The human species (hereafter referred to as *we*) has tended to alter the natural environment well beyond the point of shelter and territory. A great many of *we* live in highly complex environments of television, movies, automobiles, blinking lights, machine-edged houses, radios, asphalt highways, cash registers, tall boxes, short boxes, hollow boxes, establishments, specialized people, specialized institutions, clocks, etc.

No doubt, the forms of these environments provide *we* an opportunity to occasionally step back and look at what we have set up to identify as our existence and realities. Who's man? He's the guy that lives there, sees that, and does that. Fortunately, we have developed an aptitude for "analytical observation", and we are able

to talk about *we*, and what we are coming to. Sometimes *we* even dare to make value judgments. For instance, when we look at the effects of our environmental alterations and realize that we've created a lot of gadgets that poison the air, water, and land that we share with the other species, we step out of our behavioral patterns momentarily and say, "Ecology", implying the value judgment that our species can do something to stop poison proliferation. And we can.

When we realize that *we* have been innocently reinforcing a bad trend, we must stop and try to correct it. Unless we follow the simple process of self-evaluation and direction, chances are *we* won't be in the future at all. We can extrapolate current trends, and know now where we are headed. This is the basic tool of planning. One of the most pressing issues awaiting our evaluation is the quality of our physical environment that we are planning for.

The challenge to the designers of tomorrow is not merely to create objects and environments, but to create objects and environments in which man can visualize the identity and stability of his species. There is a great deal of difference between these two challenges. The former tends to be a meaningless concoction of impersonal materials, assembled in an impersonal manner by impersonal personnel, while the latter a positive reflection of *we*, reminding *we* of whom we are. This is a serious challenge. We are in a critical time when we need to stabilize our environment and lock into positive behavioral patterns. The designer's role is that of leadership. He has been chosen by society to stand up on behalf of the needs of *we* in the overall physical environment. Up to now, professional designers have not offered this leadership. What's worse is that designers have even failed to speak out against the obviously bad trends. Certainly a great part of the problem is that people create spontaneously on the motive of profit, but *we's* advocate, the designer, seems to be in the same somnambulistic trance, incapable of leadership in realigning our priorities.

There are several reasons for the designer's inability to assume

leadership, but the most important is that he seems to be unable to even think of environmental solutions that don't fit into the rather arbitrary limits of the established building process. The designer (our environmental leader) chooses to stay within the realm of easily accomplished objects; and hence, reinforces and solidifies the existing building process before he has challenged the possible outcome of its limits. Eventually he forgets that he is designing for *we*, (and our changing needs), and becomes capable of thinking only in terms of the actual building process itself. This direction makes sense only in terms of the immediate, economical present. The designer sacrifices freedom in design, and sets the basis for a disastrous future. An analogy might be helpful at this point.

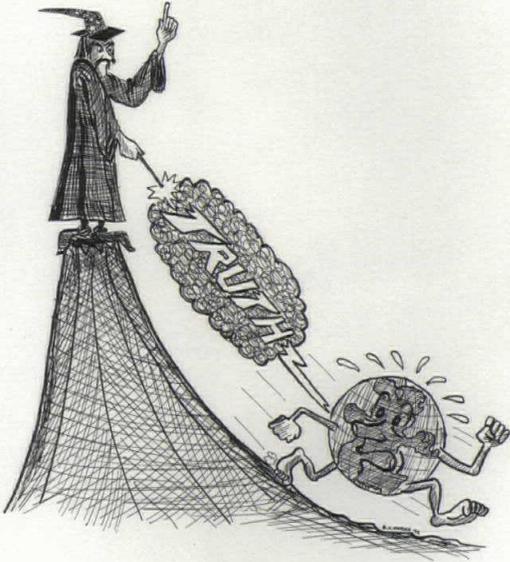
BIRDS AND CHAINS

Man is a strange bird. Quite often he forgets how to build his nest, and even more frequently, he forgets just what the hell he is doing. The nest builder proceeds with the nest building by concerning himself solely with the laborious task of building within the complicated framework he has invented for the purpose. There is an unbelievable chain of things to do and ways to do them. When the nest builder reaches the end of the chain, the nest is naturally the sum point that the links led up to. Each link is a special ritual for the nest builder. The first link concerns dealing with the client bird. He usually doesn't know what he wants but implies a nest that will make him look better than the other birds or a nest that will make him money. Then there is the link of the nest builder's special tools: precise, straight, line machines, books of existing nests, things to make his pictures nice, documents, etc; then there is the link of the catalog from which the nest builder picks out impersonal, machined items; finally, there is the link in which the nest builder passes his nest drawings to the impersonal nest contractor (a new link that has replaced the old handicraft bird). When the nest builder gets to the end of the chain he's got a cold, hard-edged, systemized, impersonal nest just like all the other birds.

Everytime the nest builder does a nest he simply pulls out the old chain and fondles it. He trusts the chain because it's established. The

problem with the chain is that it is used and added to so frequently that it grows too heavy to lift. Eventually, it becomes a permanent assembly line for the nest building. This would be acceptable, but some of the birds who live in the fields want a more meaningful environment. They don't give a damn about the chains that create the nests, but only the nests themselves. After all, they live in them.

Moral: Nest builders need chain saws.



Chains of new advancing media are here to stay, but they must be adapted so that they do not become so overpowering that we forget how to think. This seems to be part of our current dilemma. The environment is one not consciously conceived and then created. Rather, it is a spontaneous outgrowth of our chains (the blind systematic application of misunderstood technology). Our environment is too important to be allowed to grow unplanned. Our quality of life is dependent on it. Certainly, the physical environment is only one of our environmental fronts, the electronic mass media probably being the most important at this point, but all of our environments should be designed to accommodate a meaningful pattern of life. It is time we evaluated our environments with respect for the stability of the future so that we can begin to direct the trend. We must take the initiative and challenge the *status quo* on all levels. This is the test of mankind, to control his destiny.

gabriel james tsighis

THE EDUCATION OF AN ARCHITECT TODAY

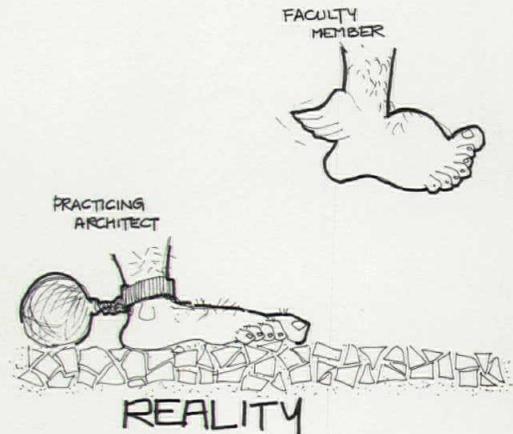
The student who undertakes architecture today finds himself in a highly unstable situation. It is to be expected that during his stay in an architectural curriculum, the curriculum will change at least once. Curriculum change and diversity can be a very positive and stimulating experience when the goals are clearly defined. When they are not defined, the student finds himself "flying by the seat of his pants". This is not to say that the school philosophy concerning approach to design must be homogenous, for this will bring a

paralysis and stagnation. Thus, the designer never develops his individual creative potential. Absolute empiricism is the arch-enemy of the creative activity. This means that a delicate balance must be maintained between an overbearing authoritarian design education and a complete *laissez-faire* attitude. The heavy responsibility rests squarely on the shoulders of the academic community. This means that they must understand their purpose for being and understand it clearly. They must be truthful to themselves in understanding *why* they are teaching. Academia cannot be afraid of the "outside world". If they are, they must, of their own will, step aside. The weight of responsibility is further extended to the academic community in that they must be acutely aware of the needs of the profession. This requires a close and perceptive involvement in the working situation by doing, not guessing, what is required of the architectural graduate. The ivory tower cannot dictate *the* way to be *the* architect. The profession is a house with many rooms, of which design is only one. This is not to deny that the visionary is necessary—he is—and will always be needed to push horizons. But competence in the physical and psychological realities of what architecture is, must become an integral part of the architect's education; anything less is unrealistic and anti-productive. The on-the-job training should be an integral part of the student's education not a token eight-week requirement. The educational center should be used as a research and experimental facility for the solving of actual professional situation problems. It is believed that this could improve the quality of the work produced in the profession as a whole (much as medical education centers provide service for medicine as a whole).

A person, first, must know that he is sick before he can be cured. As was once said, *Physician, heal thy self.*

THE ARCHITECTS TODAY? – IN THE FUTURE?

Who is *the* architect? *The* architects, traditionally, have been the dilettantes, the givers of taste and aesthetics. This has changed. They are no longer the artists who were kept by patrons. An architect finds himself facing a world that can no longer sustain itself on the traditional premise. Technology has challenged him. He finds himself



unable to play the role. First, the role is not one, but many. In an attempt to adjust to the changing times, architects have attempted to expand their services by developing the multi-discipline firm. Industry is now providing many of the services once offered by architects. If architects continue to allow themselves to be "hamstrung," they will become as anachronistic as the village blacksmith. Innovation, in the development of new techniques and systems for the creation of human settlements, is the commodity which the architect is selling to the world. The techniques and systems are not only physical in nature, they must encompass an understanding of political, economic, sociological, psychological, and physiological problems that face mankind. An architect has many options open to him in dealing with the task of providing *just* a physical environment for society. Two ways, for example, would be: one, becoming a generalist; and two, becoming an enlightened specialist. The generalist is an architect who is conversant in many approaches, but who has the ability and skill to probe, in depth and expertise, in any approach and become an expert in that approach — A renaissance man, if one will pardon a "bag" phrase. The enlightened specialist is a man who has narrowed his approach to one or two very specific disciplines within the profession—but can work easily with people of other disciplines, thus, forming the comprehensive team system.

Each creative mind is an individual. There is no average person. Each individual is unique. The dealing with "averages" is an expedient over-simplification of reality. The "powers that be" use this device to pigeonhole, tag, and identify large groups of people so that they will not have to deal with them as unique entities. This is a gross mismanagement of resources. True, there are commonalities that people share; however, these commonalities must be organized in such a manner as to allow the individual and his unique qualities to flourish. The highly creative and innovative mind requires freedom to maximize its potential. Freedom does not mean chaotic license. The freedom required for the creative intellect is internal. This requires that an atmosphere be conducive for this individual to evaluate his resources and set his own goals (getting his head together). This

concept does not negate the need for individuals to work in concert with one another. When creative minds work with each other, they stimulate and cross-fertilize and, thus, bring about new bodies of knowledge. It is at this point where, as Mr. Harwell H. Harris says, the creative mind begins to have the ability "to design a thought". If architecture is to have a future, the ability to cultivate this attitude and expand it to as many different facets as there are people involved in this pursuit will be necessary. It is simply, the ability to *see* and define the problem before solutions are sought.

leslie vollmert

The position of the architect today is rather analogous to the ubiquitous sandwich cookie. On one side we have the owner with the capital, on the other side is the builder with the means of construction, and in the middle is the architect who provides enough icing to make the product palatable. Unfortunately, having the least substance of the three components, the architect, like the filling in an Oreo cookie, is most likely to be caught in the squeeze when the interests of the two outside layers conflict.

As a result, today, the architect is an ambiguous and compromising intermediary between the owner and the contractor. Although his responsibilities vary enormously from case to case, his essential task is to translate the owner's needs and aspirations into a set of working drawings from which the contractor more or less constructs the building. But, because he neither controls the capital nor the means of building, the architect's effective control over the project is a combination of persuasion, cajoling and threats issued in the hope of guiding the project along personally satisfactory lines and in the best interests of the public environment.

The waste and frustration inherent in the architecture profession today are becoming more obvious as an increasingly productive building hardware technology and steadily more inefficient construction industry wreak havoc on building in the U.S.. As each



year the situation becomes more critical, the harsh glare of public scrutiny is increasingly cast upon the industry, reflecting the architecture profession in a most unflattering light. Plainly the ambiguity of the architect's ill-defined role will soon have to be resolved or the profession could face extinction.

There are several possible postures for the architect to take in society. He could become a kind of public advocate working for the welfare of the client-public and the betterment of the natural environment. This would oppose the shortsighted economic goals of the builder. This alignment of architect and public against the contractor is an unlikely and perhaps undesirable stance. It presupposes strong governmental support of a kind as yet foreign to the relationship between "profession" and state in this country. The possibilities inherent in such an alliance, as illustrated by various other nations where this approach has been taken, offer a spectrum of results ranging from the highest environmental standards imaginable to the rigidity and boredom of a state architecture. Aside from esthetic objections, such an arrangement would set one more precedent in a trend toward the socialization of the professions, a movement aimed at alienating certain occupations, including medicine, from the remaining vestiges of our free enterprise system.

A more likely and more desirable arrangement would ally the architect and the builder into a mutually respectful and cooperative unit aimed at providing an efficient, comprehensive building services package to the public. The result of such an alliance would be to transform a building project into a cooperative rather than a competitive venture benefiting the client, contractor and architect. The client would get a package of services ranging from programming to final inspection, affording faster completion and fewer legal entanglements. The construction industry would almost certainly benefit from the introduction of systematized building techniques that have been developed by architects but largely barred from practical application. Furthermore, the contractor could almost certainly offer a more economical product by working more closely with the architect, thus obviating the necessity for large contingency

funds in his bids. The architect would gain more effective control over the public environment by influencing a greater proportion of the actual building done each year in addition to becoming a more efficient professional.

Of course, such an alliance of architect and builder is wrought with dangers. The most chilling prospect is that of the architect simply becoming an employee of the builder rather than his partner. Equally disheartening for the public would be the subversion of the architect's basic moral responsibility from the client to the builder. The essence of any effective working relationship between architect and builder would be mutual respect. Unfortunately, the monumental and deeply ingrained prejudices and mistrust prevalent in the attitudes of the two disciplines toward each other make the advent of any cooperative and respectful alliances seem very distant today. Unless the current situation is resolved, the architect, caught in the middle between the contractor and the client, is going to find himself squeezed out of the building picture altogether.

super architect

- KEEPS
A
SECRET
PERSONALITY,



presentation

charles moretz















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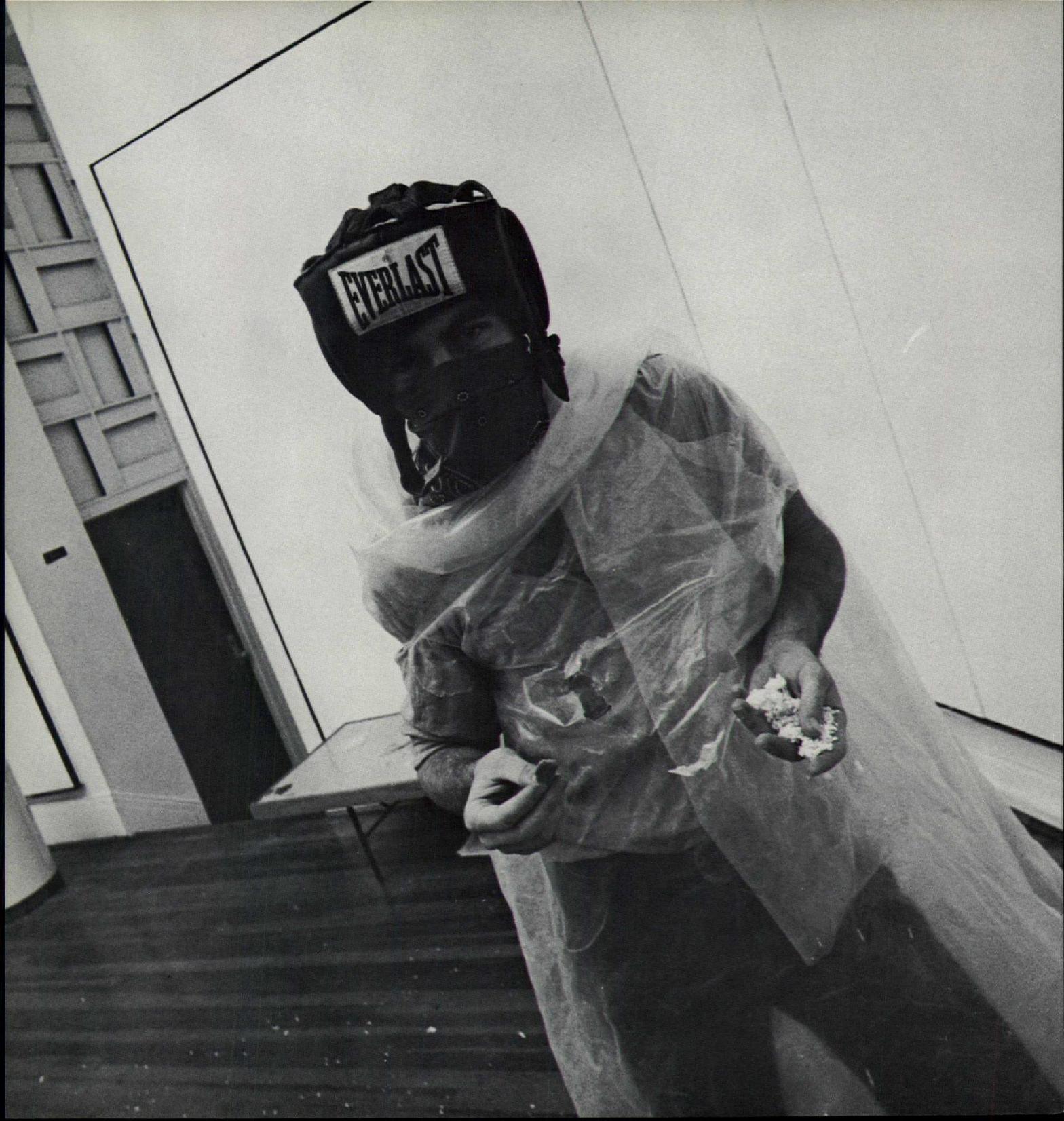






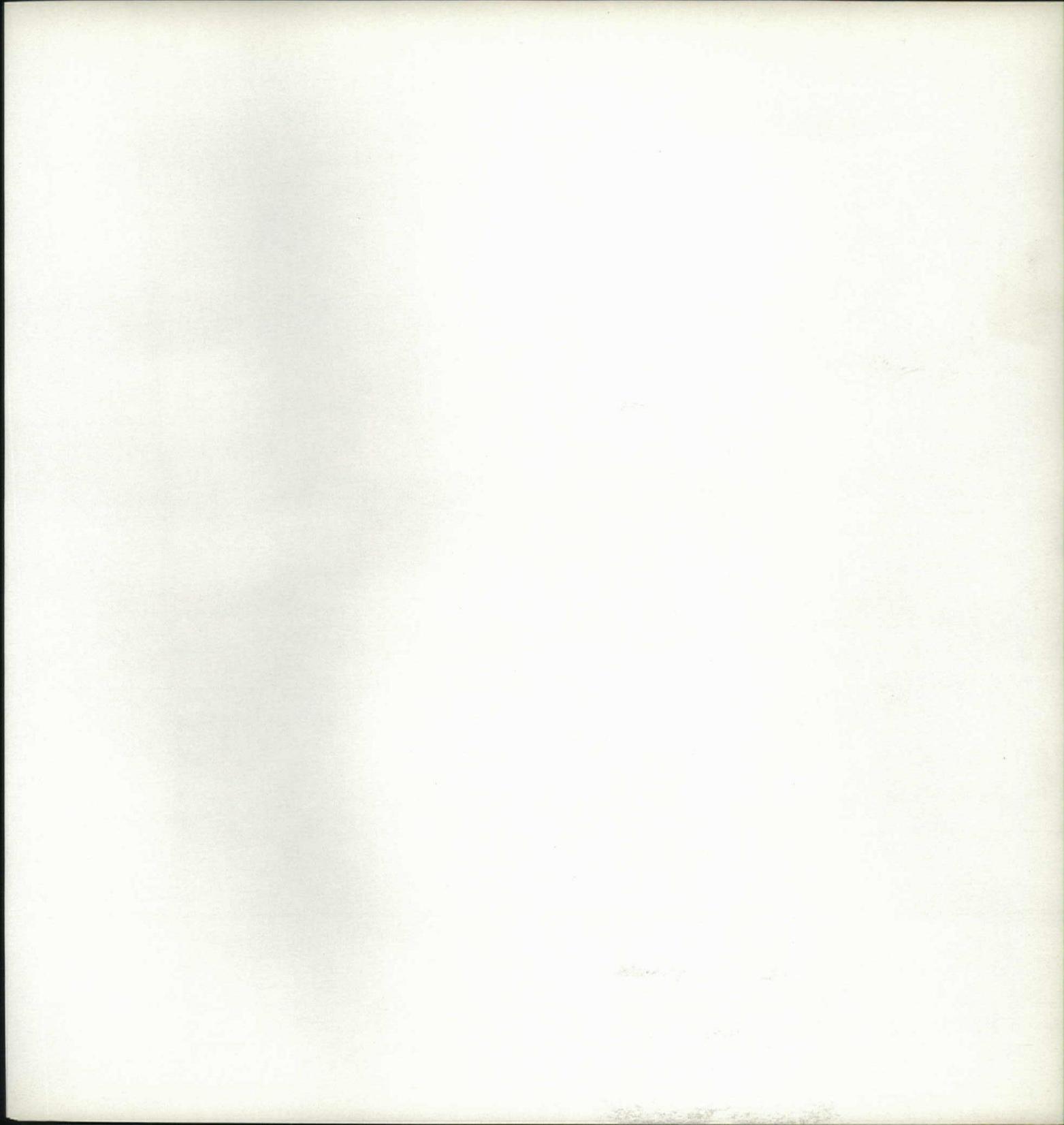












the school a systems description

larry goldblatt

Composed of parts, operating toward a goal, producing an experience, Design School would be difficult to understand without a structured bias.

Because of the complexity of the subject, a systematic model was developed. The premise of this paper is that Design School acts like a system. With this accepted, discussion can begin as to what the system is and how it acts.

OVERVIEW

A systems description is a simplifying tool. The real world exists, and the system concept is an abstraction of that reality. The systems can be abstract in different degrees.

“A system,” explains Berrein, “is a set of components interacting with each other and a boundary which possess the property of filtering both the kind and the rate of flow of inputs and outputs to and from the system”.¹

1. SYSTEM ORGANIZATION

The School of Design at North Carolina State University organized in 1948 to meet a goal. It brought together components to participate in activities that would result in satisfaction of that goal. Over time, the variable components and symbiotic relationships amongst components have adjusted as resources and goals have changed.

The School was founded on an educational model familiar with the Beaux Arts tradition. The master was there to teach, and the students were there to learn his method.

The model has evolved until today the training aspect of the program has diminished. In its place is an emphasis on learning. What is the difference? Training implies that there is a body of knowledge for the trainee to absorb, and a role for him to fill. Education implies that there is knowledge to be absorbed but that thinking is equally as

important as doing. Herein lies the fundamental struggle within the School: to train or to educate, and how?

The organization of the system is in transition, because of this struggle. The structure has constancy—no components are fading out, no new ones sprouting up. There is still the faculty, students, resources, and administration.

What, then, is changing? The relationship of the parts to each other and the system as a whole to society. Simple answers no longer suffice for the new questions; What is a teacher? Who teaches what to whom? Which decisions are administrative? Who makes these decisions? What role do students have in determining the nature of their experience, and the direction of the School?

Before us lies a confused picture: a system structure trying hard to maintain its balance, while the nature of the relationships themselves are striving for new form.

2. SYSTEM NEEDS

To survive, the system must continue to meet its objective. This is part of the biological bargain that keeps energy and people flowing into the system. To accomplish this goal, besides the normal maintenance of components, the system must have its internal needs met. That is, orderly energy flow and procedure is necessary to keep track of the resources (use/misuse) and progress toward the system goal. The distance is too great between entry of students and exit to go without periodic evaluation of the individuals passing through the system process.

What happens to these students is an indirect measure of the success of the system. If, for example, there are a great number of students failing out of school or self-actualizing and creating their own program, then it is likely that the system is experiencing mismatched needs. The system has a need to retain and graduate students at a certain level of quality. If students are failing out or failing to do the

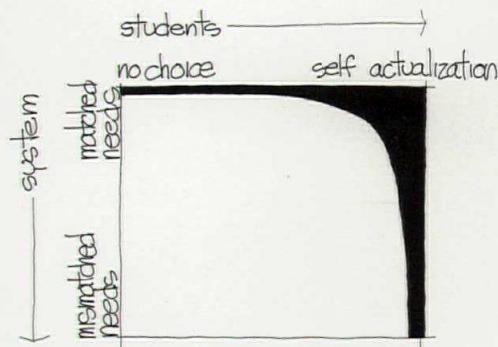


diagram 1

required program, one or both of those two objectives are being threatened.

The accompanying diagram illustrates this condition. If a student makes no deviation from the expected path laid out for him, it is likely that the system will have its needs matched. If, however, the student sets out on his own program, it is possible that the system will experience mismatched needs (i.e., the student is failing to achieve the proper training). It must be decided if the individual's goals are more important than the system goals. (diagram 1)

3. SYSTEM GOAL

The system views its goal in terms of a match/mismatch function involving many variables (time spent within the system, activities, skills acquired and so on). So too, does the system throughout (the student) view its goal according to a similar match/mismatch function (is progress through the system normal, are the activities interesting, are the rewards of the system adequate).

The system goal is to raise the incoming individual from some unknown level U to some professional level P. (diagram 2) To reach P the individual must become a student, that is, enter the system and experience the process. Periodically the skill level and experience is checked against the system goal by the faculty and students.

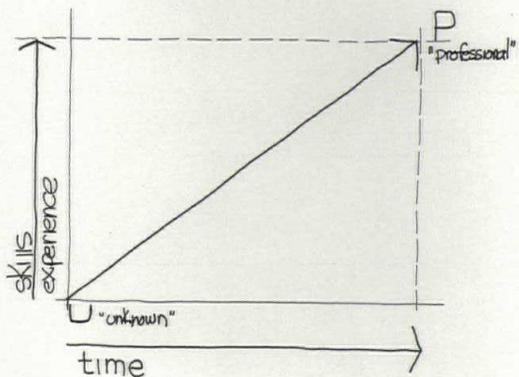


diagram 2

The system goal, to graduate students at a professional level, remains the same. A major difficulty for the system arises as to how it should operationally define such a level. Other problems are how does the process bring the individual to that level, and how are the process and system output evaluated? The *School of Design Catalogue* states:

The school seeks to develop the personality and character of the student as a whole. The goal in the growth of the student is not only the mastering of design techniques in his profession; but the stimulus and readiness is developed to meet the challenge of any environment.²

And yet, the context of the professional role, as well as the role itself, is shifting. The School must take this into account.

It is clear that architects are to produce buildings. Because of the economic, social, and technological mutations of society, the how and why of architecture is altered. (The same is true for the other design professions). Because the operational objective is not fixed, the School cannot be sure of what the right process of education is. The questions that are asked, (What work will the professional do? What skills does he need? What experiences should he have?) can only be answered ephemerally.

Because of the confusion, the system judges not by qualitative evidence (i.e., can the student understand and solve tasks of an environmental nature) but by quantitative progress (the range of skills the student has acquired, the kind of work he does, the year in school, etc.).

How the system changes to meet necessary alterations in goal definition and whether the suprasystem or the system takes the leadership in changing the goal, depends entirely on the creativity of the faculty. It is unclear whether the society or the school directs redefinition of the system goal. It may be that a definition balanced by both forces yields the most satisfactory result.

The system has a predetermined reaction to student failure to achieve the P state within normal expectancies. Should a student regularly fail to achieve any progress toward the system goal, the faculty will counsel him. Counseling, in the form of grades and discussions attempts to discover misfits that have entered the system. The faculty, through its role as counselor, either helps the students adjust or helps him exit from the system. Usually, the system's very selective screening eliminates anyone who would not be able to deliver what is expected of him.

The system does not regularly check to see if it is malfunctioning. Only when an overt misfit is reported to the administration (several

complaints about one teacher, many flunks given by one instructor, one student who is too much an activist) is there any investigation or action. For the system as a whole to discover any misfits, there must first be a crisis.

Should the student fail one of the many (8 to 10) evaluative steps along the path to P, he may be forced to leave the School. If the faculty member doesn't have his contract renewed, it may be because he too failed some evaluation. Both are misfits, not meeting the expectancies of the system. Not all misfits exit the system, as there are some bad students as well as bad faculty that manage to hang on. Unfortunately, the system manages to often weed out as unacceptable the best students and faculty because their methods are unorthodox or not in the style of the times.

A measure of the system success toward its goal can be taken by the number of students that reach the P level. A measure of individual satisfaction with the School can be taken by the number of students that stay in the system or return after a short while outside. A student usually will leave the system if his personal goals are not being met by the system alternatives. To insure that individual goals will be met, the system should allow for a wide range of diversity in methods and goals. Often the system and the individual goals are not exactly congruent, but presently a certain tolerance allows some flexibility.

The School must decide whether the system goal, of producing professionals that fit some predetermined mold, is as important as producing individuals who are satisfied with what they are doing and becoming. This does not mean the School must abandon its task of producing architects, landscape architects, product and visual designers; all it need do is leave the interpretation of these labels to society perhaps. Concentrating on the structure of the problems that these professionals face in an open-minded, variable way, the School would develop into a field of collected interests.

The diagram illustrates that the number of people within the School

(faculty and students) whose mismatch is great, are few in number. Beyond a certain level of individual/system needs disparity, exiting occurs. It is argued that the system should try to retain individuals based on their involvement with problems and not with their particular method (or label). (diagram 3)

4. SYSTEM PROCESS

The components, administration, faculty, students, and resources all interact. This mutual involvement is the process the system goes through to achieve its goal.

The aim of the process is to educate an individual. The aim of the system is to produce an individual who has been educated. The goal cares not how the process achieves the objective. What is meant here is that if the goal is to produce a graduate who is an environmental designer, the process should not necessarily teach by modeling the behavior of environmental designers; such learning would be situation specific. Rather, the process should help the individual think about the role of environmental designers and the problems that he faces. Training by example will only produce individuals who act on precedent, which will lead to incestuous results. Educating by experience will produce individuals who are confident and can act in unfamiliar situations.

Formal interaction brings the student and faculty together with access to resources. The administration monitors the interaction of these elements. The flow of energy in this interaction is usually from the faculty to the student for two reasons: 1) the student is conditioned to look for direction and authority from the faculty, and 2) the faculty generally has no knowledge of the process nor interest in initiating student self-actualization. Such student generated learning threatens the authority of the faculty. The result of the unidirectional flow is the imparting of specific skills, applicable to specific situations under simplified conditions without systematic concern for externalities caused by any actions. This is training an apprentice, not educating a student.

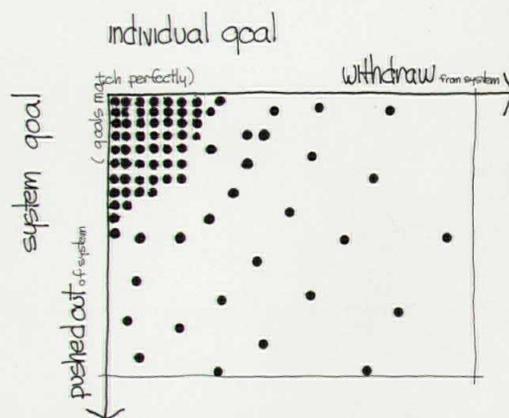


diagram 3

The diagram shows the possibilities for interaction. (diagram 4) It is only necessary to point out that the faculty to student relationship has the most authority and legitimacy, the system, however, should encourage all the relationships.

Laszlo postulates the following model of the individual, consisting of environment E (outside the individual), sensing P, coding C, and response R, (mechanisms within the individual).³ (diagram 5)

The School of Design process attempting to meet its goal, seeks to intervene with the individual's response mechanism. It is necessary that the system also deal with the sensing and coding devices. The ultimate goal is to increase the probability that the individual's response will satisfy the environmental problem that he is confronted with. To increase the probability of successful response the problem must be correctly perceived (P) and clearly understood (C).

The educational activity can be described by one of two models: "technique-oriented (the individual proceeds through previously authorized patterns of thought and action toward a solution), or task-oriented (individual considers undertaking unique and proceeds to develop specific goals and implementative action)."⁴

When the activity is faculty initiated, be it technique- or task-oriented, the student may proceed in one of three ways: first, he can act according to what he thinks is expected of him, learning from prior experience in the School and from observing other students; second, he can accept the stated goal but develop his own approach, learning the technique of solving the task; third, he can reject the first two and devise his own program, leaving the department or the University.

When the student initiates the activity, be it technique- or task-oriented, the faculty becomes a facilitator to the process. The teacher, then, is like a signpost, pointing directions but not telling the student which is the right way for him to go. The student sets a goal, develops a rigor for achieving it, and does it.

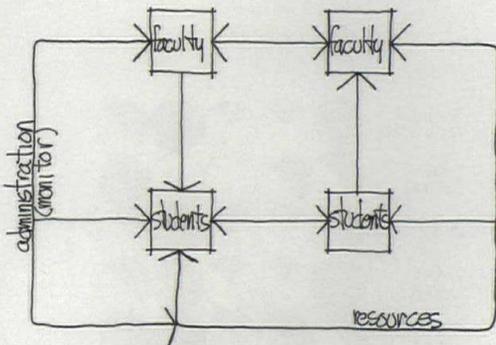


diagram 4

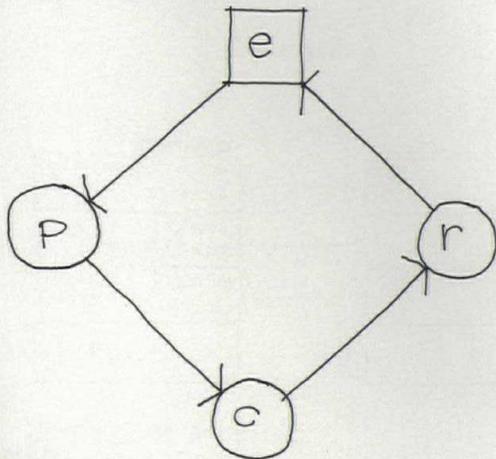


diagram 5

It is at this level that the output of all the components join together. The faculty initially elicits student involvement. During the process the student may take the initiative; the faculty assists by locating resources; the resources support all the activities associated with the School, and the administration governs the resource allocation, the faculty direction, and the student progress toward the system goal.

Whether technique seeking or task solving, the student and instructor come together for evaluation of process at the end of the work period, measurement of progress toward the system goal (S > P) is made at this point. The administration checks and stores all information the process generates; that is, progress reports on individuals, decisions to keep the system homeostatic, and so forth. (diagram 6)

5. THEORY OF INTEREST AREAS

It is argued that the School should organize faculty, students and resources according to their field of interest, rather than according to some fixed and arbitrary order (i.e. architecture, landscape architecture, etc.). The administration presently assigns students to faculty according to some rigid boundaries. The two-year environmental design program is least guilty of this ordering. In that program, students are offered real choices and diversity in interest.

Boundaries of these interest areas and their content should fluctuate over time. The population of each group should shift as interests wane. As the School is presently operating, certain interest areas have become institutionalized. (For example, the Community Development Group; see the *Student Publication of the School of Design*, Volume 19, Number 2, 1970).

The accompanying diagrams seek to describe the School as it is now (diagram 7). The next three charts describe the evolution of a new structure for the School.

A typical interest area might be *communications*. It is such a broad

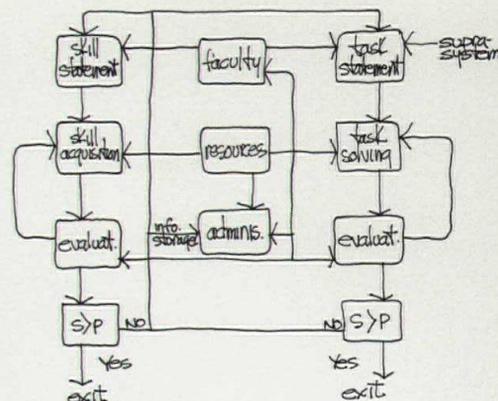


diagram 6

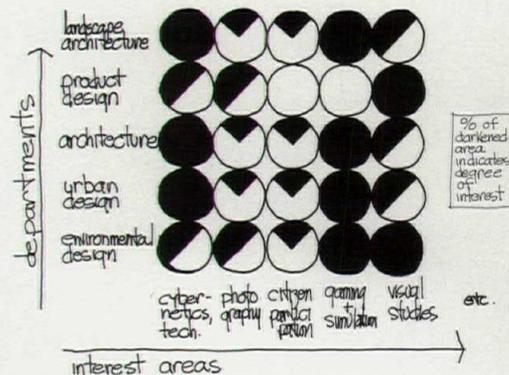
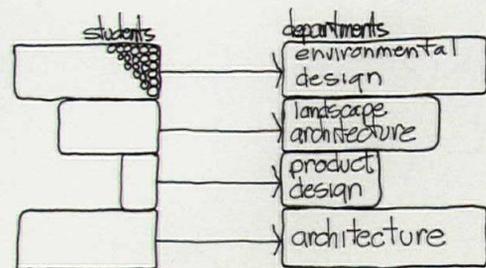
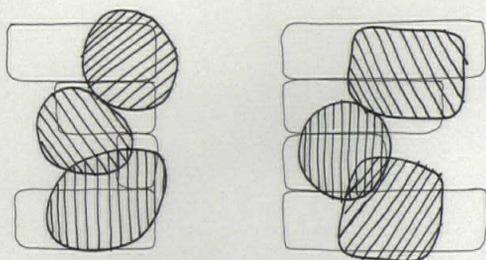


diagram 7

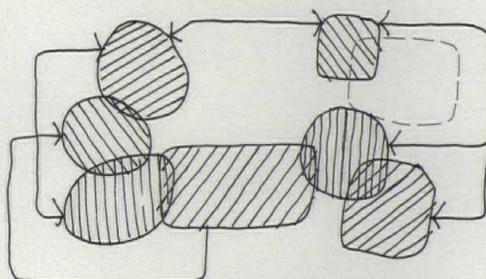


organization of departments + population at the beginning of each semester
diagram 8



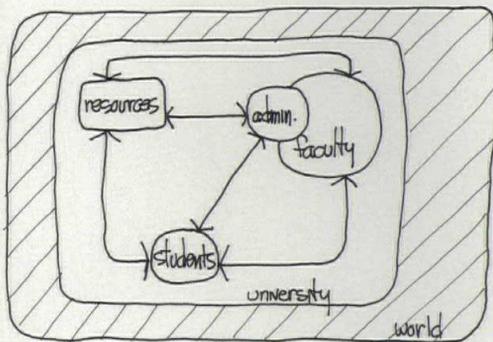
formation of
interest areas

diagram 9



interest areas
become new structure
for school of design

diagram 10



system components

diagram 11

topic that anyone within the School could find some association with it. Such would be the case for other areas: *design, citizen participation, cybernetics*, and so forth. Each person in the School has the capability of being included in more than one group at any one time. The groups could fluctuate in their boundaries to include as many or as few people as were interested. (diagrams 8, 9, 10)

6. SYSTEM COMPONENTS

There are four components in the Design School system. These are administration, faculty, resources, and students. The system process is the interaction of these elements. The system maintains balance within itself by rules governing the roles of the components. (diagram 11)

The system's components all exhibit a common design: they have channels, role, and output. One channel into the component brings in people to act out the role. A second channel brings in information from other components and from outside the system. The term channel is used here to discuss the flow into and out of the components, so that the discussion of component input/output won't be confused with system input/output. Each component produces an output that alone might mean very little. Together the parts produce a process that would be unachievable by independent means (i.e., the system is synergetic).

The role concept of each component does not change; what is changing is the people and information the input channels are funneling into the system (i.e., the structure of the process is constant, the content of the process is variable).

Any viable system has some mechanism for adaptation. In the School of Design, system adaptation occurs through the adjustment of one of the components. Components adjust as resources and information flow into them. Generally a change that requires institutionalization (i.e., add or drop a course to the curriculum) happens very slowly. The diagram attempts to outline the aspects of the general

component design. (diagram 12)

7. FACULTY COMPONENT

Individuals who are interested in becoming members of the faculty go through a screening process. This method of entry aids in restoring the balance in numbers depleted by departures and helps the system maintain control over the quality of incoming teachers. There is an interview and a review of the individual's work by students and faculty. Decisions to hire or not to hire are made by the administration based on what the person has shown in the interview and probable compatibility with the program and faculty.

Flow out of the system is by individual selection (better offer elsewhere, change in interests, etc.) or by the system (retirement or unsatisfactory work). It must be noted that there is no effective faculty evaluation. The faculty evaluates students as a part of their role, but nowhere in the system is there a formal mechanism established to judge faculty output. Decisions are made based on non-objective measures.

Each component has its information channeled into it from the system and the suprasystem. The information channel brings in basically the same facts for the faculty as well as for the students. In addition, special interests of the faculty bring in special information in the form of lectures, books, and experiences; only recently have students become involved in the selection of lecturers. Often, faculty members manage to have acquaintances come to the School and give "workshops."; in effect, part of the School's resources are spent on short-term faculty members. Unfortunately, the faculty is divided into departments, cutting communication within the School and preventing these workshops and other departmental activities from being properly used.

The system makes clear the boundary of the faculty component (that is, who is and who is not an instructor). A member of the faculty is someone who is paid to teach students in a course. The

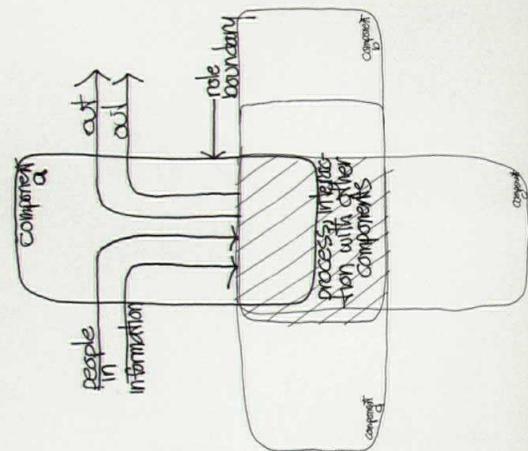


diagram 12

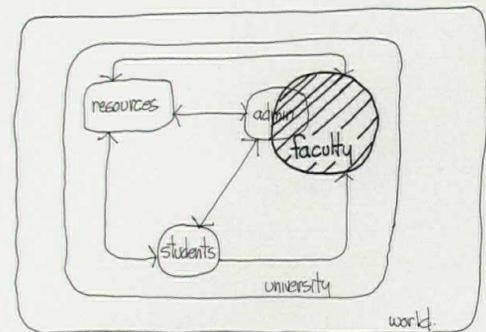


diagram 13

boundary is always clear, even though the role (to teach) is not.

Being a member of the faculty affords the individual a great deal of flexibility. For example, in addition to those that do nothing but teach, we have those that do nothing. There are other combinations too: teachers who are part-time professionals, professionals who are part-time teachers, researchers who teach, etc.

The role of the faculty has gone through changes over the years. The early concept of the teacher was a master of technique. This tradition derived from the Beaux Arts educational style. Later came the belief that the faculty had some body of knowledge to share (current today). Contrasted to the latter is the conception of the faculty as a facilitator for certain kinds of experience.

The last model is more in keeping, perhaps with a school that seeks to educate rather than train. Through education, an individual is more or less prepared to ask questions. Through training an individual is prepared to provide answers. In our fast changing society, to be trained is to be chained.

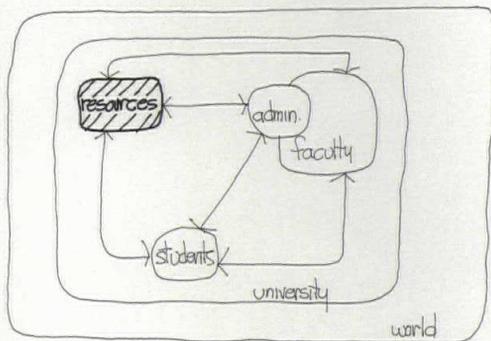


diagram 14

8. RESOURCE COMPONENT

Resource channels can be described as formal and informal. The former constitutes the legal support, in the form of salaries, facilities, supplies, and maintenance, established by the state of North Carolina. The latter support is extra-legal, that is the people, places and things that make up the community of Raleigh.

Clearly the role of resources is supportive; it is the vessel in which the system process gels. Formal resources are directly controlled by the administration. The faculty has a strong influence on how the resources are allocated. The students are permitted to use the formal resources, but their influence over the allocation, through school committees, is not very strong.

Resources of the School are bound to use within that system. The

administration exercises its duties of responsibility for the use of facilities and materials through the faculty. In turn, the controllers of the resources discriminate permitted users from non-permitted by qualification of membership in the Design School community. Users can designate to some degree how resources are spent, so that often projects that take place outside the School are enhanced by the backing of the School's resources.

9. ADMINISTRATIVE COMPONENT

The prominent feature of the administrative component is its regulatory function. The administration regulates the requests and allocations for resources, student inflow/outflow rate, faculty changes, and curriculum changes (the system process).

The administration is staffed from within the curricular departments of the School (the head of a department may also teach in that department), as well as from outside the School. To replace retirements or other departures the administrative component goes through much the same procedure as the faculty; one exception is the position of Dean which is not selected by decision from within the School, but rather appointed by the hierarchy of the University outside the School.

Administrative role expectancies are subtle and unwritten. Students feel the administration should involve them in decision making regarding school policy. Faculty expect support and reinforcement for the things they do with a minimum of interference.

Evaluation of the administration is difficult. There is no mechanism for review of administrative decisions. Complaints cannot be vocalized to any higher authority, since within the School there is none. Decisions that involve change often must be initiated by demonstrations, walkouts, and the like. General student body interest in self-government, however, has been minimal; this maybe because students in the Design School have never been faced with the opportunity of being involved politically in any community.

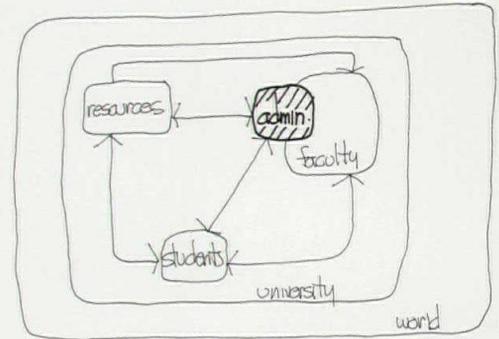


diagram 15

Students are still used to being told what to do. Life is easier that way.

10. STUDENT COMPONENT

Two channels feed the role of student. One keeps the number of individuals in the component fairly constant: as some students graduate or leave, new ones are admitted to take their place. This device keeps the system population homeostatic. The administration has direct on/off control over it. The other channel feeds information to the students. It includes all the news, actions, institutions, people, and events of the world.

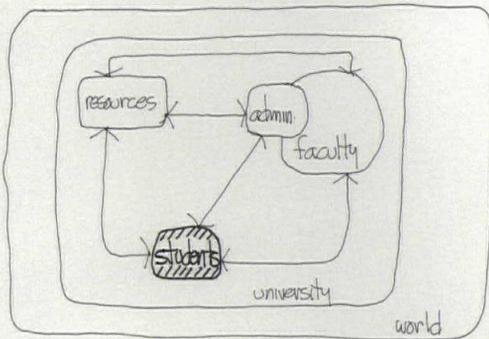


diagram 16

The student is the throughput of the system; that is, the unit that passes through and is acted upon by the system. The system defines a role for the throughput: individuals become students upon entering the system. The individual who enters the system comes with a life style and a set of beliefs already established. During his years in Design School, the experience of the School will alter both his life style and beliefs. His background determines his interests, and his interests determine what experiences he exposes himself to. These experiences, in turn, influence the development of old and new interests and the selection of new experiences. The experiences he chooses become his pattern through the School.

The student's pattern resembles a tree, in that, it has roots (background: economic, social, and geographic), a trunk, (experience with the School of Design itself) and branches (experiences beyond the School).

Students enter the system from different places: high school, military, business, and other universities. This makes for a collection of people that is colorful and diverse.

The system is homeostatic. It maintains its different parts by different mechanisms. Resources probably form the greatest check on expanding student population. The system does not overpopulate

or exceed its current ratio of resources to students, due to the belief that effectiveness in teaching would be reduced.

The role of the student is to learn, to move from the U level at entry, to the P level at graduation. *How* the student is to learn is the question that leads to changes of method. *What* the student is to learn is changing; consequently, P cannot be established by the system. It assumes a rough approximation and builds toward that end.

The system defines the student as anyone who is paying to take a course (i.e. engaged in the process of the system). Anyone in the system can *learn* but not everyone can be called a student. A faculty member in any capacity remains simply a faculty member. Rules of status prevent referring to a teacher as a student, or vice versa.

The role of student has expectancies associated with it. Administratively established (the North Carolina Legislature), the student must pay fees for his coursework. Traditionally established, the student must do *work* that is to be *turned in on time*. These are hard things to define in a systematic way.

The individual passing through the system has his own needs to be met. How he meets them, or attempts to meet them, becomes his pattern within the School.

Some students pass through the system and make very little deviation from the path the system provides. At the other extreme are students who must formulate their own program within the School or leave the program entirely to meet their needs. The student who self-actualizes (designs and accomplishes his own goal and method) is more likely to have his needs met than the student who does not think about his program. This is based on the assumption that every individual is different. If he looks at his own interests closely, he will find some need to pull away from the standard the School establishes. This is recognized to some extent by the "free elective" requirement in the curriculum, a possibility to

take coursework in an area outside his major.

Student dissatisfaction within the program might be hard to judge, that is amongst the students who don't drop or flunk out. With system and individual needs and goals congruent, one would expect little student dissatisfaction; yet, we know that congruence for everyone is not possible.

Although administratively difficult, it seems that rather than expecting the student to meet the system structure, the system should try to match the student's structure. This does not deny the need for the university program; in fact, it is quite necessary and satisfactory for some students. What is meant is that the School should not be unidirectional, but rather multidirectional.

The diagram portrays the student population and the approximate distribution of students according to their matched needs/mismatched needs. It illustrates that the majority of the students make few choices about their program and that a large number of these fail in some degree to match their needs. (diagram 17)

11. PATTERN

Each student's pattern, is analogous to a tree. Just as a tree has roots that support a trunk and branches, so too does a student's experience have root, trunk, and branches.

The accompanying model (diagram 18) maps the events related to the School of Design that form my pattern with the system. My own experience has deviated from the structured program the School provided. The deviation occurred while within the system (1: see "Shaw Educational Facilities Charette" in the *North Carolina Architect*, May/June, 1970) and while outside the system (2: see "East Orange School Design Center," in *Progressive Architecture*, February, 1972). The nature of the educational experience can also be primarily abstract or primarily concrete (see "Polk Youth

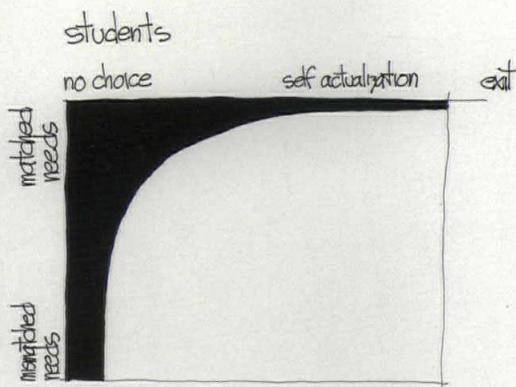


diagram 17

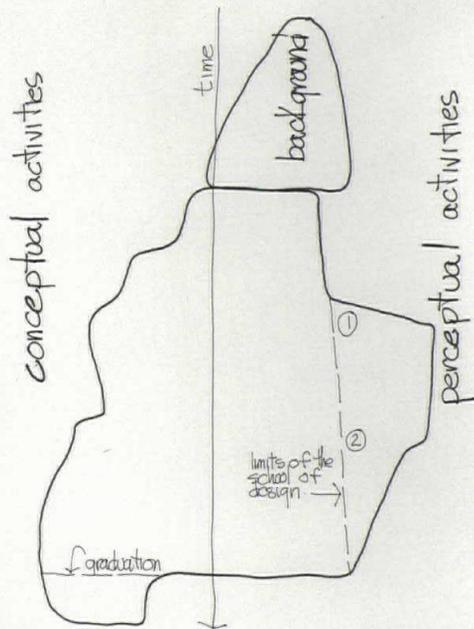


diagram 18

Center," *Community Development Group Newsletter*, Volume 1, No. 3, January, 1972).

Some students' trunks are very narrow, indicating they concentrate on just a few subjects while in school. Consequently, their branches are few and they become specialists within their field (**diagram 19**). Other students have built a broad trunk, reflecting a wide range of experiences. It is likely that their branches are many and lead in different directions. The graduate who has had many experiences may develop several further or one intensely. (**diagram 20**)

12. SOME COMMENTS

An interactive bond exists between the society and the School. The suprasystem (society), supplies the system with everything: input (students, faculty, and resources), purpose (positions for graduates) and feedback. This feedback mechanism, incidentally, is not formalized. The School does not actively attempt to discover its level of success, that is, the effectiveness of its graduates in their societal role.

Just a few years ago the link between society and the University was limited to the model the former provided for what it expected of the latter. From this model, the School tried to establish the operational meaning of its goal P. Today the School faces the challenge *to be relevant*; the School sees society as a learning experience and is becoming aware of its societal obligation.

The School is coming out of an educational tradition that emphasized tools. It is moving in a direction which senses that knowing how to solve a problem is only as important as knowing what the problem is.

This does not mean that "the School is not as good as it used to be". The Design School may, in fact, be every bit as good as it ever was. What needs to be understood about the School is that as the society

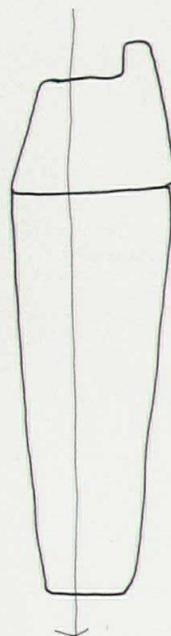


diagram 19

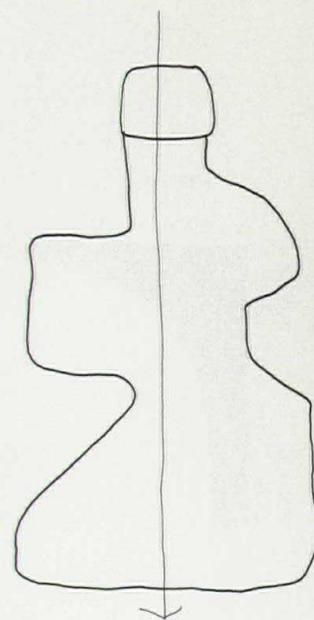


diagram 20

changes, so must the Design School. The system must adapt to re-balance with the suprasystem.

How does the School sense that society is changing, and what must it change to? Students speaking out, faculty taking on creative leadership, and administration encouraging diversity are the elements that absorb technological breakthroughs, social change, and political upheaval. If anything, the School must move closer to the source of these changes, perhaps even providing a leadership role itself.

What each student puts into the educational process and what he gets out of it is intensely personal. No systematic theoretical discussion can talk about personal feelings; yet, a systems description needs such a slant to give a full picture.

To break the constraints of high school is no easy task. I think the challenge became for me a realization that being graded had nothing to do with getting an education. We tasted new sensory delights, we sat in the park across from School and tried to watch the trees grow. No longer were we forced to study the teacher; instead, he pointed us to the world and said study it.

Design studio activity was an effort to come to an ever increasing awareness about the world, about problems and solutions. I felt frustrated by infundibular vision—I knew there were many aspects to any situation, but I was only aware of a few. That is okay for a parachutist (the only way is down) but design is an open, multi-variable activity. If it were a game it could be called *Priorities and Tradeoffs*.

Design studios tend to be conceptually and symbolically oriented so professional experience was quite a shock. I do not fault the university experience for its orientation; it is clear that nowhere else can one get that kind of experience. I think the Design School experience was attempting to get me to deal with myself, while the professional experience taught me a lot about implementation,

drudgery, hard work, and politics.

A lesson, or rather a theme, that seems to occur throughout School and the professional experience is that all things are part of a system. Having membership in a system, each part has an expected role to fill to maintain the balance of the system. This is as true for the student in the School of Design as it is for a building on a site: the object is determined by its inner process and outer context.

A realization from these last few years in and out of school has been the economic and political part that architects play on the world stage. The architect is merely a laborer in the construction process. His post is no more important than the ditch digger. The architect is, in fact, no more than a pawn. He can't problem solve, he can only complete a task. The problem has usually been "solved" before it gets to the architect—the client wants a building. If the architect were to deal with problems, he might not build at all; but building buildings is his bread and butter.

We, as emerging professionals, must become aware of the incongruities. We must question everything until we can set a better direction, and even then, we must question what we are doing. Coupled with this skepticism must be the ability and desire to build. If we fail to do this, if we do not even attempt to set things right, then we stand guilty with all the rest.

What is the School of Design? Little discussions about politics, empty coffee cups set on ledges, a shouted question about some deadline or other, late night charettes, girlfriends helping to color in the last boards.

It is the people that make the School of Design, not the School of Design that makes the people.

13. FOOTNOTES

1. Berrien, F. Kenneth, *General and Social Systems*, Rutgers University Press, New Brunswick, New Jersey, 1968, p. 14.
2. *School of Design Catalogue*, North Carolina State University, 1969-70.
3. Lazslo, Ervin, *System, Structure, and Experience*, Gordon & Breach Science Publishers, N.Y., 1969, p. 25.
4. Shogren/Stuart, Design 505 Course Outline, Fall 1971, School of Design, North Carolina State University, p. 3.

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