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A Perspective for the Design Department:  
Preliminary Suggestions for Reorienting the Department of Design  
at the University of California, Berkeley, June 6, 1968.

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A PERSPECTIVE FOR THE DESIGN DEPARTMENT

Today it is impossible to be a prophet regarding the development of design. Design has become a feature of a rapidly evolving society. It is at once instrument and object of change and its direction is difficult to anticipate without actively influencing it. However, for a modern department of design to achieve excellence and leadership in the field a perspective has to be found that is more productive than former ideas have been. I would like to make a few humble suggestions as to how I would like to see such a department develop that keeps up with the evolutionary trends of technology, society and culture.

Looking back into history, I think the revolutionary Bauhaus with its aim to find a new aesthetic that would unite the crafts with industrial production has exhausted its momentum. Ulm too has been successful in proposing a style, particularly in industrial design, but it has not lived up to its standards. It failed to amalgamate the scientific and aesthetic components of design and withdrew to the belief in technological determinism. Similarly the Institute of Design in Chicago has lost much of its initial excitement. In all three cases, ideas that were progressive at their time were transformed into aesthetic commitments which in turn lost their original productivity. In all three cases, the aesthetic commitments were viable only within one generation. I realize that design processes are less susceptible to objectivity than other activities might be. But this cannot serve as an excuse to let dogmas reign supreme. I believe that

a modern department of design should avoid a priori aesthetic commitments without, however, rejecting a clear orientation.

To me, design is the creative link in a chain of purposive activities typically involving many individuals or social institutions and ultimately resulting in objects of social significance. It is always directed toward a change of an aspect of man's immediate environment and requires informed decision making and conscious reflection on the objectives to be achieved. The professional image of practicing designers thus rests on three fundamental abilities:

- (a) the ability to synthesize, i.e., the ability to be creative in the arrangement of objects and in the organization of ideas and to continuously probe into unexplored possibilities
- (b) the ability to analyze, i.e., the ability to generate relevant knowledge about his environment and to formulate practical problems
- (c) the ability to assume social responsibility, i.e., the ability to understand the meaning of certain social values, to evaluate the consequences of his creations in the light of them and to act accordingly.

Design extends the idea of an individual-centered art to that of a self-expression by a complex society including its means of production, its institutional arrangement and culture. Design transcends the idea of the crafts by removing the act of creation from those of production, marketing and consumption. Design is a modern profession with its own methods, knowledge and values.

In view of the rapidly changing industrialized society and in view of the strong innovative component of design university education in this field can do nothing better than to provide a stimulating intellectual climate for both faculty and students. The faculty is asked to administer

the storehouse of ideas and information about design processes, to teach and to do research. The students are asked to learn to acquire knowledge of their environments, to recognize the power and limitations of design methods and to challenge existing values and approaches. There are a large number of skills that designers acquire best on the job. A university does not justify its existence by the imprinting of habits, by the enforcing of aesthetic commitments or by the training for specialized jobs. It should spur experimentation and inquiry and facilitate the transmission of knowledge.

During my short visit at Berkeley, the College of Environmental Design gave the impression that it was a fascinating cooperation of faculty and students. The departments of architecture, of urban planning and of landscape architecture seem to have achieved a good balance between synthesis, analysis and social responsibility. However, the role of the department of design within the university seems highly uncertain and its working climate is not conducive to growth. The majority of its current faculty seems to assume an anti-intellectual attitude which is moreover mistakenly confused with an orientation towards art. The department has no recognizable direction. Let me suggest below an approach to design that seems to be a fruitful supplement to the other departments of the college and may indeed prove productive in the future.

The kind of objects which the college of environmental design currently considers important are all of long standing public concern and center around improving the physical conditions for living: buildings, cities, the landscape, etc., are studied or designed in view of their way of structuring the life spaces of people. But it is well recognized that the immediate human contact with those objects and the peculiar significance that is attached to their use makes non-physical qualities equally important.

Unfortunately, the history of western philosophy has defined those non-physical qualities in terms of aesthetic appreciation and considered them subjective, non-utilitarian and hence impossible to study objectively. This is all the more dissatisfactory as much of the designer's problems are concerned with those intangibles.

However, recent contributions to philosophy, to the social sciences and to linguistics seem to offer more appropriate categories and I wish that a reorientation of the design department would not bypass these important developments. The key to the approach that I am advocating is the recognition of the symbolic environment of man as an important condition of his existence. It is not too difficult to see that we live in an ocean of words, signs and symbols that are meaningful to us just as we live in a physical environment that satisfies our basic needs. It has been stated elsewhere that symbolic environments have their own parameters of evolution. Largely being the creation of man's collective existence they are presumably responsible for much of human history. Consciously or not, the designer of objects which embody ideas of social significance induces changes in that symbolic atmosphere regardless of whether the physical environment is actually altered. Hence, objects of design might then more adequately be regarded as the carriers of messages or as the vehicles of communication.

There is a large class of objects the primary function of which is indeed to provide the vehicles of social interaction and understanding. The case of the graphic arts, advertising, film, fashion and exhibition design is obvious. But I am thinking also of industrial design in which the communicative aspect of objects - the perceivable qualities that account for orientation, the visual feedback that makes manipulation possible, etc. - is often not recognized. Whenever people talk about the objects they see,

interpret them in the context of particular social situations and interact with each other through these objects, then they may be regarded as related to their use just as words are related to their meanings. They constitute a medium for certain social processes to take place. The designer of such objects is then presumably misguided when he focusses on their physical characteristics alone, he will have to be concerned with their sign qualities, with their place in a symbolic environment and with the social processes of communication they facilitate.

In view of the significance of these intangible qualities I would suggest that the department devote itself quite explicitly to the design of objects that primarily facilitate processes of communication, whether it be through the medium of ceramics, textile design or through film, whether it employs typography or non-verbal forms or whether cognitive or affective contents are the dominant features of the process. In suggesting such a focus as the most meaningful basis for the department I do not wish to imply that architects city planners and landscape designers are not concerned with the symbolic quality of buildings and their surroundings respectively. But it seems that the problems of design in these domains are such that the communication parameters can to some extent be ignored without significant loss. When this communicative aspect of objects is only one of many other design parameters, the department should be able to provide experts that are capable of cooperating with others in solving multidisciplinary problems. Such a designer could rest his judgement on a sound theoretical basis, would know his responsibilities and employ methods of his own discipline.

Let me give three reasons for suggesting this perspective for a modern design department: the first is philosophical, the second practical and

the third educational.

First, the communication approach is able to map aesthetic considerations onto the social situation through which they are explained. It relativizes judgements regarding beauty and perfection which have heretofore been regarded as absolute and opens up to inquiry the processes that account for them. The approach which I am advocating thus transcends the narrow approaches that have traditionally reigned supreme in design. It is conceptually richer and consequently more tolerant to differences in interpretation than the aesthetic approach can be. Its greater explanatory power broadens the scope of inquiry beyond the recently conceivable.

Second, more and more scholars agree that the world of symbols is perhaps more significant in determining man's behavior than heretofore recognized. More and more occupations develop that are directly or indirectly concerned with the manipulation of communication processes. And more and more social problems appear related to man's social interaction or the lack thereof. The problems of communication become increasingly prominent in our industrialized society. To find creative solutions to some of them is perhaps one of the most significant tasks of our time. To be sure, there are a large number of disciplines concerned with communication: journalism, public relations, communication engineering, psychoanalysis, group dynamics are only a few examples. But it is no exaggeration to say that there is hardly any institution that devotes itself to communication from the point of view of design (perhaps The Annenberg School is somewhat an exception).

Third, in the last few decades a body of knowledge about processes of communication and control is developing accumulatively and is increasingly being made available. It thus becomes important to organize such knowledge

and make it available to students. That is not to say that this knowledge is readily identifiable and applicable in the area of design. On the contrary, it has to be extracted from such disciplines as physiology, social psychology, psychiatry, marketing, mass communication research, linguistics, sociology, anthropology and cybernetics. It has to be synthesized and transformed so that it becomes feasible to teach it on the university level and has practical consequences in design. This surely requires an open-minded faculty with an interdisciplinary orientation.

The suggested perspective for the department will have to have practical consequences that are, among others, reflected in the priorities that are to be assigned to the problems for which a designer will be prepared to find solutions.

For example, I argued that design is a purposive activity. Consequently, the proposal for a traffic sign system which must be tested in real life situations should be assigned priority over a purely artistic arrangement of colors and shapes for which motivations are given post hoc.

I also argued that design involves many people and institutions and is removed from actual production. Consequently, I suggest that the design of visual or manipulative aids for teaching difficult subject matters is more important than the creation of an ingenious toy for the designer's own son.

I suggested that the designer's professional image represents a balance between three highly developed abilities: synthesis, analysis and social responsibility. A designer who aims at his best possible performance should therefore give preference, for example, to a creative exploration of the expressive possibilities of a new medium as opposed to filming just another



variation of a known theme. He should seek to develop an easily producible furniture system with combinatorially rich uses and leave the design of a single chain to a carpenter. He should assign priority to working on an effective display that brings negro children to college over the making of a poster that hangs merely in an art museum.

Finally I would hope that the alumni of such a department assume responsibilities for man's symbolic environment and the communication processes which are being manipulated or facilitated respectively. I therefore hope that they inquire into the communication channels through which the objects of design activities may acquire meaning, form habits, or stimulate emotional and intellectual responses. Such designers could base their decisions on relevant knowledge about an important aspect of man's environment and could cooperate with those who specialize in its other aspects.

I believe that the philosophical developments make it conceivable that the mounting social problems make it necessary and that the available knowledge make it feasible to move this approach into the center of a modern department of design. If such a department does not assume leadership in the suggested direction, another department would presumably do so.

## AREAS OF STUDY AND CURRICULA IN DESIGN

The catalogue of the College of Environmental Design as well as conversations with the faculty of its design department make it clear that this department has virtually no integrated curriculum. It is uncertain how the student is exposed to knowledge that will assure professional contributions. Let me take the seven study areas of the other departments in the college as a point of departure to discuss how courses of study in design might be organized into several curricula.

Design problems in a medium (corresponding to study area A, design problems). Without specializing in particular materials, I think the department should offer a variety of courses developing skills in and facilitating experimentation with a medium through which ideas can be expressed. This can be accomplished within the existing framework of studios in which the student should be familiarized with the technical and creative problems associated with such materials as ceramics, textile printing, metal work, graphic design including typography, industrial design, photography and film. To this set, other media may be added freely, faculty permitting. Although each design student should be required to work in one or more such studios, he should not do so at the expense of other study areas in design. In view of the changing technology, currently available materials can only exemplify problems in design.

Media technology (corresponding to study area C, structure and production). Creativity in a medium is limited by several important constraints of which technology is the most obvious: material characteristics and

available production technology determine which forms are possible. Parallel to work in the area of design problems, the department should offer a set of courses exposing the students to the techniques of construction and production associated with each medium as well as basic presentation techniques. Thus a student of graphic communication must become familiar with types of printing and ways of specifying the process, a student of industrial design has to look into engineering techniques in order to be able to have his creation realized just as a film maker needs to know about the camera, sound reproduction and projection facilities, etc.

Communication and control processes (corresponding to study area B, environmental control systems). In spite of the considerable variety of problems that a designer faces when manipulating a particular medium, there is a considerable unity however as to the properties of the environment he faces. The department should therefore have several interdisciplinary courses or seminars pertaining to the evolution of symbolic systems and theories of communication and control in the environment. These courses should develop the students' ability to analyze, comprehend and determine: sign systems, the "grammar" of particular media, forms of representation, storage and transmission of information, linear and circular communication processes, types of social interaction through objects of design, and the role of material resources in complex dynamic systems. This study area is intended to integrate and to provide the general frameworks for the following more specialized domains.

"Social and economic factors" (study area E) need a more detailed attention in a design curriculum. Three basic study areas may be distinguished under this general heading.

Message structures. This study area would represent a linguistic (syntactic and semantic) approach to the objects of design. Its scope ranges from symmetry to language and from visual expression to verbal content. It focuses on the structure of messages, forms of representation and of art abstracted from particular social-psychological situations.

Individual behavior. This study area elaborates on the psychological dimensions of design. Vision, perception and cognition on the one side and creativity and purposive behavior on the other are its central concern. Here knowledge of the interaction between individuals and design objects will be studied.

Social communication. This study area would accumulate and present sociological and anthropological theories of large scale communication processes which objects of design either facilitate or with which they interfere. This area thus includes the sociology of art, marketing, the study of folklore, social and cultural change as well as the role of institutionalized media of communication.

Methods of design and of research (corresponding to study area D, design theories and methods). Courses in this area of study should familiarize the student with two heretofore distinct methodologies of importance to designers. These are, first, methods of problem solving and decision making under uncertainty including the use of computers as aids to information processing. Second, methods of inquiry, i.e., methods of behavioral research such as the logic of observation, statistics and hypothesis testing, model construction and simulation. It should be mentioned that this as well as many of the subsequently mentioned study areas do not need to be developed by the design department alone. They pertain to other departments as well.

Design management (corresponding to study area F, administration and related professional studies). A practicing designer should be able not only to creatively modify his environment and take responsibility for such activities, he must also be prepared to survive as a professional and to successfully interact with the institutions concerned. The department should therefore provide its students with an overview of professional activities and responsibilities which they might wish to assume as designers. It should present an adequate picture of the organizational structure, institutional constraints, legal aspects of designer-client relationships, economic prerequisites of commercial design activities and should guide him to relevant courses in business administration.

History of design (corresponding to study area G, history of the environment). While the domain of this study area is sufficiently delineated by its name, it should be emphasized that creativity is often wasted because of insufficient knowledge of the history of the problems or their solutions. In presenting histories of art, of industrial design, of architecture and of communication technology the department should not only aim at an understanding of the underlying cultural processes but also help to channel creativity away from already exhausted approaches.

These seven or nine areas of study in communication oriented design should be subject to debate with other departments and revised accordingly. But the outline which reflects much of my experiences in the field may also be used to arrange specialized curricula that exhibit the necessary breadth. At this point it does not appear advisable to be too detailed as to which courses go into which of the curriculum options that the department should develop. It is possible, however, to consider the type of

students whose demands on education the department should satisfy.

(1) Undergraduates taking a minor in design and a major in a field outside the college of environmental design. Such students should be requested to enroll in a course that introduces the basic ideas and problems of design, subsequently or concurrently take part in studio work devoted to problems of design in a medium and choose complementary courses in any of the other study areas. Here the department can provide a service to other departments by enriching the breadth of their programs. Such a curriculum option also allows to recruit good students and help to get the basic ideas of design across disciplinary boundaries. Students starting out with this option should be enabled to become candidates for a degree in design.

(2) Candidates for a bachelor's degree in design. Students entering the program should be introduced to basic problems, typical solutions and methods of design and principles of communication. They should also be given an overview over the available study areas, approaches and future professional possibilities in environmental design. Preferably this initial course should be taught jointly by the departments of the college and emphasize the unity of design disciplines. Curriculum options leading to this degree should be coordinated with those of the other departments while including work in at least two studios, the complementary courses in structure and production and adequate exposure to the other study areas. Inasmuch as this curriculum is preparatory for both graduate study and a profession in environmental design, the department should specify more clearly than before breadth requirements in the natural sciences, the humanities and in

the social sciences that are conducive to the understanding of the links between society, communication technology and design activities.

(3) Candidates for a master's degree in design. The master's degree should certify a student's readiness to assume professional responsibilities. The ability to understand processes of communication in his environment, the ability to make creative use of available information in solving problems of design should be demonstrated by completing an advanced project. This project may either be a scholarly paper or the novel solution to a practical problem. For students with a B.A. in design this would require a further deepening into one of the study areas. Students with a B.A. from another department of the college would be advised to take additional courses in order to be able to undertake advanced work. Students with a B.A. in a field outside the college will require a more extensive preparation.

(4) Candidates for a Ph.D. in design. In the context of the university, a doctor of philosophy is a research degree and a certificate for academic excellency. A candidate is therefore expected not only to be a good designer but also to be able to reflect on this activity and inquire into its many facets with the aim of generating knowledge in the field. In addition to the requirements of the university, candidates for a Ph.D. should therefore demonstrate a familiarity with relevant theories, skill in handling research methods and present a contribution to knowledge in the field of communication design. It should be noted that the kind of work expected from such candidates probably requires close cooperation with the other departments in the college of environmental design and other departments of the university.

FACULTY AND FACILITIES

The proposed approach to design does not have a long tradition. Consequently it is difficult, if not impossible, to find faculty members that already are what their students should become. However, it is conceivable to compensate this lack by a collective effort. It is therefore important to create a climate of complex stimulation in which creativity develops at its best and of interdisciplinary cooperation in which relevant knowledge can be organized most effectively. Let me suggest five criterion according to which new faculty should be recruited.

(1) Teaching. Faculty should be interested in working with students, able to organize studio work, laboratory sessions and conduct seminars in creative and scholarly subjects related to communication and design.

(2) Creativity and (3) Research interests . Faculty should either be active in design or pursue own research. In either case faculty should be expected to contribute to the advancement of the field.

(4) Cooperation. Faculty should also be able to work together in teams and with colleges of other departments in the search for solutions that cannot be found by a single individual.

(5) Administration. A department grows best when organizational responsibilities are distributed among faculty members. The latter should therefore be willing to participate in the making of everyday administrative decisions.

These criteria merely suggest that a successful desing practice should not suffice as the sole qualification for an appointment. The ability to inquire into the nature of the problems and to ascertain the consequences of their solutions as well as the willingness to organize such knowledge



into an educational experience are of equal importance. Similarly, a good teacher should not be judged only by his popularity among students but also according to his potential contribution to the field of design either in writing or in terms of concrete manifestations of ideas, etc.

In order for a design department to be viable faculty members with such qualifications should feel obligated to teach or cooperate in teaching a set of more general and perhaps more standardized lower division courses as well as take responsibilities for more specialized upper division and graduate courses. The former refers particularly to introductory courses in the various study areas in design and work in studios and laboratory type courses. The latter refers to the teaching of courses in areas of the faculty members special interest or expertise or to the conducting of seminars centering around his ongoing research. In this way it is hoped that the department will build up and maintain a good intellectual climate in which faculty-student interaction directs the department in its search for new frontiers of knowledge in design.

Without attempting to prejudge the situation I got the impression that the majority of the current faculty meets only very few of the criteria above and that the prevailing intellectual climate is neither able to respond to current developments in design nor capable of directing such trends. The future of the department thus depends on the appointment of qualified individuals who would compensate for the current arts and crafts orientation and be willing to take the time and work with the "old guard." I do believe that faculty seminars, the teaching of joint courses and the cooperation in inquiry may help to create a community of open-minded designers and scholars of design. But in order to change the composition of the faculty several institutional changes must be made which I do not wish to discuss at this point.

As to subject matter, I would like to see (a) that new studio courses are offered which are devoted to solving design problems in a medium of a more recent origin and perhaps of greater social significance. These new studio courses may incorporate some features of the old. (b) It would be necessary to recruit faculty that is willing to systematically inquire into the arts, generate knowledge in the other study areas and teach research courses. Finally, it would be advisable (c) to establish links with the design professions outside the university which can best provide facilities to be utilized and experts to talk about professional matters and jobs for the graduates. But let me be more specific about the above:

(i) I think the work currently being done in graphics needs to be given more power by adding facilities for type setting, printing and half-tone reproduction. Complementary courses in media technology should emphasize typography and layout, advertising, visual essays, technical illustration as well as methods to ascertain their communicative success.

(ii) I would like to add a film workshop which, in turn, would strengthen the current work in still photography. My experiences in this domain suggest that facilities need not be too sophisticated to produce satisfactory results. Here emphasis should be placed on documentary film, photo essays and scientific photography as opposed to purely artistic self expression. Novel styles of presentation should be explored using multi-media techniques rather than single channels. I think I know some people that would be capable of directing such a studio.

(iii) I would like to see introduced an industrial design studio which emphasizes the design of objects that are (a) mass produced, (b) subject to direct manipulation and control and thus pore complex visual problems, and

are (c) of some social significance. This studio could perhaps be developed out of the current studios devoted to ceramics, metalwork and furniture design or at least give a sense of direction to those courses.

(iv) I would like to see developed a visual laboratory in which multi-media presentations can be tested, in which experiments regarding perception and affection of visual forms can be conducted and in which a variety of visual-optical phenomena can be demonstrated to students. Here, experiences with the Ames-demonstrations, with the testing devices developed by the Container Corporation of America and with recent recording and projection techniques may be utilized. It is hoped that industry can be interested in supporting such a laboratory.

(v) There should become available to students of design research and data processing facilities. These are needed to evaluate the results of experiments, to extract information from survey data, to compute optimal solutions to practical design problems, etc. A research laboratory that would familiarize the student with computational techniques of model construction, decision making and information handling is perhaps best conducted in close cooperation with other departments in the college. It does not need to be administered by the design department.

(vi) I have not mentioned several studio and lecture courses for which faculty is currently allocated. I do not have a definite opinion regarding their place in the department. There are exciting possibilities in the use of even such an old medium as glass and I feel that the elaboration on new materials for textiles is as desirable as anthropological approaches to costume design, jewelry, primitive art, etc., are respectable. However, I suggested above that the department should define its priorities according to the social significance of the problem and the complexity of creative

and analytical processes required for their solution. Consequently, not all of the current design topics deserve the high attention they enjoy at this time.

(vii) The study area history of design seems currently well represented, particularly in conjunction with other history courses in the college. Enriched by cross listing a course on the history of communication technology and one on methods of historical research, this study area can develop into a strong specialization.

(viii) To develop the other proposed study areas in design some new faculty must be appointed and the resources of the college and other departments of the university need to be utilized. This is particularly true for the areas subsumed under social and economic factors which are hardly represented at this time. I would hope to find a linguist who would develop the area of message structures and also assume responsibilities for some courses in the area of communication and control processes. I would also like to see a psychologist developing the area of individual behavior, mediating between courses offered in the psychology department and the problems of design and perhaps building up a visual laboratory as mentioned above. A social scientist (sociologist, anthropologist or even market researcher) may want to organize courses in the area of social communication and perhaps help to develop the research laboratory or contribute to design management.

(ix) The study area of design management may be regarded as a specialization within business administration, the sociology of organization and product planning and is in part concerned with the political economy of design practice. I would therefore hope to find a person with a strong background or experience in at least one of those fields who is willing to

develop the area. Resources within and outside the university should be explored by cross listing relevant courses and by inviting guest lecturers or experienced practitioners to speak.

(x) In the area of design and research methods, the department may have to start out by relying on the uniquely developed resources available in other departments of the college. However, it is hoped that a good methodologist will develop within the college who can be appointed to teach methods that are more directly suited to communication design.

(xi) I hope that the appointments made in the area of design problems in a medium will also be sufficient to teach the complementary courses in media technology.

(xii) Teaching positions being scarce, in order to realize an ambitious reorientation of the department such as proposed additional assistance is required. The departments of the college can provide some initial support by allowing courses to be cross listed and, perhaps, by accommodating the interest of students enrolling in them. In the long run it is necessary that the department develop an identity of its own and contribute to other departments in return. In the intermediate period I would narrow the gap by enlisting the help of teaching assistants. These could be recruited from advanced graduate students with excellent standing and be given financial assistance for their studies.

OWN TEACHINGS AND RESEARCH

I believe it to be the primary task of a department chairman to get the department moving again, i.e. to introduce a productive perspective and to help in developing an intellectual climate that attracts the best faculty and students one can find.

Personally, I think it will be necessary to start out by organizing some of the basic courses in design with the focus on methods of problem solving and principles of communication. For this I would hope to enlist the cooperation of other faculty of the department or in the college and I wish that a qualified person will soon become interested in the subject to take charge of such jointly taught courses.

I feel qualified to build up an industrial design studio and could contribute a lot to graphic communication design. But the latter seems already well represented and I would hope to find faculty which will take responsibility for the former. In these branches I would therefore be interested in developing courses that merely fill in what is needed -- again in the hope that someone else will take the charge over in due time.

Another area in which I could develop courses if qualified teachers are not immediately available is that of research methods for designers. Teaching courses in this area could be coupled with the development of the visual laboratory mentioned above and/or with the introduction of suitable research facilities. In spite of my strong interests in inquiries of this nature and the importance I attach to their pursuit I would hope that someone else would work predominantly in this demanding area.

My teaching experiences also range over subject matters that should be classed under the study areas of communication and control processes, message structures and social communication. While introductory courses will be necessary soon after some of the other basic courses are instituted. I do not wish to duplicate courses that are available elsewhere, inside or outside the college. Exactly what is needed and which approach is the most fruitful one to take has to be determined in due time.

Whether taught by me or by other members of the faculty I would hope that courses result in practical knowledge and in sufficiently detailed instructional material. Course outlines, reading lists, problem and slide collections, term papers and design solutions can be made available not only to students but also to faculty to whom they may provide a springboard for future development. Good instructional material and texts, examples of planned inquiries and research results as well as reasonable speculations and bibliographies could be published so that knowledge about design starts accumulating within the department. I would hope that this does not only increase the efficiency of teaching in the college but can also be of service to the community of designers. This is another activity to which I could contribute.

Above all I am seriously interested in the interaction between design activities and communication sciences as I have indicated. This calls for an active involvement in both the solving of practical design problems with concrete social consequences and the conscious reflection on the nature of the processes intrinsic to the design complex. To transcend the apparent conflict between theory and practice would be one of the aims of seminars that I would like to organize for advanced graduate students, particularly

for Ph.D. candidates. Much needs to be known about design. Much of what designers seek to know may turn out to be unknowable, many of his problems may become solved by transforming their conceptual frameworks and asking different questions and what may come to be a principle in design may not be specifiable in advance. It is thus not always possible to delineate the area of teaching and research too far in advance. But it is possible to work for keeping open a large number of possible evolutionary trajectories to be explored.