Universitas Symposium: Third Working Session, Sunday, January 9, 1972

ARTHUR DREXLER: Good morning. I'd like to begin by introducing the panelists this morning and by making a few, I hope, brief remarks, intended to locate the subject of the symposium. This morning, we have with us Mr. Erich Jantsch from Austria, who is consultant to the organization . . . .

ERICH JANTSCH: All wrong; not any more.

DREXLER: Well, we're off to a good beginning. Mr. Jantsch, will you identify yourself.

JANTSCH: Yes, I am actually without a job now, but in ten days I will be Visiting Professor of Systems Science at Portland State University, and, after that, Visiting Scholar of Public Health at the University of California at Berkeley. That is all now.

DREXLER: Good. Mr. Kramish.

ARNOLD KRAMISH: I represent the United States science community at UNESCO and the National Science Foundation and other United States science organizations; previously, the founder of the Institute for the Future, and previous to that, with the Rand Corporation and the University of California.

CHRISTOPHER ALEXANDER: I'm Chris Alexander. I'm an architect. I work in Berkeley, California.

EDWARD J. LOGUE: I'm Ed Logue and I'm president of something called the New York State Urban Development Corporation, which is a new little thing the governor created a couple of years ago.

DREXLER: Mr. Tugwell.

REXFORD GUY TUGWELL: Well, I'm afraid that you'll get the impression that this is an entirely California morning, and I'm a Californian, too, so we're in

a majority, you know. I'm from the Center for the Study for Democratic Institutions in Santa Barbara, at the moment.

HANNAH ARENDT: Well, I'm not from California. I teach: my name is Hannah Arendt. I teach at the Graduate Faculty of the New School for Social Research, and my field is rather something like political philosophy.

DREXLER: This will save me the problem of eulogies, and is probably the neatest way to do it.

Yesterday, I think we had some extremely interesting discussions on a fairly abstract level, and I found myself paraphrasing their content more or less like this: that it seemed to me that by the time I left yesterday, I had, on the one hand, the picture or, rather, perhaps, the proofs that action is indeed impossible; life itself is called into question; and the possible first subject for a curriculum of the new Universitas is removing the sting from death. We invented, my colleagues and I, the title of this program, and we thought perhaps "Thanatology," and then "Prospectus in Thanatology" became a better title.

On the other hand, at the other end of this, was the admiration of the Bauhaus. And, I found this, personally, very problematic because, of course, anyone who has had experience of trying to teach architecture, much less practice it, understands that the deficiencies in the formulations of the Bauhaus and, on a larger scale, of the modern movement as a whole, are, of course, what have contributed so much to the present impasse in the practice of architecture and, for that matter, design. The problem, it seems to me, the subject that I think we are trying to find, is how to reconcile the formal problems of the discipline of architecture, planning, and design or, using design as the broadest term, how to reconcile the formal problems of that discipline with the ethical implications.

The Bauhaus, as we all know, attempted to avoid the ethical implications. That is, I think, however, that that is only a very partial statement of what the Bauhaus assumed it was doing; and certainly some of the people from whom the Bauhaus drew its ideas conceived of their work as having very substantial ethical implications. The outcome of all that, however, is something very tangible and very much in evidence; it was cited yesterday, I think, by Professor Schapiro.

Now, behind me—you can all see it—is the new Avon Corporation's skyscraper going up on Fifty-eighth Street. It is a new and ingenious effort to shape a product, namely, a package of space that has commercial value, to give shape to that product according to a legal configuration, a legally defined physical configuration. Further downtown, in almost exactly the same position on an east-west axis, is another version of the identical building, by the same architect. It is not without significance that the architect,

Gordon Bunshaft, whom I happen to admire very much, refers to this package of space as a three-dimensional security. If the architect, who is most clearly associated with this kind of work and most admired for his enormous professional competence, himself, thinks of it as nothing more significant than a three-dimensional security, it tells us something about the condition of architecture, and we can also draw conclusions about the problems of training people to continue this work. Not only is it almost impossible now to try to persuade youngsters to take up this mission, it's rather difficult to persuade Gordon Bunshaft to continue doing it.

The talk this morning, I hope, will be, at least to some extent, on what the mode of operation might be for a Universitas concerned to reconcile problems of performance and ethics that baffled Plato and Aristotle but should not hinder us. And, I thought we might best begin by asking one member of our panel, who is very directly engaged in trying to cope with this, and I mean, of course, Chris Alexander, who has a very interesting project in the works; and I'm going to ask Mr. Alexander to speak on that first, and then, after that, I hope other members of the panel will pitch in.

ALEXANDER: I've been a bit baffled by some of the discussion yesterday, so I'm going to start by just restating what I understood to be the problem of this conference. The way it was explained to me was that there was an intent to create a community which would address itself to the problem, How should we live? And, it would function as a university in the sense that all the intellectual resources of this community would be constantly concerned with that question and would be making experiments, and trying to implement the conclusions that were drawn so that this whole community would be an evolving experiment dealing with that question. I did not understand it to be a traditional university, in any sense, and my remarks have to do with this problem as I've now defined it.

I have, possibly, two things to offer. One of them I could offer to any community, and an extension of it, which I'll explain, is particularly appropriate to a community that is going to bring this much intellectual pressure to bear on its own nature. Now, first of all, I'd just like to talk about the architecture of communities: as I understand it, what I believe would be necessary in any community, not particularly the Universitas Project. And, I start with the assumption that it is absolutely essential for all the people in society to be shaping the environment for themselves. That is, I reject completely the idea that a few professionals called architects or planners are going to take over this function; I regard it as an intolerable abrogation of liberty. I think that the making of one's own environment is as important as a practical and as a symbolic act as the act of speech is; and for just about all of human history, up until the Industrial Revolution, this was commonplace. Until the Industrial Revolution, all towns and buildings were in effect made by their users. Of

course, there were specialized craftsmen involved in many cases, but the organic and living character of preindustrial human settlements, is largely due to that one fact: that the fabric of variety created there—literally, if there are ten thousand people in a community—is the variety created by ten thousand people, and it lives for that reason: it is not created by ten people or a hundred people.

Now, this is a pretty difficult problem: to try and re-create this in the modern world. Most of us have been taught that these matters are so difficult that only architects can tackle them, and the publications, first of all of the architects themselves, and more recently of the popular press, *Time*, *Life*, and so on, have impressed upon everyone the fact that this is a matter for specialists, that you can't hope do it for yourself, and so on. And, it is also true, I mean, that is, that the practice of this kind of thing is so remote from most people now that if a person were asked to take part seriously in designing his own house or to take part in designing an office building where he was going to work, he would hardly know what to do. He would throw in a few casual suggestions, feel extremely insecure, be willing to bow to the better judgment of the architect at all turns, and not really be able to take charge of this process.

Now, as I say, it's a very, very difficult question: How can one create this situation? My colleagues and I have been working for almost ten years on this and have recently, in the last year or two, I think, finally managed to solve it, at least in a rudimentary way. The solution hinges on a device called a "pattern language," which is a combinatorial system of images. I simply don't have time to explain what it's really like, but it takes the form of a loose-leaf book, if you like, which one can leaf through, write in, and do many things like this. Anyway, this language, which is based in its nature on the similar devices used in traditional cultures by people to design their own environments, allows a person directly to create a building, a part of a building, a part of a neighborhood, according to the principles present in the language and according to that person's own judgment and feeling for the immediate context he's dealing with.

I must be brief, but just to give you examples of what we've been doing: we've reached the point now where, for instance, a housewife can come into our office, knowing that she wants to build a house. She can sit down with this material, assuming that she has a site in mind; within about two days of hard work, she has produced what one would have to call a beautiful, organic, subtle, buildable design—somebody who didn't know anything about architecture before. We have recently been working with a psychiatrist, some miles east of Berkeley. He and his staff, using this process, have designed a mental clinic for themselves. There was also some small involvement of the patients in this. And that is going ahead to construction now.

We have, in the last few months, been working for the University of Oregon at Eugene, and have initiated a campus-wide process there, where it is now understood that all future construction on this campus will be in the hands of the students and faculty acting as designers. And, only last week, we were helping the people in the music school design about a three-quarter-million-dollar extension to their present facilities: they were perfectly able to do this. Just, again, to give you a feeling for what it was like: it was a matter of representation, of course, there were the dean of the school, two faculty members, and two students. The five of them and two of us spent a week on the site designing the building right there, and by the end of the week they had produced a wonderful extension of their building.

I'm on my way to Sweden tonight, where we have the opportunity, I believe, to try and initiate this process in a New Town outside Stockholm, where, again, if we succeed, the understanding will be that—in this case, we're talking about forty thousand people building a growing community, between now and 1985—if it works out, we will put the same tools into the hands of this community as it grows, so that this town will be a living town in the same sense that the towns of the past have been living towns, not a dead thing made at the drawing board: now, so much for the practical side of the matter. I believe it is essential that this community represented by the Universitas would handle itself in the same way.

To try and make the connection between the practical problems and the ethical problems, I want to talk a bit now about the nature of these pattern languages. The content of this language, or these languages, consists of concepts dealing with the organization of space, of human groups, which are highly concrete and which embody value. I'll just give an example, a very small example: if you ask yourself how a group of this size, all of us sitting in this room together, could best have the kind of meeting we're trying to have, you would see that there is, at the moment, quite a bit of difficulty created by the fact that there is almost no eye-to-eye contact between the people in this room. There is a little bit, of course, between the panel sitting here and you, but between you and you there is none. And, it is rather difficult to hold a communal meeting under these circumstances, and, to make that kind of thing work, what is needed is a room not much different in size from this one, perhaps slightly different in shape, essentially a bowl-shaped room with, essentially, tiers of seats so that each person is looking at most of the other people. If there are people who start the discussion off as we are doing, then we could be sitting somewhere near the middle.

Now, I just want to talk about this example for a moment, because the fact that this works, what I just described, of course, is partly based on common sense, partly based on what you could, if you wanted to pretend to be sophisticated, call psychology and anthropology and things like that. And, you can draw evidence from various fields to substantiate concepts of this

sort. Apart from being a practical solution to a problem, it is actually a value, in the sense that it embodies a new institution in a very physical way; very simple, but if the room were like that we'd all feel differently about what we were doing and it would, to that very, very tiny extent, change the culture that we were a part of.

Now, these languages that I speak of, that allow people to design their own buildings, contain hundreds of concepts of this kind at all scales, ranging from details of windows and doors up to rather large-scale questions dealing with transportation, distribution of work, and families relative to each other—all kinds of questions of that order. Now, under normal circumstances, in the projects we've been doing, we have not been able to get the people concerned with their environment to play a great role in the development of these patterns. In other words, it is quite hard work, it takes a good deal of experiment, empirical investigation to establish even one of these patterns. As I say, there are hundreds of them at stake, and in the normal kind of time pressure that people have, they just don't have that much time to devote themselves to elucidating these things, to challenging them, modifying them, doing critical experiments that will find out whether they really work, or whether they're not working so well, and all this.

I believe that the Universitas, in this sense, has a unique opportunity because not only could it take charge of its own environment in the way I've described, but its function could be the continuous evolution through experiment, discussion, and observation, of the language which they themselves are using to build their own environment. And that fascinates me very much, simply because (this is extremely important at the moment) we've been in the position that a relatively small number of people, drawing, of course, on whatever we can, in many, many fields, are providing this material to a very large number of people. Now, I don't object to this, but, at the same time, it leaves it rather impoverished. We don't know that much, we don't have that much opportunity to find out things, and so on. So that, by opening it up in this way, and allowing the evolution of the languages to be themselves part and parcel of the communal process, then this thing is going to become enormously enriched and very much better.

ARENDT: I don't know; it seems that Mr. Drexler knows I came here entirely unprepared. And, now, listening to Mr. Alexander was very interesting. I just want to make a few remarks on what you were saying.

Number one, you compared, quite rightly, the way we live in our environment, and expect experts to deliver us, so to speak, prefabricated [buildings], as against a traditional way in which communities shape their environments, and how this, of course, came about because these communities had something in common and, therefore, shaped it. They didn't do it consciously. You seem to me to reverse the whole process, namely, by some-

how persuading communities to engage in something in which they were not engaged before but which was natural before: whether this will succeed—I by no means think it's impossible—whether or not this will succeed or not seems to me quite open to question.

The second thing that I would like to remark on is connected with this. You very nicely pointed out the shape of the room as something about the way we feel in space; our spatial feeling, if I may say so, has something to do with how we relate to each other, and there's no doubt about it. And, you gave us an example that we have a certain relation here to each other, whereas this community has none. Now, if we talk simply, objectively, spatially, not psychologically, then I would say that what gathers us together is, first of all, spatially, the table. Take the table away and, so to speak, that will also separate us from each other and we will lose that which binds us together, and this seems to me quite important. And, if we take this now one level higher, then I would say: your chance to build up this community would be this table, that is, metaphorically speaking, it is the same concern. You would have to have people, and what really brings them together would be their common concern with this kind of environment, that is, that they want to live in such a kind of self-shaped environment. The extent to which people do not want to do that any longer seems to me to lie less with the architect than with the interior decorator. What has always surprised me so much is that people would hire an interior decorator to design the way they are going to move between their furniture. It never occurred to me before I heard about it, and saw everybody doing it.

Now, one of the reasons why this can be done is, of course, or it seems so to me, that they do not think of their environment as something really stable. You know, I have great sympathy for this three-dimensional security because I think that this whole question of shaping the environment has something to do with the simple fact that man is a temporal being and lives only a certain time on earth, and during this time changes a great deal. And, therefore, because he is such a futile, temporally limited being, he needs something that is more permanent than he himself. And, only under these conditions, it seems to me—that is, if you can arouse in people the old feeling that, because they are unstable, they need some stability in the objective world—that this is the real difference between objective and subjective, because our subjective feelings are by no means permanent; on the contrary, they are the most unstable thing there is. And, the only thing by which we can, so to speak, recognize ourselves and acquire a certain amount of stability is that we have the same chair, for so many years, and will not throw it out simply because one of the legs is no longer so good, but we will ask somebody to fix it because that is our chair, and that is the way we orient ourselves. That is, what is really involved in this whole business is a world of feeling, feeling for objectivity, and a change in these exclusively subjectively

directed ways in which we think or act about these things. If we think about objects—and I've heard much said here about their functional use, and so on—even those who are most outspoken against the consumer society are not even aware that they talk about all objects as though they were consumer objects, that is, as though they have only a very short life expectancy in the world. For instance, if I make an omelet, the life expectancy of this omelet, as every woman knows, is very short; either it's being eaten right away, or it goes into the garbage can. Whereas, even the most flimsy pair of shoes has a much longer life—if I leave it alone it will survive. That is, it is a use object and not a consumer object, and this permanence goes in a direct line up to the art objects whose permanence, as we know, is almost unlimited. I mean, we all can still appreciate the Parthenon, no matter what our philosophy may be.

So it seems to me that all of this is involved here, and it would be nice if one could start it, so to speak, from the architecture, or the designers, and get people again to have this community feeling. But, they will only have this community feeling if they are really interested in having this kind of environment, which you cannot throw out of the window and don't want to throw out of the window every five years or so.

TUGWELL: I have great sympathy with what Mr. Alexander has to say; I'm old enough to have grown up in a village myself. On the other hand, I don't know of any surviving villages at the present time which are like the one I grew up in, and probably happily so. And, I'm afraid that he's ignoring some institutional problems, which I wanted later to call attention to, and particularly economic ones.

I can't imagine, for instance, what he has to say to the eight million people of New York City or the ten or twelve million people of Tokyo. It seems to me that most of them are doomed by the institutional situation that we've inherited, to live in apartments; and apartments are not something, which, from their technical quality, can be very much interfered with by the people who are going to live with them. They'd fall down, or something. And I think that the economic problem we've inherited in this country is especially serious, that is to say, the speculative ownership of land, and the difficulty of finding space in which to do planning, and so on, but this is something I wanted to get to later. I'm afraid, Mr. Alexander, that what you're talking about is a wonderful thing for a few people.

DREXLER: Well, I'd like to ask you a question about this, precisely. Ms. Arendt used the metaphor of the table as the thing that defines this group, by at one and the same moment uniting us and separating us. Throughout history the table, so to speak, has normally been provided by architects, as the public place in any community. The nature of that public place (I think, and everyone will correct me if I'm wrong) has historically been indicated by—I hesitate

to use these phrases—a ruling caste; but the nature of that place has been provided, or indicated, or proposed, either, it seems to me, by a priesthood or by those who lead the society, or who are at least capable of articulating its aspirations. How, in the effort that you're describing, is the table prepared? Is it prepared? Are you getting at a society that is "tableless," or is there the hope of eventually producing it as a collective effort?

Secondly, on another level, not the level of metaphor but on a purely practical level, who provides the infrastructure of services? To what extent is there self-determination, even on the village level where Mr. Tugwell is assuming it can still operate, perhaps, if not in the urban?

TUGWELL: Well, that's the way Mr. Alexander described it.

ALEXANDER: May I? What I would much prefer to do is perhaps to answer some questions after everybody has had a chance to speak. I'd like to hear what all the other kinds of things are and then try and make more of a mélange.

KRAMISH: I think I'm in the happy position of agreeing with both of you. I don't see how we possibly can enlarge the decision and implementation processes to include all of the people, each individually taking a hand and shaping the community. You made a reference to this in your first point. Whether you like the terminology or not, I think this still has to remain the responsibility of a responsible, hopefully, small group of elite people, in a sense.

So the question resolves as to how this elite shall responsibly carry out their tasks. Unfortunately, there are lots of elites, who are still fractionated into humanists, technologists, scientists, etc., and I don't see much progress in maintaining that fractionation. Each group is now gaining an awareness of the other group; they're either sympathetic to them or they're antagonistic to them, but at least the awareness is growing. Now what do we do with the awareness? So far, after awareness, this subjective feeling Ms. Arendt talks about takes over, and the technologists attempt to rationalize what they are doing, by throwing in a few humanistic parameters, and the humanists want to get back to nature, reject technology, etc., and it's essentially an anti-technology stance because they experience pollution, noise, etc. They're afraid of it.

When we worry about all of the people, when we try to balance these parameters, obviously a balance has to take place eventually. (There's no thing that says technology is the answer.) Let me put it in a different manner, let me put it in the context of being a physicist, of the Heisenberg uncertainty principle. At a technical level, the Heisenberg uncertainty principle says, essentially, that if you attempt to measure energy with extreme preciseness then you can't know anything about time; or, if you attempt to measure momentum with extreme preciseness then you can't know anything about position, and vice versa.

It seems to me there's an uncertainty principle involved in what we're attempting to get at. If we follow technology with extreme preciseness, then we have to give up all humanistic considerations. If humanistic considerations, which are extremely subjective, are dominant, without taking into account what benefits technology can bring, then you might as well stop doing technology. So, what we have, then, is some equation which is a product of these two parameters, which are inverse to one another, and we have to find the means for carrying out this process. The science people lately have become intoxicated by a new science called "technology assessment." This implies not only the assessment of one technology versus another, to see whether one technology can do a job without polluting, or with less pollution, or one technology can do a job cheaper than another. It also involves the interjection, presumably, of the humanistic values.

Now, what I'm pleading for is not an exercise in technology assessment on the part of the technologists or the part of the humanists alone, but that same sort of exercise, which I would prefer to call "value assessment," because there are many things besides technology and humanism in the values, which would incorporate the kinds of techniques you've hinted at: the table techniques and the special design configurations, so we can go about this technology assessment more reasonably.

And, I also urge that this so-called elite, which is working on these problems, continuously changes; even though we can't include the entire population of a city, or whatever we're trying to include, we have to be sure that it is continuously sampled. These types of groups, think tanks, or whatever we call it—if we call it "technology assessment institute" in the future—tend to become inbred and incestuous, and this is one thing we would certainly have to avoid. I'll have some other comments at a later time.

JANTSCH: I think, perhaps, I'd better speak now, because I feel some aggressions mounting in myself; I felt it throughout the symposium, actually. And this has to do with the fact that I feel that the issue of design is either not at all addressed or addressed at a very low level and with very small scope. It was practically only during the discussion yesterday when Ms. [Denise] Scott Brown brought up, also in a slightly aggressive way, the same problems which bother me. I think we have here a split into, perhaps, two or three types of discussions, with no, or very little, link between each other. One is an old-style disciplinary discussion in sociologists' language, city planners' language, architects' language with a very nice French Cartesian framework and the terminology which is cast in disciplinary terms and which—without going into details here—I would brush aside as irrelevant, readily, for problems of design, because we are not dealing with science here in an old perspective.

My feeling, by the way, is that science is design, but we have to get the new culture to get this through, because scientists today try to stipulate their

activity in science as being the opposite of design. Now, this old disciplinary type of discussion I felt also present in the presentation of my friend Arnold Kramish, and I would say that his way of putting C. P. Snow's two cultures together in an uncertainty principle alienates me very much because it is integration between the two, which we ought to look for, and I do not think that we should perpetuate this type of separation between technology and humanistic attitudes, as it would imply. Also, I would say (and this is just as a side remark), that the mentioning of one of the more recent fads which are on in America, technology assessment, is I think regrettable here, because technology assessment is nothing but a very small sector of a planning process which has been elucidated and developed in theory much further than the National Academy of Science and engineering have been able to grasp. There are some very prominent committees which have cast the name of "technology assessment." So I think we ought to speak of planning, of the full-scale normative planning process, in which technology assessment is a part of technological forecasting at a strategic level, to put it precisely, and we have to deal with design. And I think there is a framework developing which makes it unnecessary to go back to C. P. Snowish types of terminology, and this is what some of us call a "systems approach."

The systems approach, like the word *systems*, and like other words which are in some circles considered good, is at last getting into the terminology of very narrow-minded disciplinary people, such as economists and sociologists. But I would say that the systems approach, to me, is, first of all, an approach to designing *human* systems, and, in a moment, I'm going to say what I mean by that; and it is about the self-organization of human systems, self-organization in two ways: Self-organization internally: how does a community, for example, organize itself internally, which is one of Chris Alexander's themes. But also, how does it organize itself externally, that is, how does it want to interact with the environment, with the world of which it is part. Both aspects are very important. I have commented on some of these things in my paper, which almost nobody has received and almost nobody has read, and the copies are, anyway, so pale that I wouldn't be tempted to read such a copy.

But, let me say, at least, that we should recognize three levels of human systems. The lowest level is human relations, and I do not mean here the interpersonal relations which are normally addressed with this term, but our general way of relating to the world, our way of forming what Geoffrey Vickers calls a "represented context." At the higher level, we would have social systems, in general, social systems which in their totalities can form civilization, and with which we are dealing at the level of cities, countries, and so on. But at the highest level, this would all be futile if we did not address at the same time our cultural systems, which are also subject to design. I have the feeling that the culture is being taken for granted here, and we have to conform to it, that values are taken for granted. We cannot put

them into play—whether invented or not; this is another question. But, we cannot bring them into play willfully, and this means that we do not function, that human systems, viewed in this narrow perspective, would not function as purposeful systems; they would function as anything lower which could be mechanized, in a way. If a human system is really operating as a self-organizing, purposeful system, it sets its own dynamic principles, its own rules of conduct. It forms its own ethics, not out of a blue sky, but out of a cultural system, which is also subject to a learning process.

I have gone, in my paper, into some detail, describing what I see as important learning processes at these three levels—and, by the way, also using notions from Chris Alexander's book and from Geoffrey Vickers's book—but using them at all levels.

At the human relations level, I would say that this learning process, which I will not describe in more detail here, is such that measure evolves. That is all that we are talking here about: architecture. I'm interested in architecture, but I'm not interested in discussing design, and the design of human systems in the terms of architecture. This would be a sectorial approach, again. But to me, also, I think it is a theme Ms. Arendt brought up, namely, the theme of human measure, is one of the crucial themes here at this level of human relations, at this human systems level.

At the social systems level, is where, in a learning process, norms evolve. Norms: this means our own ethics of how to conduct and how to regulate our own systems. And that is the subject, by the way, of the normative planning theory of which Hasan Ozbekhan is one of the foremost exponents and which will, hopefully, become the core of a normative theory, of which only a few elements are gradually taking shape. One of the most important problems here is one of the unsolvable problems, but really not a problem, but a human condition; here, at this level, is a dichotomy between individual ethics and what [C. West] Churchman called ethics of whole systems. And right up to now in intact cultures, cast in formal religions or ideologies, we have been given a set of norms as a more or less rigid set, to apply in such a way that we can apply to our individual lives, so that we did not need to question what is good for the whole social system and what is not.

If we take our role as shaping our own system, the self-organizing systems, with man as a cybernetic actor in it, really, if we take this seriously, then we must question also the subject of the ethics of whole systems, and this, if you just start thinking—nobody has developed this in detail—if you just start thinking along these lines, it probably makes you aware that there are vast differences between the individual ethics by which we live and the ethics of whole systems. You can't, for example, make the thought experiments to say: people whom we regard as great people, great politicians, great artists, people who have done something which is recorded in history books, were their ethics personal ethics or were they an ethics of the whole

system? I would think that many of the great politicians would probably not be recognized as so great from this point of view. I do not say that we resolve this to one side. It is one of these tensions, bipolar ways of making our life more dynamic, that we will constantly be moved either to the individual or to the system's side, and we have to live in between, we do not have to resolve it, we should not resolve it, but we should live in between and gain a source of energy by it.

And, at the highest level, the cultural systems, which is really the thing we ought to address most clearly in design, is where values evolve. And there we have to ask ourselves, in what ways can we guide, can we design this evolution of values? And I have heard here in this symposium several times that institutions, by which some people meant, obviously, organizations, which is a lower level of institutions, find values, or institutions as expressions of, or crystallizations of, value patterns, find a place in a static society; we have to develop the theme in a quite different way. We have to see how institutions, and by this I mean the institution of business, of government, of higher education, and so on, how they develop their roles, their role playing, just as in the way in which Geoffrey Vickers describes it, and thereby build these cultural systems, build these values, bring in the values, become the motor of it, you know. This is a nonphysical type of human system and institution, which is actually the active element in building the culture. I think this would be the most important, the core theme of any full approach to design. Well, I think I'd better stop here (I could go on).

LOGUE: Well, Arthur [Drexler], I think you've got a problem. You've got six people here and they all want to talk about what they want to talk about, not what Mr. Alexander wants to talk about. I'd like to say just briefly, however, I feel that not having read any of the material on [Mr. Alexander's] work, I feel teased. To somebody who's been involved with working with communities and urban renewal projects and giving them, I like to think, a real partnership, I've seen community involvement make plans a hell of a lot better, and a hell of a lot more acceptable, than they otherwise would have been. To carry that one step further, and say that, for example, in built-up communities, that you're going to allow them to design, that's where I feel teased. I'd like to know: Is the product very much different? I'd like to know why, if a housewife can design a house in a week, why it takes an architect three months? There's something not quite fully stated there, and I don't suppose there's time to state it this morning. So I think what I'd like to do is to ask Mr. Alexander's permission to send a couple of people, one an architect and one very definitely not an architect, out to Berkeley to see what he's up to. It's a new twist to me on the community participation we hear so much about, but I'd like to be sure that it is better and that the rather broad claims made for it this morning are, in fact, borne out.

ALEXANDER: Let's arrange that. I would prefer not, at the moment, to answer all the detailed things that were raised about my remarks, because one has come up, which is so fundamental that, unless we address it, I don't think we'll be able to get much further. And that is the question of whether there should be an elite doing this, or whether there should not.

Now, I oppose absolutely, the notions expressed by my friend here (or I shouldn't say my friend). It is, of course, central to the whole process of society today, and if we could go into this matter as to whether planning is to be done by an elite or whether it can, in fact, be done by everybody, we might get it straighter.

I was frankly astonished by what you said. It seems to me that in order to take the position that an elite is to do this, you have to assume that you have the right to certain pleasures and liberties, which you specifically want to withhold from others, and that is a rather far out state of affairs.

LOGUE: May I suggest that it's an argument without meaning, a discussion without meaning, because it's impossible in the United States today to proceed in that matter; it just can't be done. Maybe it could have been or should have been done, but it can't be done any longer.

ALEXANDER: But, that's a different question. The question of whether it's feasible is something else. He actually said that he didn't like the idea and that he thought it had to be done by an elite.

LOGUE: No, I didn't say I didn't like it. I'm saying the planning process of an elite doing it is not a relevant thing; it's impossible. It is not longer possible in the United States to have an elite do the planning, whatever kind of planning, your kind of planning, my kind of planning, anybody's kind of planning. It's no longer possible.

TUGWELL: Can I offer a possible illustration? My wife recently redesigned the kitchen in our house, and I tell you, I'm almost afraid to go into it, because it's so complicated, and I'm sure that if I touch anything it'll go to pieces. She did the arranging, but practically nothing in it was invented by her, it was all brought in from outside. It was the product of factory technology, and back of that, of course, a great deal of science and research, and so on. Now, you must be counting on a great background of technological material, which is not known to the people you're talking about, who are doing the designing. And this is the structure of our society today. These are the things we have to do with. Isn't that so?

ALEXANDER: One can make all of this available to people in a very, very simple way; this is the whole point.

TUGWELL: Yes, but all of these things are available now; more will be available in the future, and who will invent them? Who will produce them? Not the people you're talking about.

DREXLER: May I interpose something? It seems to me that underlying Mr. Alexander's effort is the assumption that, if people who have no special training and no demonstrated special ability are somehow enabled to manipulate the givens of technology, that new configurations will emerge that somehow bear a closer relationship to what those people would, indeed, prefer to have as their how-to-live arrangements. Is that reasonably accurate?

ALEXANDER: Yes.

DREXLER: All right. One could add to this the observation that among the existing elites, each one believes in the efficacy of the others. It is only within a given elite that its own efficacy is questioned. And I'm using the word *elite* as a very unsatisfactory term: what I mean by it is simply people who have been trained to do something.

LOGUE: I wouldn't say that is true.

DREXLER: Well, I think it is true, to the extent of a trained group that I'm familiar with, that is, architects.

LOGUE: I don't feel that way about architects.

DREXLER: You don't, but architects feel that way about architects.

LOGUE: I question the efficacy of the practice of architects—and lawyers.

DREXLER: Oh, you do question the efficacy of architects, then you know enough about the discipline to be able to question its efficacy. Well, the question—since the elites lose confidence in their own efficacy, then it is not too difficult to follow Mr. Alexander's impulse that one has to turn to something else in order to let something emerge—the question is, Is it really possible? Does it, in fact, yield anything in any way different?

ALEXANDER: May I give an example of the question that has to do with this elite/not-elite matter? I'm really addressing it to Mr. Logue. I'll just tell a story about one thing that happened up in Oregon. It had to do with something that is still happening. When we arrived on the scene, there was a proposal to build an extension to the student union building, at somewhere between two and three million dollars, a large hunk of a building which was

going to be added onto the existing student union. Now, one of the patterns that came out of our work and that was then reviewed by the campus student-faculty committees that were working with us, essentially made the statement that centralized student unions were extremely bad for the campus community on the grounds that they established a particular piece of territory as being student territory, and, by implication, created at least the feeling that the rest of the university was not student territory, and that in order to bring these matters to rights it would be advisable to distribute the same facilities for coffee and snacks, recreation, and things like this, all over the campus, so that there's ready access from different departments and that there was some of it everywhere.

Now, we got into a fairly drawn-out political battle, because this three-million-dollar building was in the works (it was not under construction). And, then, the following kind of thing happened: it so happened that this building had been designed actually by a group of, well, the administrators of the union, of course, and a couple of architects, and quite a heavy representation of students. So that we were told that this was outrageous for us to be questioning this particular project, since this, of all projects, was the one which had had tremendous community involvement, represented the wishes of the people, etc. We doubted this, went into the matter, and found that the students who had been involved in this project were a particular, minute, special interest group attached by bonds of common intercourse with the people who were most anxious to push for this three-million-dollar building. They were representing themselves as spokesmen of the fifteen thousand students, but when we presented these notions to a small sample of students at large, we found that students by no means wanted this centralized student facility, and, in fact, thought that the plan that we had proposed was a much more sensible idea, which they wanted to do.

Now, at that point, tremendously hairy meetings were held, we were accused of trying to take three million dollars away from the university by threatening the project, etc., and what is now happening in order to settle the matter is that a very, very large random sample of students is being consulted, with the idea of ultimately having a student referendum on this matter. This is going on right now, and I'm quite confident that the results of this thing will be entirely different from the so-called student involvement in the earlier project.

Now, I think Mr. Logue is right, that there is a temper of the times which, in effect, insists that there be some form of representation of users, and this is quite true. But, my story illustrates the fact that unless this matter is taken seriously, wholeheartedly, and pushed all the way, you don't get the same results.

TUGWELL: Could you tell us how the referendum is worded; what's the question that's asked?

ALEXANDER: It's been a very, very delicate matter. Roughly, what's happening is that the two opposing views are each being given about three pages to explain themselves, and there is an exchange of views being held by the opposing parties, if you want to call them that. We're looking at one another's material, until we feel confident that they're adequate representations of what we believe. And then, it's being done first as a random sample.

TUGWELL: Well, I'm just interested in the parameters; this raises some very interesting questions, I think. What students are there for is an education, I suppose, and I think there's grave doubt being cast on the question of whether a campus is the right kind of thing to get an education from. And I suppose those are the questions that don't get asked at all. The institutional questions seem never to get asked; everybody assumes that the institution is there and it can't be questioned.

ALEXANDER: I think that one can easily make the mistake of taking every little question back to apple pie, god, and country, but the fact is, that there is a day-to-day reality in the matter.

TUGWELL: In other words, you do accept the conditions that are set.

ALEXANDER: No, I think it's perfectly proper to question the existence of the university, I think it is perfectly proper to question everything about the way it functions, but it is also sensible to question the construction of centralized student facilities, which are plainly going to do nothing but elaborate the previous order.

TUGWELL: Well, I don't think you've answered my question, but I know what the answer is, I think.

DREXLER: What would you do if the result of the referendum was the demand, or a demand, for a procedure that you thought, that you were convinced, was inimical to precisely the thing you were trying to accomplish?

ALEXANDER: What sort of procedure?

DREXLER: Well, you have a concept of what the physical configuration of this should be. You have some guiding idea about it.

ALEXANDER: Well, we've already made it clear that we're not even interested in pushing it unless somewhere of the order of seventy-five percent of the student body feels that it's right, because we don't want to be finicking around whether it's fifty-five or anything. If a massive body of support shows

that this concept is actually more sensible than the one that is being proposed, then I think it should go ahead.

DREXLER: In other words, you're ready to sacrifice twenty-five percent of the student community? Well, I'm trying to get at something, that, at some point along the way, you are declaring prior rights, and you're doing it on a quantitative basis, not presumably on quality.

TUGWELL: The real question is that they may not be able to have what they want.

DREXLER: Well, evidently. But what I'm questioning is the mode in which the decision is arrived at. It apparently is being arrived at democratically, which means that it is a quantitative decision.

KRAMISH: No, I think this is a very, very crude technique. In this particular situation, I'm wondering whether the decision taken in this manner, for this body of students, this year, corresponds to the will of the body of students four years from now, and their thinking, the temper of the times, etc. After all, this is a more or less permanent institution, or at least something for twenty or thirty years, which you're setting up.

PERCIVAL GOODMAN: Mr. Chairman, you know, I don't think we're here to debate whether Mr. Alexander's pattern language is a correct method of handling the particular subject that we are here for. And I think that we're wasting a lot of peoples' time in quibbles about what Mr. Alexander's idea is about. His theory, whether correct or incorrect, will be demonstrated by the kind of proposals he makes, notably, to try them out in practice; and I think we ought to discuss what this conference is about, and we have very little time, we have just a little over an hour left to get down to some brass tacks. And I see great guys, like Tugwell and Logue, and my dear friend Hannah Arendt, here, and I think that they have a lot to say, and I think I'd like to hear what they have to say. And I'd like to say something.

DREXLER: I am sorry if we've seemed to focus too heavily on Christopher Alexander's work, but it seemed to me that he is involved in the ethical confrontation that we're trying to identify, as, indeed, is Mr. Logue, and everyone else here. Percy, do you want to ask a specific question of members of the panel?

GOODMAN: I didn't want to ask a specific question, I wanted to give a specific recommendation.

DREXLER: All right. You want us not to talk about Mr. Alexander's work.

GOODMAN: Well, yes. It seems to me that we are gathered here for the purpose of discussing what kind of new teaching methods would be usable in our time, because apparently the present teaching methods for teaching about the environment, and how to solve the problems of the physical environment, are unsatisfactory. Otherwise, none of us would be here. We all agree with that. Both teachers and practitioners agree with that. I think that's what we ought to talk about, and not talk about a whole set of rather vague principles, when we are, in fact, in a rather desperate situation. And I think it's a desperate situation—unless we're all just twiddling our thumbs—that has led many people to give up a weekend when we don't have too many weekends to give up.

DREXLER: Does anybody on the panel want to address himself immediately to that formulation of what this discussion is?

LOGUE: I'm sure Mr. Tugwell does, and I know I do.

DREXLER: Fine.

TUGWELL: Well, I guess so, but you and I are the voice of experience, perhaps, or something like that.

JANTSCH: I've certainly come here to discuss the Universitas Project, which is supposed to be something different from existing architecture and city-planning departments.

DREXLER: Well, gentlemen, Mr. Tugwell, will you lead off on it?

TUGWELL: I don't know that what I would volunteer would be of the nature of what you're talking about, but it does seem to me that this Universitas proposal, from its very name, carries a very large connotation. Now, what I have to say is, perhaps, irrelevant to what you have in mind as a school of design, or a university of design, but it is my conviction that unless the environment is freed, far more than it is at the present time, from man-made strictures (not those imposed by nature because designers have always had to accept what nature imposes and to work with them); but we ourselves, as a community, as a civilization, have imposed unnecessary restrictions on ourselves, it seems to me, so that we're not free as we should be to make a civilization, and, shall I say, educational institutions, which are necessary and acceptable under the circumstances. And the circumstances, of course, are the increase of technology and the great difficulty there is for any student now to arrive at a point where he can work on the frontiers of technology. This is a very difficult discipline at the present time. I often say I'm very glad that I was educated fifty

years ago and don't have to go through it now, because I don't think I'd make it, and maybe some of the rest of us wouldn't. But some will, and they'll work with this great structure of technology which has come down to us, and which we now have to work with.

And it's a very bad thing, I think, a very dangerous thing, to have stupid people working with this, because they can be very dangerous. They can be very dangerous if we give them the technological results of what's been done over the past, and allow them to arrange it the way they want to and to do the things they want to do with it. And I think this is, perhaps, our chief problem at the present time. Our elite that you talk about is working for people they ought not to be working for. And it's very dangerous, very dangerous indeed; it's so dangerous that it involves cataclysm. And we all know that now, and yet we don't change the institutions that have allowed it to come about. So I would plead for more freedom to arrange resources, to plan resources, the developing resources, the new technologies together with what nature gives us and is giving us, in ways that will contribute to, shall I say, social utility, or the kind of life that we would like to have. And I think that we can gain that freedom, but we can only gain it by changing some institutions to which we have very great attachments, and sometimes don't realize how they constrain what it is that we ought to be doing at the present time. Well, I do not want to develop this too far, Mr. Chairman, but this is my thought.

DREXLER: Could you identify some of the institutions you're referring to that ought to be changed?

TUGWELL: Well, they go to government, of course; they go to economics. We have, for instance, if we talk about the city and architecture, the architect works within constraints, which he ought not have to work within. Suppose, for instance, in your imagination, that land was not controlled by people who make a speculative profit out of it, but was controlled by the public. I don't necessarily think that the public ought to own it, but the public ought to have the say about what it's to be used for. And if it did have that say, and if we had equalized values, we could then look forward to the planners using resources, or allocating the resources, to use that land in ways which would contribute to the kind of civilization we want. And the designer could then make the kinds of things that we would like to live with and in. That's only one illustration, but you can think of many others, of course.

But, think of what this implies for government, for instance. It implies that government shall do a great deal more and, perhaps, a great deal less in some ways, than it's doing at the present time. The cities would have to be freed from the constraints that they have now from overhead. This runs, I think, to no less than the abolition of the states, as we know them now. The

only source of funds for the purposes that we have in mind comes from the nation as a whole. They come from what we call the federal government. That's where the tax powers lie; that's where the representative government has its center. And we decide that those people who go to Washington shall be able to lay our taxes and to distribute them. And they ought not to go through several layers of bureaucracy in order to get to where they're supposed to be used. And when they do get to where they can be used, there ought to be freedom for the designers to use them in ways which we've decided we'd like to have them used.

LOGUE: First, I would like to agree with Mr. Tugwell on the really extraordinary importance of institutional and organizational change. I don't happen to agree with him that planning should be separated out in the way he has proposed so eloquently and for so long. But I think we have adequate examples of the kind of institutional changes that can be made in the United Kingdom, where they've just, in this past year, created a Ministry of Environment, which I would suppose everybody in this room would think would be the finest thing that could happen in the United States if we could do it tomorrow, and I don't think we'll get to that.

JANTSCH: No, I don't.

LOGUE: Well, we can get to that. Now, what they've done in the way of reorganizing London into a two-tier system, a lot of people feel would be a great thing for the City of New York. And the way they have public control of land without public ownership would do an awful lot—they have a lot to teach us.

But I'd like to speak from another perspective, if I may, as, if you will, a potential customer or employer of the graduates of this institution. I sometimes feel that if we ever create this institution it will only have a faculty and students who will become part of the faculty and not go out and work.

But, over the last fifteen years or more I guess I've hired some, at least, five hundred professionals, and for most of that time I've been conscious of the fact that they're inadequately educated, and they've got to learn on the job, whether they come from architecture or, particularly, city-planning schools, or law schools. Now, I think we have a need for an institution of this kind, and I'd like to make some very pragmatic comments about it.

I can't resist the comment that after, I guess it's seventeen years in this business, the idea that design and construction are ready for the post-technological society seems to me stretching the facts by a rather wide margin. And, I know that after three and a half years of dealing with architects and contractors in New York, we're nowhere near the industrial society.

TUGWELL: Not to mention the unions.

LOGUE: Well, we right now pay a thousand dollars per dwelling unit more than we should because Local 3 of the Electrical Workers Union will not allow us to use BX cable. It's a very pragmatic problem, and they tell you what they'll do to the BX cable if you try to put it in anyway.

But, I said in my paper, where I obviously had a difficult time making the transition to the somewhat rarefied atmosphere here, that we had to be wary of discarding established concepts like urban renewal and public housing just because they've made so many mistakes, particularly in the area of design. I tried to suggest that most of those mistakes were made because design was rather low on the priority list. And then I used, as I've done before, the example of three people: the late A. Whitney Griswold, the President of Yale, Richard C. Lee, the long-time Mayor of New Haven, and myself, as three ignorant people coming to power, you might say, in New Haven at more or less the same time. And, I can show you in New Haven the three different buildings that each of us was first responsible for, and they're awful. Mine is the Southern New England Telephone Company, a gross building. But yet if you look, somehow or other, Griswold, clearly an educated man, Dick Lee, clearly not an educated man, and me, a lawyer, we somehow, I like to think, learned. But, there was no formal process for that learning. It's quite obvious that whatever process there is, there's nobody in the telephone company anywhere in the United States who's ever been exposed to it. I can tell a telephone building in any state in the union without having it identified to me.

Now, this does suggest, not that we somehow try to identify decision makers and the power elite in their graduate and undergraduate years, but it does suggest that we ought to be able to find a way to train people in an interdisciplinary way so that they'll be available for these decision makers in a significant way. And I, therefore, am inclined to think that this university shouldn't focus only on design, it should focus on what *Time* called "urbanology." I get a little bit frightened at the tendency here to reach out into all of the disciplines so that this educational process would never end. I get concerned about the notion that somehow we can begin somewhere other than now and somewhere other than here. We have to begin here and now.

I get concerned that there's a discussion about whether we begin with a power elite, because, in fact, only the power elite has the resources to provide the salaries that will make the faculty come here instead of somewhere else. But we also have to consider, in a way that we haven't, so far as I am aware, the powerless. This is the first meeting I've been to in a very, very long time where there hasn't been a single Black face. And I think their involvement and the involvement of other minorities in other parts of the country, is something that needs to be part of this institution.

Finally, it seems to me that if I were to take [as an example]—because I don't deal as easily in abstractions as examples—we have a very extraordinary

institution in Berkeley, and this symposium, somehow or other, reflects that because more people come from Berkeley, from the College of Environmental Design, than from any three other institutions represented here. If we can get the superb preparation that is being given to students at that college, in all of its disciplines, and we can somehow or other marry it with the discipline that's provided at the Harvard Business School, because, finally, these things do get settled on the way you raise and spend money, and if we can somehow or other add to that, if I may pick my own favorite school of public affairs, the Yale Law School, the people who make things happen in government, we could turn to people like that: we who are in this business in the public sector, could turn to people who had that kind of training, without it taking them ten years so that they're useless for productive work, they would find ready employment very quickly.

I would hope that it would be a problem-solving institution, and I take the trouble to say that because I tried for many years to work with the Joint Center for Urban Studies at Harvard and MIT, and I found that they were a problem-creating institution not a problem-solving institution. I think they've now tried to turn that around.

Finally, I suggest, and I might as well say it bluntly, that I hope it will be the hallmark of this institution that it has the ability to communicate, not one faculty member with another in esoteric language that is not used in decision-making chambers, but the ability to communicate with decision makers who can make these things happen.

It's interesting, again, Mr. Tugwell, that as we think about all of this, that there is an institution like this, somewhat like this, at least, as I understand it, in the process of formation in the United Kingdom; it's the Staff College being created for the Ministry of Environment. So maybe we should be in London and not here.

JANTSCH: I would like to attack Mr. Logue on at least three of the notions that I found so wrong in his speech. And the first one is that the Universitas Project should be problem solving. I think this technological mode of thinking is about the most dangerous you can find in dealing today with society, and, as far as I'm concerned, it has broken down. There are no problems to be solved, once and forever, as there are in planning by networks, and so on, for technological products: where you have a problem with the material, you develop the material, then this problem is solved, and you go on to the next problem. In society it's quite different than that.

And, as Hasan Ozbekhan once said—he isn't here—there is a *problema-tique*, which is something quite different, which is a dynamic situation evolving that has such characteristics that, from time to time, on the surface, something you might identify as a temporal problem comes up, and you can do something about it but you can never solve it.

The second notion I would like to rectify here, and this same notion has been brought up by our chairman before, is that you should train people. Training people means to me you duplicate existing skills or you stuff them with accumulated knowledge. And, Mr. Logue said that you should train people for interdisciplinary work. You cannot train people for interdisciplinary work; you can stuff them with various disciplines, but not for interdisciplinary work, because interdisciplinary work is organization toward a purpose, and that means you have to make these people creative, you have to make them designers. You have, also, to make the scientists into interdisciplinary designers, and that cannot be done by training; that can be done by work and stimulation.

And, the third thing is that Berkeley would have such a fine College of Environmental Design. I am in a position to comment on that because I was a faculty member there last year. And I can tell you Berkeley is a very fine university in one thing: because there, as in no other university I have seen in the world, the thinking of the students has split from the thinking of the faculty. The students are the ones who are motivated and purposefully oriented in an interdisciplinary way. They know what they want, they go around and use those faculty members who are willing to play with them, in this way. They use them as resource persons. And, I must say, I've learned more from them than they have from me. And, they were all very happy in this. But you have in the faculty this rigidification, this establishment of rules, the compulsory establishment of methods, even. If you don't use, in several departments, Berkeley's method of statistics you are not considered qualified to teach at Berkeley. If you do not express your papers in applied behavioral science terms, which is one of the most dangerous fads around in Anglo-American countries, I think, then you are asked to leave, whether you have tenure or not. So I think the same, by the way, also holds—these old stereotypes of decades ago, you cannot use them anymore. You cannot use the Harvard Business School anymore, the Harvard Business School is gone, you know; there are a few intelligent students there, who know what to look for and how to apply it, but for all those who study the case method—what has been done and the idea of applying the same cases in the future—it's utter rubbish.

We have to improve, and we have a new challenge before us, and we have to live up to that challenge, and I thought the Universitas Project was about that challenge and not using the "fine examples" of this or that existing school.

LOGUE: May I comment? I think it's interesting (I, of course, don't agree with any of that), it has been true for at least forty years, I guess, that the cream of the applicants for law schools in the United States, deeper than any other institution, have gone to Yale and Harvard. And there are many people, and when I was a student at Yale I felt it; we thought we were the reason, as students, for the greatness of the institution. Somehow or other, the students

remained great, and the faculty, maybe they're just a convenient reason for the students to gather. I think there's more to it than that: the same thing is true at the Harvard Business School. They get the pick of the students interested in that, and maybe the faculty are all old fools, but somehow or other they must perform some function and teach some classes. It may also be true that, and as far as I know it is true, that the students are what give distinctive quality to the College of Environmental Design, but the fact that the faculty are there must bring a few of them. I think that is nonsense.

Second, the notion that you can't train people interdisciplinarily, and that they have to come to work situations half-prepared, I think is nonsense. I know it's nonsense, as someone who has to take untrained people and make planners understand something about law, and make lawyers understand something about finance—that they would be more useful public servants if they had a more full education. And, I think this urban problem in this country is in such a mess that we need as many fully trained possible people as quickly as we can get them.

And, I realize that one can make a distinction between research of various kinds, but I do think that there is merit in a problem-solving approach. I do think, for example, that if the systems approach, if you like, were applied to the problem of abandonment in New York City, a serious and growing problem, with the same level of resources and commitment that some of the NASA problems were dealt with, that that would be useful, and I would hope that we would not try to do that with in-house government staff but that this Universitas would do that. If it was to be just another place for scholars to get together and talk to one another, I, at least, don't think it would be useful, and since I happen to know that there is a limited amount of resources which can be employed in this area, I would hope that if this ever got to be a decision that I could persuade people that you were wrong, and that we expect useful work out of this outfit.

JANTSCH: Don't tell me that, because I never said "no useful work."

LOGUE: *Immediately* useful work.

JANTSCH: More useful work, then.

LOGUE: There are problems that government is not solving that perhaps this institution could solve, or suggest a solution to.

TUGWELL: May I put in a word of caution? I had some experience as a teacher, and some experience even as an undergraduate teacher, and the worst thing that happened to us in undergraduate colleges of my experience was that the people who wanted students after we got through with them were determined

to dominate our curriculum. It seems to me that you're asking that you be allowed to determine the kind of education that people have that you happen to want.

LOGUE: Excuse me, that's true of everybody on the panel here.

TUGWELL: Would you deny that for me, please?

LOGUE: No, I won't deny it; furthermore, I think it's true of everybody who's spoken. But, that, perhaps, is why what I really want is something like the Ministry of Environment Staff College. Because, after all, the Yale Law School is not going to shut down when this thing opens up.

TUGWELL: I just don't think that's good enough. I don't think any of you people who are operating ought to determine what kind of education the next generation has.

LOGUE: Who should?

TUGWELL: If you want to train them, you train them after you get them.

ALEXANDER: This is just getting extremely confusing. I'd like to ask Emilio Ambasz to clarify the following point, please. Are we talking about a university whose function is to define a new way of living, or are we talking about a university which is going to provide professionals for UDC? Now, these are totally different ideas. I'm getting absolutely confused, one moment I think I'm talking about one, then the other. Please clarify this point.

EMILIO AMBASZ: America has given a great contribution to surrealism, and I don't see why this project should not be seen in that light. The intention of the Universitas Project was certainly not to produce a situation where there would be a production— understanding the Universitas in terms of participants in a production system as established. So, therefore, it was never intended to be producing people that would be serving the present needs. If one were to define the specifications as to what institutions need, I think they wouldn't be asking for that because then they would have to assume the responsibility of those they trained for their own performances. After their functions or their needs become obsolete in five years, are you going to become a patrician, and sponsor all your peasants, while they walk around? You have the responsibility of having asked for them, so you have to assume it.

As for the Universitas, it was first seen, of course, when it would go into the implementative the stage, there are three or four different ways of going

about that. One simple way would be to say, fine, the sun is rising in Peking, we can all go there, and this is one proper context for total participation, indeed, there is one system there. The other one is to say that, indeed, we want a university that has no place. It is everywhere, and perhaps one can use the example of the UNESCO or a center for information, which is constantly exchanging communication, and that there would be another type of model. A third model that one can have is to say, indeed, if we have to wait for a total set of social structures to be changed before the Universitas comes about, it will not come about; the intention of the Universitas was that it should, perhaps, participate in the changes through its actions.

As to how you would define the context, how it could operate, I can only give a private opinion, and it's not the institution's opinion, of how we would go about it. After all, the Museum can only initiate a thing like that, present an idea, in terms of its responsibility in the forefront of institutions concerned with the creation of the man-made environment. It cannot assume the responsibility for implementing them.

But, if one were to assume the responsibility for implementing it here in the United States, one could say that, perhaps, the only place where it could be done, and, again, I say this as a guess, would be in New York State, perhaps because it is the only state so far that has the Napoleonic system, in the sense that it has an Urban Development Corporation that has the power to implement some of its decisions. It has a state university system, which is in the process of growth. It has a Metropolitan Transportation Authority perhaps in the beginnings of some coordination of its transportation system. So the problem of where the Universitas could start is everybody's guess.

My proposal would be that I would start the Universitas in the context of a new city, and have a real new city, and a situation where we create a city with, let's say, just a guess, seventy, eighty thousand people, where the Universitas is, in a certain way, the laboratory. Or, let's say the city is the laboratory for the Universitas—but the Universitas is, in its turn, to perform two types of functions: one is to be a reflective function, or a reflective role, for the inhabitants of the city, the other is to fulfill some active roles in how the inhabitants can change their city. That would mean, of course, public authority that owns the land and doesn't sell it. Whether they want that piece of property without the Universitas, whether it would be a Ledoux scheme, where we have now, in the middle of the city, the Universitas and we no longer have the boroughs, as it was said yesterday, it may be seen in that utopian category. If it is so designed that infrastructures capable of admitting certain changes in elements, which can later be subtracted, the fact that the Universitas is in the middle of it, and it can later be removed or changed, or through its action become the Universitas of the whole city, as a metaphor, it's another thing.

You were just saying that new cities are to be created. You can then have a sort of tactical device: go around the other way, say, well the experience of the British, as you know, Mr. Logue, has been quite clear. New cities created, which have not the investment of tertiary industry, in terms of research and services, have usually become dormitories to the existing cities to which they were neighbors. In this case, if you were to say, well, a new city has to be started not as a decision from an educational or social viewpoint but, eminently, as an economical decision, you would have to say that one of the, perhaps, industries to eradicate would be a university. If you were to say what type of university you would have, at this moment, to say as an experimental situation, then perhaps the university should be one concerned with the city itself, which means physical design, social and economical design. Were you to say what type of participation the individuals would have in that situation, well, you could perhaps go and be relatively strategic and say that should you be a permanent university, you have tax benefits, as you know, in a certain way, from a federal source.

So, if I were to strategically take a decision on how you can operate in the present system and establish it, you can say: fine, seventy thousand people can populate such a city, or such an institution. But the fact that they are students of a university and they have a number of federal benefits, they would react in talking about a model which exists in an interstice. But the actions of the members of the city, the production of theirs, is their own life; that's the cultural production. They are constantly changing—constantly changing, of course, assuming that they are students of that Universitas, and by students I mean participants, I do not mean a situation of the receiving end. But it was never particularly intended that we should be proposing a university to train people to perform certain tasks for already-existing institutions. That was very clearly the point.

ALEXANDER: I'm not talking about training *anybody*, as far as I'm concerned.

AMBASZ: Indeed, I am not talking about training. That's the last thing we're talking about.

DREXLER: Are you assuming that the product of the model that you've just described has some bearing on the rest of the society in which it occurs?

AMBASZ: Well, yes, indeed. Number one, you should perfectly well make clear one simple point, that on my head there are several hats. One of them is the one that has formulated, perhaps in a relatively abstract way, this problem of the Universitas postulated as a set of needs, and then brought a number of people to help us elucidate what this Universitas should be, and this was the purpose of having asked for the papers and also the purpose of having gathered

people to discuss each other's contributions, so we can perhaps arrive at a certain set of ideas; whether they're contradictory or not is not the point.

If we're talking about the Universitas as having a bearing upon society, perhaps I don't get your point: what I meant, in this case, when I was talking about a product of that city, would be for having in the case of a master example—getting instructions, being trained, and responding accordingly—perhaps the idea of creating a seventy- or eighty-thousand-member city in the State of New York, as an example, as a pilot project—that has a long history in America. After all, America has been the place where most of the European utopias have been created, so it's about time that a certain type of American utopia be enacted in the United States. Whether, by its type of actions or by its operations, it would have a bearing on society, I, personally, would limit it, in the sense that it's seventy to eighty thousand people, where the Universitas produces two types of informational roles: it is aware of the effects of the processes which occur in its city, and, therefore, it evaluates them, it reflects upon them, and perhaps—with the participation of the citizens—proposes certain changes. And for that I insist the Universitas may have a skeleton staff of people who are educators and physical designers, social and economical designers, but they are not the ones that postulate all things: it has to be done in participation with the members of the city. They have a second role, which is that of bringing information in from the outside from other cities, of introducing it, and in that way it has, of course, the complementary role of exporting information and, in that way, the bearing [on society], if that was your question?

DREXLER: Yes, it was the question, and I think you have answered it, except for one thing that I'm a little, myself, unclear about. It seems to me clear enough that nothing in the [Working] Paper, in the formulation, suggests that the purpose of the Universitas is to simply staff the existing organizational procedures in order to confirm and reinforce the present methods. At the same time, if the model of the Universitas, wherever it might be located, if indeed it has a physical location, it seems to me that in order to perpetuate itself it must, in some sense, be involved in problem-solving. All right.

Then, on this basis, presumably it does at least connect up with existing and available technologies.

AMBASZ: We're only talking about the facts of the resources which exist to make it possible, to only happen in one circumstance, perhaps, and it may be perhaps a totally erroneous evaluation.

DREXLER: All I'm trying to do is see if I can effect some bridgehead between what seemed to me not really as opposed positions, as they might otherwise be made to seem.

LOGUE: I want to comment on that a bit. I'm sure you're not serious in thinking that I have the notion that this whole institution should be created to serve the institution that I am responsible for; it just happens that there are quite a few such institutions. If the Universitas is going to come into being, unless you're going to propose that a whole new set of institutions be created, unless you're going to propose that these people go out and do work unrelated to their educational experience, I suggest, respectfully, that they're going to have to work for existing institutions. But, more important, if they were better trained than the product we get now, I think they would do much better work and they'd correct some of the mistakes that we're making before we make them. And, then I'd like to make you an offer: it so happens that the State University of New York at Buffalo is building a new campus north of Buffalo in a town called Amherst, and it just so happens that we're going to build a New Town around it. I don't know whether we can wait till you get created, but, in fact, the situation exists. It's not eighty thousand, it's about thirty thousand, and we may have a lot of time to wait because we're being sued.

We're being sued for a reason which is interesting, and maybe the Universitas would help ameliorate; it's a national problem, which is that suburban people in this suburb don't like the idea of having as neighbors some of the Black poor people that we're going to bring in because they're going to work at the university we expect. But when you try to take that specific piece of land, some three thousand acres in all, and that very large educational institution, and this New Town planned around it, I respectfully suggest that if the Universitas were in being it would be up to its eyeballs in problem solving immediately. And I wouldn't care what you called it, I'd be satisfied with your nomenclature.

DREXLER: Yes, that's what I meant about how it would perpetuate itself. Ms. Arendt, would you like to comment on some of this?

ARENDT: Well, I was struck by a few things, which I will just throw out. Number one was the business of the elite, which really occurred in everything—in every single one of the discussions. Now, Mr. Alexander had the question of the elite: it's of course always the same, namely, who selects the elite? And Mr. Alexander had a certain proposition of a self-selected elite. Of course, it would be, as Mr. Tugwell said, a wonderful thing for very few people, and the question then always is, as in all these plans, whether this will become an elite. I will, for a moment, disregard that this word has such a bad connotation, and just take it for what it actually says, because we can very badly do without it. So either this becomes actually an elite, that is, something which will put certain standards of living, of having an environment, of having communication, etc., on others, or it will become one of the many, many

little communes and communities which we know from history, which never had a very long life to live until it was being absorbed again into the society at large. We can, of course, say that the whole crisis today is the crisis of the elites. That is, that those who are in power and who are the elites and partly empowered by ourselves are no longer recognized by us as an elite, and the whole antiestablishment mood, which I share, is still very typical.

Now, the question is, What can one do? And, I also don't quite know what one means by training for interdisciplinary work, except that I know that everybody talks about it today, and it has become a fad. Mr. Logue has limited this, and then I would agree that if he says somebody who's trained in law ought to know a little bit about finances, and somebody who's trained in economics had better know about the law, too. But that is not what is usually meant by that. What is meant is to educate people in such a way that they can take part in the whole spectrum of modern life; whether this can be done, the word *interdisciplinary* is very bad for that. Actually, every normal education should enable the citizen qua citizen to take part to the extent of his ability in as many spectra of public life as there are. So, there's actually only an education for citizenship. How can one make this education for citizenship, which must be done at the undergraduate level, because on the graduate level specialization is absolutely essential, how can that be done with universities of eighty to one hundred thousand people? I don't know, and I don't believe that's possible, and I think all these institutions are in a crisis today, and it's very, very questionable whether the world will survive this century—including the university.

When this gentleman (whose name I don't know) proposes a model city, with a very interesting limited number—you know Plato said 5,400—so you say eighty thousand, but the notion is pretty much the same, isn't it? And, if you would do that, it would be only, as I see it, a variation of what Mr. Alexander actually proposes, that is, to put models according to which living standards [would be formed], by which we would eliminate this obnoxious business of abstract standards, and the so-called values where nobody knows where these values are actually derived from, etc. That is, you want to put forward examples: to put examples is, or can of course be, very fruitful; it is politics, whether you call yourself architects, or whatever, this means to go into politics.

I'm pretty sure that something or other will arise in the next twenty or thirty years, simply because it is a question not even of life or death. I was struck by the word *urbanology*, that is, the science of the city, and I thought should that be like the science of philosophy, where the owl of Minerva flies only when the day is over? Doesn't urbanology, that is, really the science of the cities and that we want to discuss, and to study it now—what has been there simply up to now—doesn't that spell the death of the cities? I think that the great cities actually may be saved by problem solving here and there, but,

by and large, I think the great age of the great cities is really over. And the notion that came up here, of the eighty thousand or Plato's 5,400, seems to me very typical, because many people actually think along these lines though they don't know to put it as articulately as you do.

DREXLER: Mr. Castells.

MANUEL CASTELLS: I was very interested by the discussion of this morning on Mr. Alexander's thesis, which is, in my opinion, directly related to the Universitas Project if he assumes that it is not to project on a new professional situation. And I think this is good preparation for some kind of dialectic between utopia and politics: I mean, the propositions of Mr. Alexander are pointing to the problem of technocracy and to the call of freedom for the people to have their own environment. But the answer, the logical answer, is how can you manage when you have institutions, when you have economical determination of the world, and, finally, if it is true, that it is just in utopia where you have it. But, of course, that kind of discussion will continue always. The point is that social practice in history now is asking this kind of question in a practical way. For instance, I had a group of students who are making a study of China, on urban practices of the Chinese revolution. They were in China this year, and they found that in the Chinese urban communities, the people are building up their communities in the way in which Mr. Alexander was speaking about. I mean, they're using, of course, technicians, but the division of labor is a technical division, not a social division. And, I mean that the possibility to change, to adapt their forms and their wills and their dispositions of the special forms is being done by a continual discussion between the people and the technicians, who are also teaching the people. But that's possible not only because of social and political revolutions, and so on, but because of continual revolution. That has been possible now, and was not possible before the cultural revolution of Chiang.

So, I want to say, of course, you have to build, to realize also important goals; you have to build institutional problems. But, in the meantime, have we nothing to do? I don't know, but I think we always have something to do because we are always in change. But, the things to do are not the same in the different stages of the process of change. That means that to go directly to the final goal could be a bit dangerous for the same goals you are trying to defend.

I mean, more completely, the work done by Mr. Alexander or the work that could be made by an institution, such as the Universitas Project, has to be done as an alternative solution. It can be a utopian project, and that must probably be quite dangerous because it's going to be thought of as a prototype. I mean it is going to be sold in the same way that the Bauhaus objects are now being sold everywhere in the world. But the other possibility, of

course, is to try to do something in the way of disrupting society, and, I think that the real alternative is not between utopian and ideological projects but between a professional institution on one side and a disruptive institution on the other side, which means that kind of disruptive institution, that is a theoretical problem we don't have solved.

DREXLER: Mr. Kepes.

GYORGY KEPES: I was listening with a certain type of irritated interest yesterday to many of us, and myself included, and I was very happy when Percy Goodman reminded us that we came here for a purpose. And I assume it is a very good idea to remind us again that we try to find some way, a frame of reference, to place this very complex problem that we are speaking about. And, as I was listening to the last few speakers, including Ms. Arendt, I felt that we forget a very essential, embracing variable, which is really our crisis of scale.

When you are speaking about an environmental reduction, when you have a small city, whether it is an image or model of Plato, or is a new model, we forget that we are living in a fabric of a total situation. Just to dramatize it, I was reading recently of pollution in Holland, which is rather devastating, which has not originated in Holland but which has originated in Western Germany, and there is a certain unit of the total field where they are completely undefended against events, processes which are beyond their particular political system.

Now, when we are projecting a small city with this absolutely beautiful, crystal clear Universitas, and, just again to dramatize a point, for some rather known reasons, we will have some pollution, really on a fatal level, and invade this beautiful little crystal universe, then we are really confronted with our essential problem. And our major issue, what we all have to face individually, institutionally, and at every level, is this new scale. And, if we try to invert the direction of this and assume that we have a beautiful prototype, this whole resolution in a small scale, as a model for the future, I think we have a very dangerous kind of misguided notion about the total.

I think what [Castells] said, I very much agree that we have two kinds of tasks to face. One is really a university of subversion, an institution that faces reality and can be angry, passionately angry about issues that we have to be angry about. And this anger has to find its focus.

And, yesterday, when I was angry myself, I was not very articulate. But what I tried to say is that there are very important spokesmen, in every stage of history, with the anger of men with the image of a better world. During the beginning of the Industrial Revolution, when England was first polluted, and the light, the color, and the space disappeared from the life of the individual, there was the artist's imaginative power, the angry artist's imaginative power—sometimes the anger was not explicit—that projected the images of

light, color, really the most invaluable orchestration of a [J. M. W.] Turner, [John] Ruskin, or [John] Constable. And when the immense creative power began to be degraded, it was a [William] Blake image for the creative imagination that gave the direction of how to look at it. And, if you read carefully nineteenth-century history, it has just everything that we are talking about. If you look at the connection, for example, between Turner and [Joseph] Paxton: you may know Paxton's proposal to the British government to fight against pollution and create beautiful arcades through the whole of London, where one can still live a human life. I feel, if we speak about what we are speaking about, without neglecting this tremendously significant ingredient—the imaginative power of the man who still has within himself the ability to feel coherently and feel with an intensity, or the glow of this intensity—then we neglect something, very much so.

If you look at what happens among the young people, the underprivileged, and the artists, there are three issues which come to the fore. One is the kind of technological fetishism or utopia—Bucky Fuller is a hero with a big halo, and everybody is dreaming about finding a new system when everything will be resolved. And, again, I have to confess I was listening with great irritation to the new type of technological fetishism, which is semiology—which is in our new education industry. And, I fear there are great dangers: again, an assumption that by having this tool and polishing this tool you can resolve the essential.

The other major issue, where the young people are involved, and justly involved, is the social revolution. I do not speak on any political platform or anything like that, but there is a system, which evidently didn't live up to the new demands of the scale. And the system has to be changed. And this change has to find its tools. Now, until the last maybe hundred years, there were different proposals to find the technology of change. We have different conditions now, and we have to find a different technology of revolution.

And the last, which seems to me the most important—it was quite neglected here—is if you look around, almost the most significant part of the present scene is the young search for a lifestyle. The inner emptiness, the ego prison: man cannot bear anymore his own prison, and he tries to find a new community, and his new community has many ramifications, many aspects. And this one we just neglected, because assuming that if we resolve adequately the environmental transformation, we have still a tremendous major task to face, the man who is suddenly facing a new cosmos, first with a new knowledge of science, and second, the new cosmos of this new scale of complete interdependence, but where we have to respect the fact of life. And, I think, if one could start this conference again, I think we should first outline the coordinates, survey the variables, and try to work within this clearly defined territory the issues that we should explore. Forgive me, sir, for taking too much time.

DREXLER: Thank you. Mr. Goodman. We have about five minutes left and one other person has raised a hand.

GOODMAN: It seems to me that everything that Mr. Kepes just said I really support one hundred percent, and what I'm saying, in certain ways, is an extension, on a different level, of what he said, I think, very eloquently indeed.

I don't think there's any point in trying to teach something new unless you have something new to teach. One of the things I think that we have to teach is this question of what Mr. Kepes calls a new scale. Now I call it a change, in the good old Marxian way, of quantity to quality. You know, you put straws on a camel's back, at some point that last straw breaks the back. And, it seems to me that the quality of our life today has become of that sort, and that the last straw is about to be put on the back. This morning's *Times*, for example, gave a beautiful example of it. The Tokyo metropolitan government is considering establishing radio links with most of the city's schools, to provide an early warning system against the so-called photochemical, or "white smog." Schoolchildren have been among those most severely affected by this smog, which is produced by the action of strong sunlight and oxygen in the exhaust gas from vehicles. Many thousands of Tokyo residents were reported to have suffered from sore throats and sore eyes last year as the result of this smog.

Now this is a sort of building up of what we all can look forward to. Now, it seems to me that our job here, at least from my point of view, is the problem of the physical environment. The problem of the physical environment in our time consists of vast population increases. It consists of the possible exhaustion of resources if they are used as they are presently being used. And it consists of a pollution that Kepes just mentioned. And, it consists, also, of the fact that when the developing countries, as they are called, develop to the level of the United States or Holland or Germany, what happens to resources, what happens to the pollution, and the rest of it?

Now, we all think we are bored to death with what the ecologists have been saying about population, and the rest of it. We all know what the principle of doubling is: and the principle of doubling is, simply, that there are three and a half billion people in the world today, and by the year 2000, twenty-eight years from now, there will be roughly twice that number of people, and some thirty years later, there'll be twice *that* number of people. So, instead of having three and a half billion people, there will be seven billion, and then fourteen billion people. Now, if the amount of pollution that exists at the present time is intolerable to the Tokyo schoolchildren, I think it will be pretty fantastic by that time.

Now, I wanted to take up another problem, and I'm giving this because I think it is the background for a curriculum. It has been estimated that if the developing countries developed, that we would need about ten times the

amount of energy used when they were developed than if they had not been developed. And, in view of the fact that the United States now uses thirty-five percent of the world's energy produced annually, how are you going to provide for this increase in energy, especially when it has been proven, I think, rather dramatically, that our resources are exhaustible, and they will be exhausted not too far hence. Recently, it was said that by the year 1980 we will have used up all but ten percent of our oil resources in this country, and we will have to go to oil resources that are very difficult to get out of the ground, and the rest of it.

And so we go on. How are we going to provide for the kind of population growths that are talked about in the world today, when in order to provide for a decent standard of living, according to these technological standards that everyone seems so blithely to take for granted here, if we find that, for example, in the Netherlands (as Kepes has mentioned the Netherlands), in 1968, the people in the Netherlands used twice as much tin, I give that as one example because it struck me as being outstanding, as all the people of Africa—thirteen million people using more tin than 280 million people, the population of Africa in 1968? What do you do about a situation, Mr. Logue, when during the last ten years the State Power Commission has pointed out that the use of power in New York State increased by ten percent and the population increased only by .6 percent? Now, this is a fantastic kind of increase in power usage. What do we do when we have a city like New York—and it is pretty typical of the rest of the country—trying to dispose of five pounds of solid waste each day and a good piece of it is not biodegradable because it happens to be plastics, what do we do with all this stuff? And, we could go on and on with these kinds of figures.

Now, it strikes me that our problem of a Universitas, is to provide a decent environment for people. And if we think, in the United States, that we can, for example, use something like forty to sixty percent of the world's annual production to maintain our standard of living, we are living in a dream world, because there are six-hundred million people in India and eight-hundred million people in China who are not going to be favorably inclined toward our misuse, to my mind, of the world's resources.

So what actually should happen? Two months ago, about, or three months ago, the Civil Engineers Society of New York came out with the recommendation that all new buildings in New York—skyscrapers, office buildings—should have operable windows. Now, they came out with that suggestion for two reasons. One is that we had a bad fire in New York, and a lot of people were damaged by this fire. And, second, the amount of energy being used by these buildings for air conditioning and mechanical ventilation, and the rest of it, was simply horrendous. Do you people know that the World Trade Center, for example, is going to use as much energy every day as the City of Schenectady, which has a ninety thousand population? Does

Mr. Logue know that thirty thousand tons of air-conditioning waste, thirty thousand tons of air conditioning is required at the State University up at Buffalo, and that this is all going to be dumped into the lake to thoroughly pollute the lake? That's what I was told by the engineer of the project, and I suppose he knows.

These are the kinds of problems, I think, that we should address ourselves to. How, in fact, should we frame simple laws, like a law, say, for the preservation of natural resources? Now, the architects, the planners design a house. And what is looked at by the building department or the Department for Environmental Protection—or whatever one pleases to call it—is not only whether the beams and the posts are strong enough to support the building but also how much energy is being used. Why do you want an interior bathroom, which requires mechanical energy, the fan, and the rest of it? Do you need air conditioning? Is the architect's real problem now not to turn the difficulties of architecture over to some mechanical engineers with some gadgetry that has to be replaced every twenty years? Or, in fact, is the architect's problem to so orient his buildings, so gather in solar energy of those buildings that he can dispense with a great many of the things that are being done today?

This is what I call the humanization of technology, and the humanization of architecture, and I think that is what we should devote ourselves to. Now, I would like to recommend to everyone, to have everyone read the *New York Times* amusement section today: this article by Walter Kerr, who asks the question, "How live is the live theater?" When you get home, read that little bit. This has an absolutely immediate application to what the curriculum of the Universitas should be about.

DREXLER: You might have mentioned that the *New York Times* uses several thousand acres of trees each week.

GOODMAN: Well, look, I want to tell you something, that in a month or two months, the United Nations is having a conference in Stockholm, which is called "On the Human Environment." And what that conference is about are the very kinds of things that I just mentioned in passing here. And it would seem to me that if the Universitas were being founded on the basis of trying to design a better human environment, not simply for the stinking people in New York City or in the United States, but for the stinking people of the whole world, I think that the United Nations might possibly, out of its budget, find enough money to finance such an organization.

DREXLER: Denise Scott Brown?

DENISE SCOTT BROWN: If we're undertaking an exercise here in participatory institutional planning—an exciting endeavor, that's why there's excitement in

this room now— maybe we need clarification on three types of questions: to do with location, content, and process.

Location: Where in this society does the Universitas fit? I think we've been mainly discussing this topic today. Should it, together with the legislative, executive, and judiciary, be one of the powers of government—what Rex Tugwell called "the directive arm of government," or the "fourth arm of government?" Or an arm of the executive? Or a department within an executive agency, for example, HUD? Is it a university—a great university like Berkeley or Harvard, with complex ties to power, action, and organization? Or is it an institutional gadfly like the Center for Democratic Studies? We tend to accept that it's a university, but there is a broad range of alternatives, including a separate small college. Maybe it is all these things, but there are more opportunities than we talked about.

Content: Curriculum planning is also very exciting, as many people here know. What could be the curriculum of this type of institution? We haven't really looked at this question, although we've brought up various subjects— values, semiotics, citizen participation. The latter has many models: a philosophy of planning action and citizen participation would be fascinating to develop as part of the curriculum. Also systems thinking, problem solving, technology evaluation could be taught in this kind of institution.

Process: What processes will we be learning about, allying ourselves with, acting within, undertaking? The processes will depend a lot on the location. Obviously, a fourth arm of government would operate under entirely different procedural mandates from those to be followed by an adviser to UDC. So again, where is this institution?

The issues of location, content, and process can give a sturdy framework for our considerations. But what more is needed?

As an educator in a professional school, I'm particularly interested in educating for action. How do you train people for action? Academe trains people for criticism, which is part of action; for analysis, which is part of action; but seldom for synthesis, which is the real focus of action. And, particularly, how do we train people for creativity? That's an important topic for a Universitas.

DREXLER: Good. I want to thank the members of the panel and the audience, and we adjourn for lunch.