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BEYOND THE INTER-DISCIPLINARY APPROACH
TO PLANNING

by

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It is a commonplace that the problems which confront the city and regional planner seldom respect the boundaries of the traditional academic disciplines, and it is often suggested that an inter-disciplinary collaboration is needed to bring to these problems the techniques, knowledge, and peculiar viewpoints of several disciplines. Among the most commonly mentioned specialties are architecture, engineering, sociology, psychology, economics, political science. In the 15 years I have been involved with planning, as student, practitioner, and teacher, I have heard this view put forth repeatedly, and I have lived through a great many efforts to carry out this approach. When I started studying architecture and planning in the early 1950's at Harvard, the influence of Walter Gropius was pre-eminent and the idea of inter-disciplinary collaboration was a keystone to the broadening of the design professions, to include most particularly the social sciences. Since then, I have been part of many inter-disciplinary teams, and I have participated in many discussions of this subject. I now think that the inter-disciplinary approach is of limited validity, and that the apparent common sense of this approach hides a great many pitfalls. It is necessary to look at the concrete problems to be attacked, at the potential contribution of the collaborating professions, and at the specific ways in which these elements mix. Because the case for the collaborative process is well known and its virtues generally accepted, I shall concentrate on the case against it without as much effort to present a balanced point of view as I would otherwise.

The ordinary recipe for the collaborative approach goes something like this: "Take a physical planner, a sociologist, an economist; beat the mixture until it blends; pour and spread." Whether political scientists, psychologists, traffic engineers, philosophers, artists, architects, or zoologists are included seems to depend on the availability of people, the limitations of the budget, and the imagination of those assembling the team. I have heard all of these professions seriously suggested, and seen most of them actively involved, and I have also heard proposals to include others the nature of whose contribution is less immediately apparent. What is wrong with this? Any problem in urban or regional planning except the most trivial involves physical design, social aspects, economic aspects, political aspects, ecological aspects, etc. What is more sensible than to say, "Let us then get an expert in each of these aspects, have the experts meet, present their special viewpoints and competences, weigh the pros and cons as reasonable men, and as a body arrive at recommendations which are informed by each of the contributing disciplines on each of the component problems"?

Consider, for instance, the proposition of taking an economist. What does this mean? An economist is a person who has a degree in this field. He may be an institutional economist, reared in discursive treatments of selected subjects in a style close to those of sociology or political science. Or he may be a fairly abstract type, whose principal background resides in proving the convexity of sets or existence theorems. Or he may be an econometrician, skilled in the interpretation of beta coefficients as measures of elasticity and in dealing with the particular difficulties of serial auto-correlation in time series. Or he may be a monetary theorist, or a welfare economist, or an economic historian, or

any of a hundred other specialties within the discipline. The problem at hand may call for the particular expertise of cost-benefit, but "the economist" may be a location theorist. Or the problems may involve analyses of regional economies, and this man's strength may be the applications of game theory. There is no need to drive the point further. Economics, like the other disciplines, has become a conglomerate of diverse specialties, and any one member of the profession is guaranteed to be utterly ignorant of most branches outside his own specialty. It would be almost by coincidence that the particular economist drafted for the task happened to be expert in the particular areas needed, unless he were drafted by someone informed in the varieties of economics, familiar with the candidate's competences, and able to anticipate the particular specialties that would be needed.

There is a further difficulty in "taking an economist" which is seldom mentioned because it is touchy. An economist (and I am still using an economist only as an example) is a member of a learned profession within which the rewards go to those who are held in high esteem by other members of that same profession. Thus, it does an economist no good to be regarded highly by artists or sociologists. This will not get him promotion in a university or other forms of recognition. In an applied case tackled by an inter-disciplinary team, the needs of the situation will demand from the economist rough-and-ready solutions to dimly perceived problems. If these solutions happen to be noticed by his peers (which is unlikely), they are far likelier to bring forth criticism of their shortcomings than praise for their ingenuity. In an academic situation, where an economist teaches in an inter-disciplinary program, the time he needs to inform himself in other areas will limit his ability to keep himself

current in his own field. Further, his teaching is likely to consist principally of repetitions of introductory material, which is often misunderstood by students whose interests lie elsewhere, and he will lack the challenge and stimulation of having advanced students in his own field, whose work keeps him at the top of his form and whose researches serve as extensions of himself.

Under these circumstances, it has been common for the "economist" to be one of three types: (a) A man who is not very good, and therefore not much in demand and thus available. He may be skilled in one technique or another, but on the whole he will not have the inventiveness and flexibility and range of mind to do other than repeat what he has learned and done before. Therefore, he will not so much collaborate as add himself. (b) An older, distinguished member of the profession, whose position is now secure, but who is now slightly bored with the narrowness of discipline, and who is perhaps having difficulties in keeping up with the more technical work of his younger colleagues. Such men can contribute brilliant insights, but they are often tempted into playing the role of the great man, given to philosophizing, and otherwise contributing more as wise man than as expert. (c) A professional or individual eccentric, who may reject the traditional avenues of advancement in his profession or whose ideas may be so unusual that these avenues are closed to him. Such individuals may be extraordinarily creative and valuable, but they are mutants in the evolution of their field, and it is well known that the proportion of successful mutations is low.

There is, thus, a double fallacy in the concept of getting "an economist" for the collaborative team. The first fallacy is that the label "economist" is a standard product that can deliver upon demand the

viewpoint of his discipline on any given subject. The second is that the institutional sociology of the professional team makes it extremely likely that "the economist" shall be a mediocrity, a seniority, or an eccentric. There are relatively few men who are mature, on top of their field, productive and flexible, and fully capable of participating as "the economist", and there are so many demands upon their time and talents that an ad hoc inter-disciplinary effort is unlikely to draw upon them. Let me make this concrete. I have time and again seen an invitation to participate go out to a man who would be ideal if he would find the time to do so. But this man has a great many alternative uses for his time, and therefore, if he attends to the matter himself, it is in a hurried and offhand way; commonly he will push it off to an associate or a very junior student. In brief, the label "an economist" must be modified by quality, field of expertise, and the amount of time available for substantive effort.

Aside from problems of availability and suitability of participants, collaborative teams face other difficulties. I will mention only two, one of them mechanical, the other more fundamental. The mechanical problem is a version of Parkinson's Law that work expands to fill the time available. Except in the largest and most long-lived teams, the number of representatives from each discipline will be determined by budget, availability, and what economists call the indivisibility of inputs. Thus the basic team consists of equal fractions of one representative from each field. But the work may call for more work by one discipline and less by the others. The consequence of this is that one man is overworked and others are underworked. The underworked disciplines may therefore go into useless activities to fill out the time, or they may lose interest and stop attending. Clearly, this is inefficient: the overworked discipline

should be given more resources and the underworked less. A common variant of this problem has to do with the staging of uneven work loads, because over the life of the project the effort demanded from each contributor will vary. The most frequent version of this problem concerns the interaction of the physical designers and the social scientists. Let us say that a new town is to be built. A team made up of an architect, an economist, and a sociologist is assembled. The economist and the sociologist go off to find data on which to base their recommendations, and they may not have anything useful to say to the architect until months later. The architect, meanwhile, is left alone with pencil and paper, and he will naturally start making designs for the new town. By the time the economist and the sociologist re-emerge, they may find that there is by now a completed design and that their recommendations will be resented by the architect if they threaten to change the design. The consequence in this case is not mere waste of inputs, but a distortion of the resulting plan. Inter-disciplinary collaboration may become inter-disciplinary conflict. Of course, wise and experienced management of the operation may avoid some of these problems through proper staging, but it would seem that mistakes of this type are the rule rather than the exception.

The other problem is a more fundamental one. The team brings together members of different intellectual species, and some of these species rarely mix. They will use words differently, attribute different importance to various aspects, and hold different views of their own and the others' competences and interests. The architect may view the economist as a fancy engineering cost estimator and as a philistine interested only in efficiency. The economist may think that the concern of the sociologist for power and non-market social organization is not useful, and that the

market will take care of things. The sociologist may be mystified by the social philosophy of the architect. Words like "marginal", "rational", "dynamic", "group", will have different meanings for them, and lead them to confusion. With time, tolerance, and patience, they will come to understand each other better, but great areas of each discipline have logical and symbolic foundations which cannot, except imperfectly and through extraordinary effort, be melded with the other disciplines. The difficulty in mixing approaches is illustrated in my experience in teaching the social sciences to urban designers. Many of them became reasonably good social scientists, but when it came to designing they usually shed that approach, and reverted to traditional approaches to design. It is almost as if they had two types of training in their brains, and could call on one or the other, but not both at once. Only a very few students were able to combine these two intellectual skills, and this self-consciously and in limited ways. The fundamental differences among disciplines explains why so many inter-disciplinary team reports are not true collaborations but collections of chapters individually authored.

Before criticizing further the inter-disciplinary concept, let me disclose the positive side of what I advocate. This is that urban and regional problems and plans be attacked by one or more professionals who are first and foremost scholars in urban and regional problems and secondarily members of traditional disciplines. This is quite different from the concept of inter-disciplinary collaboration, which implies bringing together people who are primarily economists, sociologists, etc., and who, whatever their standings in their primary professional affiliation, tend to be amateurs in the field of urban and regional problems. Let me make clear that in calling for urban experts I am not falling into the Leonardo da

Vinci Trap, which is a favorite one of conferences on education for planners. As complete an inventory of labels of various compartments of human knowledge is drawn as is within the competence and the endurance of the members of the conference. Then it is suggested that planning students be required to master this. Obviously, no one person can, and many of the items in the inventory cannot be readily taught because nobody knows how to do it.¹ The Leonardo da Vinci Trap usually falls of its own weight in the later stages of discussions, when attention turns to the background and intellectual power of the students coming into the field and of the faculty that is to teach them. When these limitations are faced, the subject of the discussion changes from how do we get them to learn everything to how do we get them to learn anything. Rather, I will suggest that competent people, possibly of two kinds, already exist who are specialists in the socioeconomic aspects of urban and regional development, and that the job is to see that there is enough of these people rather than to invent them. William James suggested that there were two varieties of social science: the hard and the soft. Cohesive urban specialities have developed within each of these two varieties as the result of years of sustained scholarly interest and communication in the substantive issues of urban and regional development. This substantive focus serves to reduce the importance of disciplinary distinctions. However, there is still a considerable gap between the soft and the hard varieties.

¹In programs of instruction based on this approach, it is all too common for the individual members of the inter-disciplinary faculty to offer courses in their own specialties, with little or no idea of the contents of the rest of the curriculum. There are hopes that somehow the students will be able to synthesize all of this, but since mature scholars are unable to do it, it seems unlikely that students will succeed.

The hard social sciences are those that measure with precision, combine their numbers into fairly complexly articulated models, seek reproducible results, and in general behave much like the natural sciences. The soft social sciences, on the other hand, deal more in words, in insights, and often concern themselves with the qualitative differences and dialectical situations which do not easily lend themselves to mathematical treatments. They often stress creativity and originality rather than reproducibility. A discussion of the validity and applicability of one or the other approaches under varying circumstances is beyond my competence or the scope of this paper, and would take us into the thickets of the philosophy of science. Nonetheless, to illustrate, it is fairly clear that the mathematical models that normally appear in the pages of the Regional Science publications belong to the hard school, and that the current writings on the political aspects of the racial situation in the United States belong mostly to the soft.²

Within the hard social sciences, there has emerged in just a few years a common ground among people from many parent disciplines. Thus, every year several hundred scholars gather at the Regional Science Association Conference and present and discuss papers. The participants may be economists, geographers, planners, political scientists, sociologists, systems analysts, and the like, but at these meetings they present and receive papers which share a defined range of topics, a body of techniques, and certain standards of validation. These men share to a large degree a

²I cannot resist paraphrasing R. K. Merton. He observed that there are two styles of sociology: the American (i.e. hard) and the European (i.e. soft). While the European is certain he is dealing with issues of fundamental importance, he has no way of knowing whether what he says is true. The American, dealing with quantitative materials, is quite certain that what he says is true, but he has no idea of what it means.

common technical language, common competences, and they read much of the same literature. I suggest that these meetings are not inter-disciplinary, but rather meta-disciplinary, since they are gathered not because of their diversity but because of their commonality.

There is a further aspect about the hard urban and regional social sciences. The range of subjects and the range of techniques, although evolving and growing, is a well defined set, and it can be taught. There begin to be concise and clear texts by which students may be trained in these subjects, without having to go back to first statements in the technical journals or into some of the intricacies which may not be of interest to them. Today a department of city and regional planning, of economics, or of some other field which is close to the topic, may, by gathering a faculty of a handful or less and by requiring from good students one to three years of effort, train them in these subjects to the point where they will know well one or two areas, and be at least familiar with the remainder. The range of topics and techniques is still fairly well covered in Walter Isard's monumental Methods of Regional Analysis, and the addition of a few chapters on such topics as cost-benefit analysis plus the up-dating of the rest of the book would make it quite adequate as a basic text. Whether the products of such training are to be called economists, geographers, systems planners, or regional scientists does not concern me. By whatever label, they will be far more able to bring to any particular situation in urban or regional planning a sense of which problems can be tackled profitably and which cannot, and will be better versed in the relevant techniques and experience than will an ordinary economist, geographer, etc.

The situation is less clear in the case of the soft social sciences. By these I mean principally sociology, political science, and psychology, since these are the ones most commonly involved. Certain elements of these soft sciences are quite hard. For instance, sociologists or psychologists have techniques of surveying populations, of statistical inference, of demographic analysis, etc., while lawyers have some very concrete knowledge of the law and political scientists of governmental processes. I am calling them soft to characterize their concern and competence in subjects in which judgment and opinion play a very large role. Because the techniques are not well established, it seems to me that the soft social scientist has little to contribute to a team unless his judgment is informed by experience and by having absorbed most of the relevant substantive literature on the particular issues. This literature goes considerably beyond that defined by the academic peer group as being within the discipline. Indeed, many of the most significant advances are made outside the conventional academic circles, and the academic establishment is lagging in its recognition of these issues. The people who know most about the social aspects may be sociologists or political scientists, but they may also be lawyers or almost anything else, provided that they have been keenly interested in the subject for a number of years, and have read, observed and thought about it as much as they could. Without this, the sociologist in an inter-disciplinary team tends either to react in a negative way by finding fault with the discussions of others, or to escape into matters of detail or platitudinous discursiveness. Or he may become giddy with milenary visions, and, tempted by the common acceptance of drivel in this area, he may be drawn into delivering himself of opinions about the quality of life, the nature of man, and the way of making people

happy and well. This is understandable, because sociology (to confine ourselves to that discipline) has developed its most impressive contributions within the functional-structuralist school, which explains the stability of homeostatic patterns, but has been poor at projecting the consequences of change. Further, most sociologists are still very concerned to establish the credentials of their discipline as a science, and follow the scientific procedure of doubting and testing any proposition before accepting it. In planning work, where it is necessary to make recommendations and decisions, things must be said even when this certainty does not exist, and it is necessary to develop ways of dealing reasonably with uncertainty. Whereas the hard social sciences have developed fairly good methods of doing this, the soft ones have not. Applied work dealing with the future is an exercise in the art of risk-taking. Because their fields have not developed accepted styles for this activity, most soft social scientists cope with uncertainties and risk-taking with as much professionalism as a lady who has been taken to the horse races.

Nonetheless, as I have indicated, there seem to be emerging a group of soft meta-disciplinary people who are knowledgeable of academic and non-academic literature, of the problems of government and of the social realities, who have developed a sense of the possible and of the manner in which risks are taken. Time magazine has coined for them the unfortunate term "urbanologist". However, there is not yet a sufficiently defined core of transmittable knowledge, with efficient texts, and sustained mechanisms for association and communication among these social experts, for us to conceive of a manageable curriculum which would train a professional in this subject in a finite period of time.

My point, in brief, is that especially in the hard social sciences but also in the soft ones, there has begun to develop a meta-disciplinary competence that rests in particular individuals, and that this provides a better model for the incorporation of the social sciences into the planning process than does the idea of an inter-disciplinary team. The key difference is that members of a meta-discipline share a common ground, while members of an inter-disciplinary team are brought together because of their diversity. If my basic point is granted, the urgent need is to develop means of producing greater numbers of individuals with such competence to meet the demands of the work that must be done, and to do everything possible to advance these meta-disciplines. A meta-discipline cannot be called into immediate existence by an act of will. It requires patient and sustained rational effort, for there are few easy solutions, and the development is slow and cumulative. It requires a great deal of money, and the conferring of prestige and importance upon this type of work to attract bright people to such careers. The point of take-off seems to me to occur when there is enough substance (i.e. market in terms of supply and demand) to the field that there occurs some division of labor between scientific and professional work. Scientific work tests the limits of the known to advance knowledge, and thus is often willing to accept a high probability of failure in the expectation that the rare successes will be extremely valuable. Professional work applies a body of known theory and techniques to recurring situations. Thus, a powerful indicator of this take-off point is the emergence of a serious professional literature that expands the range of experience of the ordinary professional by reporting usefully and critically on the work of his fellow professionals, and which makes accessible to him the useful elements of recent scientific advances,

stripped of unnecessary baggage, so that it may be efficiently read and understood by the ordinary professional. I repeat, my concept of the meta-disciplinary expert or professional in this area is not that of a Leonardo da Vinci. Rather, he is a man whose sustained and substantive and technical concern with the concrete issues has made him particularly good at dealing with them.

This suggests a distinction between what we may call ordinary planning and unusual planning. I believe that in a social system of significant size, such as Japan or the United States, most of the situations to which planning addresses itself are situations which have arisen before, or which are very similar to other situations. The best and most efficient way of handling the vast majority of these cases is by repeating the logic and procedures of the most successful prior examples. To apply to this task artistic criteria of creativity on the planner's part is irrelevant and invites a high rate of failure. It also wastes opportunities for the accumulation of knowledge. Therefore, I would argue that the vast majority of planning is a professional exercise, in which the task is not to do something new but to do something well. In those circumstances, the professional's role is to identify the class of problem before him, and to apply the best techniques known for that class of problem.

The situation is different where either the problem is unlike other previously met problems or where the previously applied solutions have been particularly poor. In that case, it is necessary to invent new approaches rather than to identify and apply existing ones. These circumstances call for a broader search and may justify bringing in ideas, minds, and bodies of thought whose value is precisely that they differ from approaches which have been previously applied. In such cases an inter-disciplinary team

may be best. Nonetheless, it must be recognized that these occasions must be infrequent because the cost of serious research is very high, and the chances of success are very low. Further, there must be some basis for the belief that the case is in some way special. Otherwise the result may be that after much waste motion the team re-invents the wheel, and probably not a very good wheel. It would seem to me that on these unusual occasions, the team should be composed of urban specialists with a mixture of specialists in the disciplines but not in urban problems. Further, every effort should be made to insure that these other participants be of the intellectual calibre necessary for fundamental work, and that their available time and their dedication to the task are sufficient.

In the preceding discussion I have stressed the social sciences and I have mentioned architecture only in passing. Yet traditionally architects have been the strongest advocates for urban and regional planning, and over the past decades architecture has been the profession most involved in these issues. Architects in general espouse the idea of the interdisciplinary team, and often claim that the architect should be the leader of the team. Very often the other disciplines are represented as merely providing information to the architect and answering his questions. I do not agree with this view. The range of subjects taught in architectural schools and the range of problems encountered in architectural practice do not provide significant professional competence for the purpose of city and regional planning. While I deny the claim to leadership of the profession, I am quite prepared to accept that individual architects may have the qualities of mind and personality that suit them for the position of leadership, as may lawyers, businessmen, or military men. But it seems to me that too many architects have been, over the years, elitist and

utopian in their plans, and that often they lay too much stress on the legitimate concern for physical beauty and order. Even when these extremes are avoided, architectural planning seems to focus too much on physical elements and not enough on the social and economic issues which are usually far more important. This approach has often resulted in plans which amount to inventories of proposed new capital investment. Moreover, the architects' approach to planning too often results in "The Plan" as an image of a desirable future state, with no specification of the program of action that would be necessary to bring it about, and with little or no evaluation of consequences or alternatives. In this they follow the tradition of their profession, whose principal activity has been to produce images of buildings that do not yet exist, which someone else will build and someone else occupy. At the same time, architects have often brought to planning the tradition of high professional ethics, whereby the planner-architect must follow and present his convictions and beliefs uncompromisingly.

I have been candid in presenting my opinions as to the role of architects in the process, especially as the dominant participants, not only to challenge the claims of that profession but to bring out three features which that profession has brought to planning: (a) structural radicalism, (b) the concept of the holistic plan, and (c) a tradition of ethics and the integrity of professional opinion. Actual practice, especially in the United States, is moving away from these and I will try to explain why. I will also try to show that the change, if carried too far, is not without loss.

The 1960's are the decade of the social scientist, especially the economist. Economists increasingly replace lawyers in government offices, and the remaining lawyers sound increasingly like economists. Similarly,

in territorial planning, the social scientist is replacing the architect in country after country, and the remaining architects try to become social scientists. At the same time, territorial planning has become increasingly incorporated into the fabric of government, by contrast to the tradition of independent planning done outside the government by commissions, voluntary associations, or independent institutions. These developments have weakened the architectural characteristics of urban and regional planning mentioned above. As territorial planning has become an intrinsic part of government, it has become far more involved in programming. To get things done it is important to determine how they are to be done and who is to do them. To paint a picture of how things will be in the future is not sufficient.

It is clear, on the other hand, that the day-to-day pressures of programming decisions can postpone the making of overall plans, and that, indeed, overall plans may never come into being. This is reinforced by the new techniques which are drawing so much interest, such as cost-benefit analysis, Planning-Programming-Budgeting-Systems, and others, which are particularly well suited to the making of incremental decisions. For instance, the cost-benefit analysis of the consequences of a certain action amounts to estimating the derivative of the economic system with respect to the particular variable which is controlled, and this can be done without re-estimating the overall system. Such an approach implicitly assumes that the consequences of the action are not radical (i.e. basic parameters and structural equations do not change significantly) and tends to have a built in conservative bias. Further, partly because of the basic assumptions of stability and partly because of the time-sense of the social sciences, the analysis is performed with a nearer time horizon than that of

the physical planners. The economist's short run is one year, and his long run is usually no more than five, while the architecturally-inspired plans frequently have a 25 to 50 year time horizon. It is partly as the result of this that physical planners are more inclined to consider fundamental change. It is instructive, therefore, to observe the tensions and negotiations between the national sectoral planners and the regional (physical) planners in countries such as Poland and France which have tried to formulate regional and national sectoral plans consistent with each other. We see, then, that the new style tends to avoid radical plans, and develops techniques to consider the parts one at a time rather than holistic plans.

The third changing aspect relates to the integrity of professional opinion. The tradition of territorial planning has been for the architect-planner to have a vision of what is desirable, and to advocate his convictions with as much vigor as possible. However, freedom of advocacy seems to vary inversely with the responsibility for actions, as Don K. Price has pointed out. As long as the planner is outside of government, and what he advocates bears no necessary relation to what is done, he is permitted and even encouraged to speak his mind without compromise. But once he is within the institution of government and has the responsibility of power, he must seek and listen to the opinions of others, and he must be responsive to interests and viewpoints other than his own. Indeed, he becomes the spokesman and instrument for a collective process of decision. The price of power is the loss of individual freedom and independence, and the cost of unrestricted advocacy is the exclusion from power. The most absolute dictator has less freedom to voice opinions than the architectural critic in a metropolitan newspaper. Thus, professional ethics and personal convictions give way to responsiveness to the multiplicity of ideas and

interests of a complex polity. Decisions are made not within the consistency of a single point of view, but as a result of dialectical processes. The substitution of what may be called societal ethics for professional ones will also generally contribute towards more conservative or incremental approaches, against the clarification of ambiguity in long-range general plans and against the specification of objectives. Such clarification invites conflict and it is normally possible to agree on specific steps even when there is divergence as to goals.

On the whole, I am in favor of these developments. Nonetheless, there is some loss involved. The sum of the parts of the incremental decisions may be either more or less than the whole, there may be interactions of individual decisions which are not anticipated, and decisions which are quite correct one at a time may lack decisiveness and direction, and thus fail. There is, then, need for a continuation of what I have called the architectural traditions in planning, by way of independent thinking, dissent, and long-range views. Radicalism and even utopianism are necessary to invent new alternatives, and even to invent new objectives. Long-range thinking, however uncertain and prone to error, is needed to see if the steps which we are taking one at a time lead us in the right direction. And holistic views are needed to uncover relations that are insufficiently recognized.

My point, then, is that in the dialectic continuum between freedom and responsibility, traditional planning had been the extreme of freedom, and that the new development is toward the extreme of responsibility. But urban and regional planning cannot afford to stand at either end of this continuum: it must occupy the full range, from individuals and institutions which are free to say what they wish, even if it is sometimes silly, to the

centers of power, where responsible individuals may sometimes honorably follow policies with which they personally disagree. The inter-disciplinary team, whose justification is the formulation of new departures, has a function at the freedom end of the continuum, as a possible source of innovation and dissent. It is likely to find itself near the end of responsibility only in those cases where an eminent group is gathered to lend the legitimacy of their prestige to positions already taken by those who convene them.