RICE UNIVERSITY

COMMUNICATION AS A VALUE FOR ARCHITECTURE

by

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The difficulty with which people come together and the resultant lack of human inter-relatedness formulates one of the most serious problems facing mankind today. I see this problem manifested as loneliness in individuals, as misunderstanding and apathy between individuals and groups, and ultimately as gross inefficiency and a hindrance to the achievement of a better life for all men.

The causes of the problem undoubtedly go deeper than architecture. But, I see the problem only compounded rather than lessened by our created environment. Architecture can create an atmosphere more conducive to human interaction, more kindly toward the forms of association, and more in the nature of gratifying rather than frustrating human needs.

The testing grounds for my thesis will be a university campus. A controlled environment where people come together at a time in their lives and for the purposes that can be most enhanced by increased interaction. By increasing the opportunity and the facility with which people can come together, student with student, student with faculty, faculty with administration, and so on ... I believe a situation could arise which would be richer indeed by virtue of the more intense relationships and act to the advantage of everyone involved.

William Widdowson

Architecture 600
PROLOGUE
"... if we would know why certain things are as they are in our disheartening architecture, we must look to the people; for our buildings, as a whole, are but a huge screen behind which are our people as a whole ...

"Therefore, by this light, the critical study of architecture becomes not merely the direct study of an art - for that is but a minor phase of a great phenomenon - but, in extenso, a study of the social conditions producing it; the study of a newly shaping type of civilization. By this light the study of architecture becomes naturally and logically a branch of social science, and we must bend our facilities to this bow if we would reach the mark." (1)

Louis H. Sullivan, Architect
Chicago; 1900
"All architects recognize the fact that people react to their buildings. All architects realize that people respond to the environment that their buildings provide. What is perhaps not so clear is the nature of these reactions and responses. I would like to suggest that the nature of human response to architecture remains the most interesting thing about architecture, the most important, the most mysterious, the least understood." (2)

Donald Barthelme, Architect
Houston, 1962
The similarity of the message in the statements on the two preceding pages indicates the progress we have made toward establishing a body of knowledge about the nature of the relationship between man and his created environment in the more than sixty years spanned by the statements. We are still asking the question.

During the many centuries that man has aspired toward architecture, a great deal of knowledge has been established about the physical nature of the contents of our environment. As physical quantities, technological knowledge can tell us anything we wish to know about the nature of these contents: from the atomic weights of their constituent elements to how the object will react when turned loose from a man's grasp from atop a tower in Pisa.

We know what a brick is; what does a brick mean? Implicit in the question, of course, is: what does a brick mean to a man? Whenever the vague, unpredictable quantity, man, is introduced into a situation, hope for a finite answer wanes. Indeed, hope waned regarding questions involving physical matter until there existed a way of thinking about physical matter.
Hope will continue to wane concerning human questions until we have a way of thinking about human beings as consistent with their nature as Particle Theory is to the nature of matter.

In order to understand anything one must have a way. A way of talking about it. A way of thinking about it. A way of relating it to himself and to the world. In order to see anything it must be in the light. The light of meaning. To comprehend meaning is to understand. To "do" without understanding is just that.

Darkness.

Communication, as an ideal of man's existence, is for me a way. The glow of understanding a little about communication lights other activities of man; for me communication lights architecture. It gives architecture meaning. It is a value of architecture.

Values are always expressed in terms of ideals, and manifested in terms of real events and things. One of the ways in which the ideal communication is manifested is in conversation. Communication is the value of conversation; conversation is a meaningful activity of man be-
cause it evidences the possibility of communication.

Conversation is not the only activity of man, just as communication is not his only ideal. I suggest, however, that conversation is one of the most important activities that man engages in. In answer to disagreement I can only say that I do not offer the only way. If you see man differently than I, your way will necessarily differ from mine. Your way is indicative of your evaluation of the nature of man just as my way is an undeniable confession of what I believe to be the nature of man.

Of major importance to my thesis is how I am doing it. I do not offer only my conclusions for your evaluation, more importantly, I also offer my method. My conclusions are drawn on the basis of my beginning premise, my notion of the nature of man. My conclusions are my own, and anyone else's who may, coincidentally, share my premise. I have no intention of forcing my premise on you. I am not touting communication, as much as I am displaying the necessity for understanding in order to "do" and the indispensability of having a way in order to understand.
I offer communication as a way of thinking about people, as a way of seeing how and why people act as they do in relation with their environment. Communication is intended to be used as a tool by the architect, or by any other person engaged in the activity of providing functional and meaningful shelter for the activities of people.

It is further my intention that this paper be approached in the spirit in which it is written: universal in its scope and humanistic in its implications.
NOTES ON THE PROLOGUE


2. Donald Bartholome, from an unpublished paper delivered to the Rice University Design Fete, June, 1962.
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COMMUNICATION AS A VALUE FOR SOCIETY

A.

Communication and the Existence of Society

1. Dewey on communication

To the student of the nature of man's existence, problems of communication appear, at first sight, to be of only secondary concern. Indeed, John Dewey rather harshly chided his colleagues, past and contemporary, because although they had thoroughly investigated many topics they had "discoursed little about discourse itself." (1) As a result of this lack of proper interest, the function of communication has long been underestimated as an element of importance bearing on questions of man's existence.

"Epiphenomenon" is the word I have seen used by one writer (2) in describing the role to which communication is usually assigned. Only in recent years has investigation shown this phenomenon in its true light as the ideal that changed "dumb creatures into thinking and knowing animals, and created the realm of meanings." (3)

In Chapter V of "Experience and Nature", Dewey writes:
"Of all affairs, communication is the most wonderful. That things should be able to pass from the plane of external pushing and pulling to that of revealing themselves to man, and thereby to themselves; and that the fruit of communication should be participation, sharing, is a wonder by the side of which transubstantiation pales."

Dewey goes further by saying that all experience, knowledge, and awareness of existence is based on communication. He also describes communication as the link that "joins the gap between existence and essence" (6) and that the failure to recognize communication as a form of natural interaction creates the gap between an object and its meaning.

In this light then, communication is instrumental in transforming the world of sense impression, common to man and animal alike, into a mental world of ideas and meanings, common only to man. The process of naming, however, must precede the transformation. The name provides a vehicle which allows an event to transcend its life as an event. When an event is named it begins a double life. It becomes an object with meaning, and also achieves an existence freed
from accidental or temporal occurrence. In addition to their original existences, events become the subjects of ideal experimentation; their meanings can be acted upon by the imagination, changed to conform to infinite varieties of pattern and sequence, and in this mental process, which is thought, exhibit the possibility of becoming instrumental in the creation of new thoughts, new ideas, new events. The process of naming must precede the intellectual tasks of comprehension and conception.
2. Communication and human relations

Although people act on their own, and manage, exploit, coerce, and kill each other without announcing any intention; interpersonal communication does not only refer to verbal, explicit transmission of messages. A full concept of interpersonal communication recognizes all the processes by which one person influences another. It also recognizes that men come together, "not in response to some gregarious impulse comparable with the sexual instinct, but for the more pragmatic and intelligible reason that they are useful to one another." (6) This theory of Robert E. Park is tempered a bit, however, when he later adds that, "greater intimacy inevitably brings with it a more profound understanding, the result of which is to humanize social relations and to substitute a moral order for one that is fundamentally symbiotic rather than social." (7)

Raw nature, untamed, can support man only in small numbers, and inadequately at best. Man must change nature to maintain his own existence. To make nature serve man is one of the aims of civilization. Only through concerted action, banding together in co-operative effort, has man been able to bring himself to the state
of achievement over nature that his present civilization represents. Social action enabled man to conquer nature to the extent that he has, and as such, symbolizes his desire for existence. The human being's need for social action is the moving force behind his compulsion to master the tools of communication. Without these tools his ability to gather information is imperiled and the satisfaction of life needs is threatened.

Another consideration of the full concept of interpersonal communication is the proposition that man's superiority within the group is "determined in the first instance by the skillful use of his means of communication; to receive information and to be able to give that which others need, to possess a workable concept of events, and to act accordingly, marks the successful man." (8)

To be interested in communication, therefore, becomes synonymous with assuming a definite position with a viewpoint and interests focusing on human relations as well as the relation that man has with his environment. Every person, plant, animal, and object emits signals which, through perception, carry a message to the receiver and hence may alter him. We can never abstain
from communicating; as human beings and as members of society we are biologically condemned to communicate. Our sense organs are continually on the alert and are recording the perceptions; likewise, since our effector organs are never at rest, we are, at the same time, continually transmitting messages for the perception of the outside world.
3. Communication and society

Things happen when people gather. By virtue of their feelings and thoughts, people act and react to one another and continue to do so even after they have separated. "They themselves perceive their own actions, and other persons who are present can likewise observe what takes place. Sensory impressions received and actions undertaken are registered; they leave some traces within the organism, and as a result of such experiences people's views of themselves and of each other may be confirmed, altered, or radically modified." (9) Many such experiences occurring through the years and piling up mental contents formulate a person's character. These contacts and impressions from experience with the self and with others, as well as with the environment, are retained for future reference, and play an active role in determining how events in the future will be managed.

Communication functions to maintain the unity and integrity of the social group in its two dimensions - space and time. A tradition and a history are fundamental to every social group, except the most transient, and communication is the means by which this tradition is
passed on, not only from day to day, but from generation to generation. In this way common enterprises and social institutions are maintained.
Communication and the Future of Society

1. Mankind's problem

In the face of certain danger the alarmed animal has the choice of fighting, fleeing, or playing dead. It is the unique privilege of man that he has an additional opportunity; constructive action designed to avoid or to eliminate the source of danger. It is remarkable how close to the edge of destruction humanity will allow evils to push it, and how much suffering we will tolerate before we will move to free ourselves from an incubus; pest, famine, anarchy, superstition, mass annihilation.

Much of what is common sense today was the pioneer thought of the Renaissance leaders. The concepts of Galileo, Copernicus, and Newton operate in our daily activities and control our decision-making processes. The "Copernican Revolution" has not run its course, but has led us to greater technological achievements. Egged on by our growing demands, these achievements have utterly transformed the face of life in every quarter. Domestic, economic, political, and social
institutions have changed beyond recognition. These changes, as all progressive changes do, have brought their own problems with them; wars are more monstrous; our time honored social unit, the family, is disintegrating, and, a widespread need for religious rescue which arises after a half century of disaster and destruction. Loss of faith, loss of mental security, and a broken morale; these are the characteristics of our time.

Faced with these sudden and staggering changes in the condition of life - sparked by physical science - we suddenly realize that we have no science except physics and that we can plan and control nothing but machines.

Humanity is on the brink of disaster for the lack of social concepts to match its physical powers.
2. Education and the future of society

Defensive, or stopgap, action, reeling backward in futile attempt to deal with any potential new evil is the way of the weary or unimaginative mind. Time does not stand still and certainly refuses to be stemmed in its flow by old activities. Any potential new evil should not be accepted as established fact; it is a problem and, as such, is the challenge to intellectual man to rise and strike a positive blow in an effort to eliminate the source of danger and to act to prevent its recurrence.

An excerpt from a statement by Brook Chisholm, former Director-General of the World Health Organization indicates a direction:

"Man must learn to live with himself and to get along with others in the world. He must reshape his entire pattern of thinking and behavior in order to build up a completely new system of human relationships adjusted to a changed world ... Equal concern for all people, for the whole human race, is not within
the tradition into which any of us was born, so it has no conscience value. It has to be learned intellectually against the pressures of many and limiting loyalties which have strong emotional support." (10)

Director-General Chisholm is presenting an idea seen more and more often in the literature of great minds. Susanne K. Langer was appealing to a similar need when she wrote, "Education is one of our urgent concerns today, but there will be no intellectual pioneering until we reform our whole educational system and aim it squarely at the cultivation of reason, not viewed as a device for getting food or evading foes, but as a precision instrument for a high imagination to work with." (11)

In a foreword to a science journal issue on "Communication and Social Action" (12), I came upon this short paragraph in which the editor very nicely summed up this problem of the future of society and the role that communication plays therein:
"In the past, communication has with difficulty kept pace with the growing demands made upon it by social evolution. The resulting chronic maladjustment has now reached the dimension of a crisis. Despite the remarkable contributions of science to the rapid transmission of intelligence and the wide dissemination of information and appeal, it is a fair question whether modern man will succeed in understanding his world quickly enough to escape disaster. His struggle to understand has become a race between communication and catastrophe." (13)

These reflections do not solve the problems of our lagging social concepts, but do, I believe, help in establishing the point that education is the most important factor determining the future of society. The relationship between communication and education will be discussed more fully in Part II.
NOTES ON PART I

4. Ibid., p. 166.
5. Ibid., p. 167
7. Ibid., p. 168
9. Ibid., p. 6
13. Ibid., foreword.
PART II
CONVERSATION AS A VALUE FOR THE HIGHER LEARNING

My purpose in Part I was to establish, in a general way, communication as a value for society by presenting it as the very means by which society exists and to indicate the importance of education to the future of society.

Rather than to expect my arguments to stand as generalities, I offer a university campus as a demonstration of the general concept of society and conversation as illustrative of the general concept of communication.

A.

The Nature of Conversation

1. Dewey on conversation

"Nature, Communication, and Meaning", (1) is Dewey's definitive discussion on communication. In his discussion of the nature of the relationship between society and communication he begins by saying that when communication takes place, "all natural events are subject to reconsideration and revision: they are readapted to meet the requirements of conversation, whether it be public discourse or that preliminary discourse termed thinking." The requirements of conversation are, above all, exper-
mentation with ideas and with the ends of action, because nailing through symbols makes the "inner experimentation - which is thought -" possible. For where communication exists, "things in acquiring meaning thereby acquire representatives, signs, surrogates, and implicates, which are infinitely more amenable to management, more permanent and more accommodating than events in their first state." (2)

The important implication here is that the mind exists because of the word, rather than the reverse. We can hold the internal conversations, which are thought, only because we have discoursed outside of ourselves with others. If we had never talked with others, we should never be able to talk with our own other; soliloquy is the product of conversing with others. "Through speech a person dramatically identifies himself with potential acts and deeds; he plays many roles, not in successive stages of life but in contemporaneously enacted drama. Thus mind emerges." (3)

Conversation is basic to all knowledge, to all reason, and to all analysis. That which is not said cannot be determined to be true or false. Knowledge is bound up with verification and confirmation, and those in turn
with communication. All reason is, in the last analysis, discourse. The possibility of communication is a condition of consciousness.
2. Duncan's theory of equality and conversation

Beginning a discussion on "Hierarchy and Equality" in his book, "Communication and Social Order", Hugh Duncan states: "We do not discuss with superiors; we follow their commands. We do not converse with inferiors; we tell them what to do." (4) Implicit in this statement, then, is that there must be more to social hierarchy than the superiority and inferiority that so much of social theory deals with.

It is Duncan's contention that equality is basic to all forms of conversation "because it is only when we talk freely and openly...that we really converse and thus create what so many students of society have called the 'characteristic' human act." (5)

Within even the most stratified, or hierarchal, social order there must be moments of equality. Each man talking back to the other is the essence of conversation. In dialogue with another we do not establish what we mean and then say it, if we do, it is not conversation but sermonizing, pontificating, or proclamation; superiors communicate to inferiors by these modes. Likewise, we do not "petition a favor, as inferiors do when they
address a superior." People converse in dialogue to find out what each means. One talks to another in order to receive his response; only through the response of the other can a person determine what he, himself, means.

"The 'I' becomes an 'I' through communication with a 'You' which, internalized, becomes a 'Me'." (6) It is plain from this concept of conversation that many people rarely, if ever, actually enter into conversation.

The efficient functioning of society depends on the maintenance of social order. Relationships between equals are as necessary to the maintenance of social order as are the relationships between superiors and inferiors; without equality there can be no conversation.
3. The affective function of language

The affective function of language is to arouse emotions and to induce behavior. The conveying of information is of such practical importance that we may be tempted to regard this communication of factual knowledge as the primary function of language and to regard its affective use as unimportant or even as an impediment to its proper use.

In the process of ordinary conversation we are not merely conveying information to one another. We are also implying and communicating attitudes, judgments, and feelings. "Failure to interpret such affective implications of ordinary speech would be a grave handicap in ordinary social intercourse." (7) Certainly irony and satire would suffer.

Because of the important role played by gesture in affective communication, situations which minimize face-to-face conversation also minimize affective communication. The effectiveness of communication is seriously hampered where there is no feedback - response evaluation and, hence, meaning depends on this factor. "Effective communication must be both factual and affective." (8)
The Function of the University in Society

Universities are institutions of instruction and institutions of research. The primary reason for their existence is not to be found, however, in either the mere imparting of knowledge to the student body or in the research opportunities offered to the faculty.

These two functions could both be performed more economically apart from the massive institutions in which they are presently housed. Books are inexpensive, and there is a long history of apprentice training. "So far as the mere imparting of information is concerned, no university has had any justification for existence since the popularization of printing in the fifteenth century." (9)

The university imparts knowledge, but it must do it imaginatively, if it is to do it well. The justification of the university lies in the fact that it maintains the bond between sagacious knowledge and youthful zest for life. It is the function of the university to bring these two powers together. Imagination is not to be separ-
rated from knowledge; indeed, imagination illuminates facts, gives them meaning. In this light "a fact is no longer a bare fact: it is invested with all the possibilities. It is no longer a burden to the memory; it is emerging as the poet of our dreams, and as the architect of our purposes." (10)

"The essential function of the university is to bring together, for the transmission of experience and impulse, the sages of the passing and the picked youths of the coming generation. By the extent and fullness with which they establish those social contacts, and thus transmit the wave of cumulative experience and idealistic impulse - the real sources of moral and intellectual progress - the universities are to be judged." (11)
C.

Conversation and the Function of the University

The university is a community within a community, and as such is characterized by a wide variety of types of relationships. Most important to fulfilling the highest functions of the university, however, are the relationships between student, faculty, and administrator. It is to these three that I turn my attention for the purpose of presenting conversation as the highest value of a university interested in the conservation and extension of the domain of knowledge.

1. Student to student relations

In order of importance, the major relations of the university student on campus will be with his fellow students, the faculty, and various administrators. I put the student to student relation first because of the importance of equality to conversation - and barriers to a student finding equals among his fellow students are fewer than exist in the other groups mentioned.

It is in relation with his fellows that a university student is most likely to learn the most about himself,
and because of the intensity of these relationships, compared to the others offered on the campus, the effect on the forming and altering of perceptual habits is very great indeed.

In a foreword to "Student Society and Student Culture", Part IV of the encyclopedic "The American College", editor Nevitt Sanford wrote that: "... studies reported in this part, leave no doubt that what students learn in college is determined in very large measure by their fellow students or, more precisely, by the norms of behavior, attitudes, and values that prevail in the peer group to which each student must belong." (12) Further on in the chapter, Theodore H. Newcomb, writing on "Student Peer-Group Influence", said: "... that students' living arrangements provide the major single source of daily contact." (13)

In a paper entitled: "Personality and Interpersonal Relations in the College Classroom", also in "The American College", Joseph Katz wrote: "Teachers, of course, do not do the only teaching on our college campuses or even the main part of it." (14) His implication becomes clear when he refers to the need for more detailed study into the processes by which students
teach themselves and each other in and out of the class-
room.
2. Student-faculty relations

When student and faculty come together, whether it be in the classroom or in a less formal context, the spoken word, in dialogue, appears to be the mode of communication most conducive to achieving the higher purposes of the institution. The value of the lecture situation, even when it comes to one man imparting a body of information to a large group, is presently under attack. Findings from the studies referred to in "The American College" indicate that students learn factual material more efficiently (faster and more completely) from the printed page than they do from the lecture room.

The personality of the individual faculty member, specifically, his attitude toward the students and his enthusiasm for his discipline, is indicated as being the most important influence in the student-faculty relationship. Joseph Katz, in the same paper referred to above mentioned that: "It is frequently held that a teacher's enthusiasm is a major, if not the major, factor in arousing the enthusiasm of the students. Even apparent exceptions seem to confirm this rule....It is not uncommon for a student to remember a teacher well, but to be mistaken about the subject matter taught." (15)
Katz hits directly at the heart of the seriousness of the problem by observing: "A most striking phenomenon is the underdevelopment of direct communication between class and teacher.... The establishment of more conscious and direct channels of communication, and creating the atmosphere for such communication, would seem to be beneficial for teachers and students alike." (16)
3. Student-administrator relations

Although I ranked the relationship of the administrator last among the three major relationships of the college student on campus, I mean more to indicate the importance of the other two rather than to demean the influence of the administrator on the student. My point would be again to suggest the importance of some face-to-face relationship and to imply that the situation would be improved all around by such an undertaking.

I can quote from no other authority than myself when I make the statement that, from the point of view of the student, the administrator is the least understood of all the people on the campus. This is extremely unfortunate for the whole institution because the administrator, being obviously a man of stature and ability, could serve an important role in guiding the ways and the aspirations of the student body in a more direct fashion than is now the rule. The need of the student for mature identifications is clearly indicated by the readiness with which the student chooses a faculty member for a model.
4. Other relations considered

I have considered only three of the nine possible relationships between the three groups selected. I selected the ones dealing with the student because I believe they represent the most important relationships in terms of the highest goals of an institution of higher learning. Of the relationships that I have not mentioned, any one, of course, represents a relationship of vital importance to a university. Whichever examples I choose to expand, even if I treated them all, the only suggestion that I would wish to make is that of all the possible ways for these people to communicate, conversation is the best.

Within a large institution, the strict maintenance of face-to-face communication becomes increasingly difficult. The point remains the same: wherever a means of communication is resorted to which offers benefits of any less value than those offered by face-to-face communication, the highest goals of the university are sacrificed. The lecture situation sacrifices the benefits of two-way communication for the expedience of one-way communication, just as surely as a book does.
5. Conclusion

Alfred North Whitehead, writing on universities in "The Aims of Education", clearly makes the point that interaction between the groups of the university is of vital importance to the development and maintenance of these groups as assets to the institution. Of the researchers, he says, "... bring them into intellectual sympathy with the young, at the most eager, imaginative period of life. Make the researchers explain themselves to the active minds, plastic and with the world before them." And of the students, he writes, "... crown their period of intellectual acquisition by some contact with minds gifted with the experience of intellectual adventure." (17)

I submit then, that conversation is the activity most valuable to fulfilling the highest goals of a university. The atmosphere of the spoken word, in dialogue, face-to-face dialectical conversation, is the highest value toward which an institution of higher learning can aspire, and any situation or any activity which acts to suppress conversation, in any degree, acts to the detriment of the development of reason and the effective spread of knowledge.
NOTES ON PART II

Architecture, in its highest sense, is the proper shelter for man's activities. Proper shelter is shelter befitting the essence of the activity in question, as opposed to shelter which merely allows the activity to take place. Activity, performed in spite of, rather than because of, the environment, is activity, at best, only tolerated. Architecture is an indicator of what the authority responsible for a building considered to be the essence of the activity meant to take place in a particular building, and as such, represents that authority's attitude toward what is the ultimate or intrinsic nature of man.

Inherent in Louis H. Sullivan's statement that: "... our buildings, as a whole, are but a screen behind which are our people as a whole ..." (1) is an idea which he expressed in another place more fully as:
"Every building you see is the image of a man you do not see. The man is the reality, the building its offspring. The brick, stones, steel, and what-not came into place in response to an impulse; and the cause at work behind that impulse was mental, not physical: the impulse came from the man. Now if the mind of that man has departed from the normal and is more or less perverted, more or less degenerate, so will the building, which is his image, be more or less perverted or degenerate ... for criticism look through the affected building, to the affected mind, its parent, and through the affected mind, to the social fabric of which it is a minute fibre - the critical study of architecture then becomes a study of the social conditions producing it." (2)

Sullivan believed that a building represented an act, and that such an act revealed the man and the society behind it. "We read that which cannot escape our analysis, for
it is indelibly fixed in the building, " (3) the mind, nature, and ethics of the individual and people, revealed more conclusively and unerringly than in any statement.

Architecture stands as the symbol of the understanding, knowledge, and sympathy of the architect and of all society with the intrinsic nature of man; regardless of the quality of that understanding, knowledge, or sympathy. Victor Hugo once observed:

"During the past six thousand years of the world, architecture was the great handwriting of the human race. Not only every religious symbol, but every human thought has its pages and monuments in this great book." (4)
2. Architecture as art

Dewey places the limits that define art at the routine, at one extreme, and at capricious impulse at the other. In "Nature and Experience" he writes: "Routine exemplifies the uniformities and the recurrences of nature, caprice expresses its inchoate initiations and deviations. Each in isolation is unnatural as well as inartistic, for nature is an intersection of spontaneity and necessity, the regular and the novel, the finished and the beginning." (5) Only in art do we find activity which is simultaneously both, rather than in alternation or displacement. The essence of art is that it unifies the possible with the real, the instrumental with the consummatory.

In "Art as Experience" Dewey says: "Art has been the means of keeping alive the sense of purposes that out-run evidence and of meanings that transcend indurated habit." (6) To do this art experiments in forms. The audience of art - society - needs the products of this experimentation for the possibilities of action which art presents. Without these possibilities, social action, necessary to sustaining life in new, novel, and emergent kinds of experience, is impossible. Architecture, by unifying the possible with the real,
creates an environment for possible human action not to be found in rule or precept.

Dewey makes the moment of understanding, of the consummatory moment in art experience, characteristic of the way in which future events invest the present, as well as the past, with meaning. The consummatory nature of art, for Dewey, is that property of presenting completed acts, acts as ideal value expressions. It is Dewey's contention that the proper study of man is communication, and the representative example to be studied in communication is art. "For if art is the depiction of possibilities of action, and we cannot know the meaning of an act until we know the assumed end of the act, then only in art can we study the ends of acts." (7) Thus Dewey raises the study of art to a central position in the social studies.

Architecture, as an art form, is not an end in itself, but is always undertaken for the purpose of presenting the ends of acts. It is through these higher ends that architecture achieves its meaning, or a purpose beyond its own existence. The meaning of architecture, and of all art, is in prophesying the ends of the future. This clarifies present actions by providing the initial aware-
ness of a better way of life.

Architecture then, as the art of creating environment, is the union between the fulfilling of man's needs for shelter and his need for values. The union of the actual with the possible. These elements determine how man will act today in aspiring toward the ideals of the future.
B.

The Creative Nature of Environment

In that environment is a determinant of present action, it is acting in an instrumental sense; actively giving tendency or impulse to present action. In the sense that environment provides the goals for that action, that is, gives it direction, it is acting in a generative sense. Those two aspects cannot be completely separated in artistically created spatial environment. Indeed, they are the factors which decide, by the degree of unity they exhibit, the artistic quality of the environment. For the sake of clarity, however, I will treat them separately in discussing their relation to environment.

1. Environment as determinant form

Form determines experience, that is, it gives direction or tendency to action, thereby setting limits to experience. By his control over the design of the spaces in which people relate, the architect determines how people will relate. Activities of human relation can sometimes take place in spite of, rather than because of, the spatial environment, but the message is plain enough:
there is a vast difference between environment which merely allows action and one that promotes and is sympathetic with a particular activity. In speaking of this deterministic nature of environment, Hugh Duncan, in his book, "Communication and Social Order", writes:

"We address each other in scenes designed for some kind of effect, we play a certain role as a speaker, and we try to achieve certain ends. How address is staged determines what can be said. Informal seminars cannot be conducted in vast auditoriums. Thoughtful conversation is impossible in a crowded railway station, a speeding car, or a noisy restaurant. The space created by the architect creates tones, atmospheres, and moods, just as it determines how an audience enters, waits, moves about, applauds, and leaves." (8)

Duncan finishes off this particular point by repeating a line of Sir Winston Churchill's: "We shape our buildings
and our buildings shape us." An extremely perspicacious insight for a politician, I must say.

Duncan again picks up the thread of environmental determinism in a later discussion on the communication of hierarchy, where he adds:

"Since architecture creates the spatial environment, the scene for social staging, its forms offer many clues to the hierarchal patterns of the community. The artists' attitude toward the general public may not coincide with that of the politician, priest, soldier, or educator, but since the artist creates the forms by which we all express ourselves, his symbolic relationship with the audience is decisive." (9)
Environment, as art, offers possibilities of action by embodying values - the ends of action. The perception and acceptance of these values occurs within the course of action which aims at fulfilling them. These values stand as the ends-in-view necessary for directed action.

An end-in-view, however, is not just a remote and final goal to be achieved after a sufficiently great number of actions have been performed. The end-in-view is a plan which is contemporaneously operative in selecting and arranging these actions. The actions are means only as the end-in-view is actually implicit in them, forming them. These actions are, literally, the end in its present stage of realization. The end-in-view is present in each stage of action as the meaning of that action.

Environment invests present action with meaning, and in this sense it is generative: spatial form generating future action.
C.

Architecture and the University

In the case of the university the most noble function that an architect can perform is to successfully present, and thereby affirm, the highest goals of that institution. By doing so, all the activities of the university will gain increased and clarified meaning. The existing goals of the institution may lack the clarity required for effectiveness, and the function of the architect, though he may not necessarily esteem the institution, will nevertheless enable it by strict presentation of its goals.
NOTES ON PART III

COMMUNICATION AS A VALUE
FOR ARCHITECTURE

A.
Statement of Hypothesis

1. The arguments

The following are the basic arguments, condensed from the preceding text, upon which I base my hypothesis.

1. Society, to exist, must accept communication, in all its forms and meanings, as its highest value. To subordinate human interaction in any way to another activity is to ignore the essential form of society and to therefore endanger man's existence.

2. Society, to advance, must accept communication as its highest value. Soliloquy - mental experimentation - is the product of conversation with others. The possibility of communication is a condition of consciousness.

3. Conversation is the purest form of human interaction. To replace conversation by less personal means of interaction is to hinder and to therefore render less...
efficient man's social effectiveness and creative powers.

4. The universities, to fulfill their proper function, must accept discourse as their highest value. Only through the response of another can one find out what he, himself, means. All reason is discourse. To suppress conversation is to subordinate reason.

5. Environmental form determines present experience. How we relate, what can be said, and how we act is determined by the design of the spaces in which we perform.

6. Environmental form determines future experience. Architecture, as art, displays the ends of acts, which are the determining elements in how we organize our activities in the present in preparation for achieving future goals.
The hypothesis

The problems of man's fate and existence undoubtedly go far beyond the scope which architecture can be expected to effectively cope with alone. There is, however, an area in which architecture can act with extreme effectiveness. Even though we know very little about the nature of the relationship between man and his created environment, architecture stands as a strong and ready tool at the disposal of anyone who would wish to exert an influence on man and his course in the world.

Unfortunately, I see man's problems only compounded rather than properly handled and disposed of by our created environment.

I propose then, on the basis of the preceding arguments and the implicit principles, that architecture can create an environment more conducive to human interaction, more kindly toward the forms of sociation, and more in the nature of gratifying rather than frustrating human needs.
B.

Communication as a Value for Architecture

The task of the student is not to spin out speculative theories about economics, history, and philosophy, but to discover ways of thinking about how men act in a specific social context. We exist in a world of observable fact. "The facts are the observable forms of expression men use to communicate with one another as they act together to attain their desired ends." (1)

The concept of communication as a value for architecture is offered as a way of seeing how and why people act as they do in relation to their environment. The observable facts of architecture are buildings. It is the purpose of the architect to bring these buildings into being. Communication is meant as a useful tool for the architect in the practical situation of providing functional and meaningful environment for the activities of people; it is meant to serve as an operative value.

Communication, as a value, is not only descriptive, but analytic as well. Communication, in this sense,
is a means of not only illustrating man's activities, but is a means of defining them as well. It not only supplies us with the terms to express what men do, but is also a way of seeing why men do.

These definitions of how and why men act as they do provide the architect with information about the essence of man's activities. Information which allows him to proceed in his endeavor of creating functional and meaningful environment with the assurance that comes from true knowledge.
NOTES ON PART IV

CONCLUSION

A.
Undeveloped Area

1. In the general case

A great area over which the concepts set out in this paper could be applicable has been left undeveloped. The emphasis of illucidation has been, for the most part, directed at the architect. Communication, as a value, is, I suggest, meaningful to all creative people in all areas of endeavor in which the human being is involved as a design variable.

I cannot emphasize too strongly the universality of the concept. This breadth of scope is a direct function of the nature of communication and its relationship to man's existence. As the individual case varies, from engineer to lawyer, from building committee member to psychiatrist, the methods and areas of application change. But the basis of their way of thinking, definitively, about how and why people act as they do need not be varied, and indeed, should not be. Where many minds are involved, there should be a unity of the concepts of
the people responsible for the decisions which determine the form of the action. Where one mind is involved, the integrity of the effort depends upon the unity of the concepts of the many facets of that mind.
2. In the specific case

Just as the many problems involved in creating a proper environment for higher learning exceed the effective scope of the architect, the possible application of communication as a value will also exceed the scope of the examples I have used in this paper. The universal nature of the concept is evidenced by the necessary universal acceptance needed to have it work properly or completely.

An architect, enlightened with new and deeper knowledge about the people he must design for, is not at his effective best when he has to alter his forms to fit to the forms of others not so enlightened. Faculty offices designed for properly talking to students or colleagues serve small purpose in a situation that does not accept tutorials or recognize the value of extensive faculty-student interaction. Improved designs for small group discussions and seminar type classes have little use in an institution devoted to the lecture situation. Campus design that offers increased opportunity and impetus for informal conversation cannot cope with an absolutely rigid system of class scheduling and academic regimentation.
Where unity of concept does not exist, be it among the several or many members of a building committee, or within the personality of one man, the possibility of effective action is limited by the conflicts that exist; stalemating the committee on one hand, and binding the individual with the cords of indecision on the other.
D.
The Concluding Statement

"What I seek, and what surely we all seek, is a coherent conception of human existence, and an affirmation, as firm as the empirical facts will allow, of any values that give significance to our daily activities." (1)

A new architecture, one more oriented to the needs and activities of men, can emerge only from a deeper understanding of those needs and activities and what they mean. This will not happen automatically. In fact if the practice of architecture is turned in upon itself any more than at present, with no reference to the higher and deeper realities of human life and aspiration, it may ultimately become the scourge instead of the great benefactor of mankind.

As art, the new architecture would help usher in the society of tomorrow more quickly by integrating the behavior and the ideals of men. Architecture prophesies
and blesses new ideals of human conduct and makes them articulate, manifest. It defines and interprets the structure of society and of human life, it is the expression and the interpretation of man's destiny. It is the union of the possible with the actual.

Architecture which is unmindful of the pervasive importance of communication in all of our lives, denies the very essence of man's existence.

Man's interest is in progressively improving the status of his existence, and that improvement can come only through the knowledge of what and why he is about. As man gradually frees himself from the incubus of ignorance of the nature of his own being he will, I suggest, move naturally toward his highest ideals. I submit that communication is the keystone of man's existence; through the understanding of communication one can come to a "coherent conception of human existence".
NOTES ON PART V

A Specific Problem

As a demonstration of the principles presented in the text, I will exhibit some thoughts, in written and graphic form, toward the solution of a specific problem.

My primary purpose in presenting this demonstration is to exhibit a specific form designed to enhance education through increased interaction. The result is intended to be an atmosphere of the spoken word in which the common physical barriers to human interaction are broken down. My purposes, however, go beyond creating a neutral form which only has the negative aspects removed. This specific form, to be considered successful, must actually aid in promoting interaction; in the positive sense: to maximize the possibilities of interaction through architectural form.
General Design Concept

Since I am working in terms of human relations, my first decision is to establish which relations I wish to consider the most important to the problem. My decision, evident from the preceding text, is that the relationships among and between students and faculty are the most important.

In considering the problem in the light of trying to enhance human interaction, I have come upon what I suggest is the largest unexploited natural resource of the college campus: in general, casual activities, and getting from one place to another, in particular. Faculty and students have many common casual activities. By making the most of this activity - increasing interaction in the more casual activities - it is my contention that the more formal campus functions - lectures and class discussions - will turn into even more fruitful experiences for everyone involved, the function of the more formal activities will be clarified.

For my purposes, as designer of the campus environment, the casual activity of getting from one place to
another is of particular interest because of the greater contact with the environment that is involved. Students and faculty are continuously going to and from: office, classroom, commons, carrel or study place, rooms or home, meals, shelter, coffee, library, bookstore, and others.

It is my approach then, within the framework of the casual comings and goings, to create an atmosphere conducive to increased interaction and to thereby enhance the highest purposes of any university interested in spreading and preserving knowledge above all else.

From here on the approach divides into two branches. One to be concerned with the physical and temporal relationship of the facilities, the other with the atmosphere, or the tone of the places of intended interaction.
Temporal and Spatial Relationship of the Facilities

This branch of the design problem is involved more with the determinant function of form. The spatial relationship of the buildings and facilities will determine the circulation of the people as they move from one place to another.

By arranging the facilities in a layout in which the paths of the faculty and the students coincide or cross as often as possible, the possibilities of interaction will be greatly increased over a layout which is designed with the purpose of getting from one place to another in the most efficient manner.

The temporal relationship of the intended interactions, when they will happen, is also an important consideration. If the opportunity for conversation is available immediately after an interesting lecture, or after a stimulating discussion class, the topic of the class is more likely to be carried over as the topic of the casual conversation. For maintaining continuity of thought over into casual conversation spatial and temporal proximity is a necessity.
The Atmosphere of Interaction

With the physical relationship of the facilities controlling the circulation in such a way as to provide the maximum possibility for interaction, the problem of reinforcing and lubricating these interactions now arises. This branch of the problem, although mildly determinant, is essentially generative in nature. As the control of the traffic patterns is a concern for the "what" of the problem, the tone of the environment is a concern for the "how" of the problem - planning creates the possibilities of interaction, environmental design determines the style of the interaction.

In the simplest terms, the inclusion of places to sit - benches and walls - will most often be a sufficient catalyst to bring the possibilities created by the planning into fruition. Even these additions, however, must be handled with great care. These elements are not merely campus decorations; they must be handled in such a way as to really promote stopping, chatting, sitting. The tone of the environment should successfully encourage conversation, make it more attractive to sit and talk than to continue going where you started for, and to do so in an atmosphere of conversation-provoking experiences.
The Specific Form

The following drawings are an illustration of the application of the design principles and techniques of the preceding text toward the solution of a specific educational building type.

The problem I have in mind is to design a building to house an academic department of a university. It can be thought of as an addition to an existing institution or as a part of the development of a new campus plan.

Basically, the building is intended to provide the following facilities:

- classrooms,
- lecture rooms,
- seminar rooms,
- faculty offices,
- administrative offices,
- departmental library,
- laboratories,
- study rooms,
- commons spaces,
- lounge space, and
- circulation.
The building is specifically devoted to three types of use:

1. By undergraduate students; coming and going to and from classes in this and other departments. Also students from other majors coming to attend lectures and elective courses. These students will be occupied for the most part in attending lectures and classes, and studying in the departmental library or study rooms.

2. By graduate students; in most cases, majors in the department. These students will be occupied mostly with attending seminars, working in the library, studying in the carrels or study rooms, and working with faculty. These students spend most of their time within the department.

3. By faculty; engaged in conducting lectures, discussion classes, seminars, and doing research in
the library, the laboratories, or in their offices. This group spends all of their time within the department.

Since the building is foremost an application of the principles and design techniques of the text it is more an ideogram than an actual building destined for construction. The building, as such then, represents the relation of the determinant and generative forms rather than a complete composite of fully designed systems. The intention is solely to demonstrate, by the use of architectural forms, an atmosphere conducive to increased interaction for the purpose of attaining the highest goals of education at this level.
THE ELEVATION
THE PLANS
on THIRD LEVEL DECK


PERIODICALS


