

THE STATE OF THE ART IN DESIGN METHODOLOGY

This month's DMG Newsletter is an attempt at assessing the state of the art in design methodology. A list of five questions was submitted to several prominent theorists and authors in the field, in the hope that the replies received would serve to describe where design methodology is now and where it is headed. The first four replies are included in this issue, and further reply will be published in coming issues. The British mail strike has prevented our obtaining some replies.

In this issue, Christopher Alexander makes a lengthy statement that will perhaps come as a surprise to some. Martin K. Starr, C. West Churchman, and Richard Meier also have statements in this issue. Next month, Horst Rittel, and hopefully some of the British design methodologists will be included.

CHRISTOPHER ALEXANDER

Professor of Architecture
University of California, Berkeley
interviewed by Max Jacobson

Question 1: What do you see design methodology as trying to do?

Chris: Interesting question. Obviously the intent is to try and create well-defined procedures which will enable people to design better buildings. The odd thing is that in the vast proportion of the literature people have lost sight completely of this objective. For instance, the people who are messing around with computers have obviously become interested in some kind of toy. They have very definitely lost the motivation for making better buildings. I feel that a terrific part of it has become an intellectual game, and it's largely for that reason that I've disassociated myself from the field. I resigned from the Board of Editors of the DMG Newsletter because I felt that the purposes which the magazine represents are not really valuable and I don't want to be identified with them. And there is so little in what is called "design methods" that has anything useful to say about how to design buildings that I never even read the literature anymore. There's an amazing gap between the avowed intent and the actual intent of the field. If the intent of the field actually had to do with making better buildings and better cities, I could get

interested in it but as it is, I'm not. I no longer see my own work as part of it at all because I definitely *am* concerned with trying to make better buildings. That remark of Poincaré is very much to the point: "Sociologists study sociological methods; physicists study physics." The idea that you can study methods without doing and studying design is a completely mad idea as far as I'm concerned.

Max: What about the work on developing techniques to *evaluate* designs and buildings?

Chris: I'm very suspicious of that also. I know it's a commonly accepted idea in this culture that the critics of something do not necessarily have to be artists themselves. This is commonly accepted in music, literature, painting. I don't agree with that at all. I think it's absurd. I don't think one can criticize things valuably unless one is at least attempting oneself to make things of whatever sort are being discussed. I find the critics of architecture not be helpful. If a group of people, forming a subdiscipline with the avowed intent of separating themselves from the practice of design, attempt to evaluate buildings, they are not going to shed much useful light on the subject.

Max: What about those techniques being developed which are specifically intended to aid the act of design, such as brainstorming?

Chris: Brainstorming—I find it incredibly naive and odd to treat that as a subject of study in itself. I feel that that kind of self-consciousness about one's activities actually removes one from the spirit of the matter. There was a conference which I was invited to a few months ago where Computer Graphics was being discussed as one item and I was arguing very strongly against computer graphics simply because of the frame of mind that you need to be in to create a good building. Are you at peace with yourself? Are you thinking about smell and touch, and what happens when people are walking about in a place? But particularly, are you at peace with yourself? All of that is completely disturbed by the pretentiousness, insistence and complicatedness of Computer Graphics and all the allied techniques. So that my

final objection to that and other types of methodology is that they actually prevent you from being in the right state of mind to do the design, quite apart now from the question of whether they help in a sort of technical sense, which, as I said, I don't think they do.

Max: How and why has design methodology emerged as a special interest area?

Chris: I think there's a good reason and a bad one. The good reason is that architecture was in a terrible state, is in a terrible state. A lot of people going through school and in their early professional years really couldn't stomach it, were not willing to do what was accepted, and began looking for something that seemed like a more reasonable basis than the really crass fiddling around that some of the architects were doing. That's the good reason. The bad reason, I think, is fear. Plain and simple. It's associated with a psychological state of mind in which a person is not willing to do the rather fearsome thing of creating a design, and backs away from it. I know that that was partly true in my own case when I was interested in the subject. And I think it's becoming more and more true. In other words, even amongst students who are not interested in design methods I find that this fear is very visible; this refusal to commit. The incredible and endless list of excuses as to why we cannot do a design today. And I think in that sense that "design methods" is just another one of those excuses but, for some people, large enough to excuse them for a lifetime.

I have some more to say on the subject of fear. A book that has just come out called *Emerging Methods of Design and Planning* asked permission to reprint an article which Barry Poyner and I wrote a number of years ago. I was also asked to make some drawings to go with this article. I made the drawings and they were very rough free-hand sketches. I sent them to the editor, carefully explaining that the roughness and free-handness was deliberate, the reason being very simple: namely, the patterns that I was describing are extremely fluid entities and the free-hand drawing captures the fluidity much better than a precise machine-like drawing. To my amazement, in spite of my request, these drawings had been redrawn in a very unpleasant stiff machine-like way and I looked through the book and realized that there wasn't a single free-hand line in it anywhere. I suspect (I can't prove it) that the people who edited the book, or the press who printed it, or a whole series of

people who were associated with the concept of design methods found it intolerable, unbearable that there should be free-hand lines, free-hand drawings, in this very marvelously pseudo-precise book. I think that's a very serious criticism of the whole thing and it implies to me that there's a state of mind associated with design methods which is really quite nutty and freaky, which is actually something to be watched out for. It may sound trivial. I don't think it is. The idea that the discipline cannot tolerate the idea of a free-hand drawing is a rather serious indication of the state of mind that prevails among the people who practice it. One of the most serious difficulties in the environment today is the machine-like character of buildings that are being made. They are alienating and untouched by human hands. I think it's a horrible state of affairs. I think it's ghastly. I think that people must be able to live in places which have been made by *men*. And any discipline which is so uptight that it can't even tolerate a drawing which was made by a man is almost certainly going to be associated with these kinds of buildings which are *not* made by men. And I won't stand for that.

Max: Are there any problems that Design Methodology has successfully attacked?

Chris: There obviously are some problems which have been solved. For instance, there are computer programs which can really help to analyze, and in some cases, synthesize, 3-dimensional space frames and cable nets. There have always been engineering methods that have helped in the design of structures. Those have become more extensive. I believe that critical path methods help in scheduling jobs. In short, my feeling about methodology is that there are certain mundane problems which it has solved—and I mean really incredibly mundane. The best answer I can give to your question is a personal answer. The fact is that it has solved very few problems for me in my design work. Most of the difficulties of design are not of the computable sort. For two reasons. One is that in most cases design depends on the depth of the insights you have and any investigation that you want to undertake preliminary to the design has to do with trying to deepen your insights. For instance, in the case of designing a building's lobby, it may very well be that we have a rule of thumb which tells us how big the lobby should be. But the issue at stake is the difference between good lobbies and bad lobbies, and it's quite unlikely that that's going to hinge in any critical way on a very precise determination of the size.

A rather rough determination of the size will usually be quite all right. The difference between a really good lobby and a really bad lobby will hinge on much subtler questions which most of us don't know. Insofar as we want to study things before or during the design, we want to study what it is that makes a lobby good and that's a problem of insight which is not particularly to be helped by methods. I mean again, of course, when you are studying that you do little experiments, you do all kinds of things to try and help yourself sharpen your own insight. You don't rely on methods in any mechanical sense. The other thing that's going on in design apart from deepening one's insight is the actual fusion of insights to create form. And I do not think this is a particularly mysterious process. What I mean by that is that it's not mystical, it is not beyond discussion. But when you are fusing your insights to create form you're operating in a realm which is so far from the numerical realm, that no method that exists now sheds any useful light on the sort of morphological difficulties you're having while you try to do that.

Max: In what areas should future work center in Design Methodology?

Chris: I think I just have to be consistent here. I would say forget it, forget the whole thing. Period. Until those people who talk about design methods are actually engaged in the problem of creating buildings and actually trying to create buildings, I wouldn't give a penny for their efforts. Anything that somebody says if he is actively trying to make better buildings may be interesting, and I would let that activity itself define the question of what needs to be done because I think once these people get themselves engaged in that activity their notions of what needs to be done will change. And the activity itself will lead them to where they ought to go.

Max: Would it be useful to discover the kinds of difficulties that designers encounter in acts of real design?

Chris: Well, my own view about that is that these kinds of difficulties have to do with the freedom of the spirit and I really cannot believe that any methodology is going to help that. I do think it's a very serious issue. For instance, we have recently

been designing a California Mental Health Center, designing the building on the site with the client. One of the architects associated with us, a practicing professional, comes to the site, says he cannot do this—he can only work at the drawing board. Now the fact that he is not free enough in himself to be able, actually to have the nerve to conceive the building right then and there, out on the site with the rest of us, is a difficulty of his. Obviously there are a great many things he could be helped by—but design methodology is not one of them.

Max: Maybe design methodology can identify what kinds of knowledge the designer is lacking at any point. It's not clear for example, what kind of information he lacks.

Chris: That's right. It obviously is possible to create all kinds of information which would be helpful to people doing design. I think that the patterns that we have developed are very helpful to people doing design and I think there are many other kinds of things which also are helpful. What I shrink from, and in fact, reject, is the concept of methodology which I find to be a very barren and intimidating concept. Something that is relatively sensible becomes extremely absurd when you call it methodology. Here is an example. Murray Silverstein and I have been designing a building. At Murray's suggestion, we have been going to an open piece of ground and putting wood stakes in the ground to indicate the organization of the building as we create it, then moving the stakes around and getting the feel of it all. We were talking about this with a friend and she jokingly said, "Why don't you write an article on the wooden stake methodology, namely, you get yourself some pieces of firewood, you wait for a foggy day, you go out to an old field and you start putting stakes in the ground." And she said we should write this up and send it in to *Emerging Methods in Environmental Design and Planning* and submit it as an article. We had a good laugh. It is funny because it is ludicrous to call it methodology. And yet as far as method goes, it is a very serious method which plays an enormously important role in helping to make a better building. When you call it methodology it becomes utterly idiotic and nothing but funny. And in fact I feel that the whole idea of methodology is one step removed from what is real. Anything that is actually real is

scorned by people who claim to be methodologists. Anything that is legitimate methodology is accepted precisely because it is so remote from everyday flesh and blood.

Max: What work are you familiar with that would indicate important future directions? (Who else is doing interesting things? What about this whole new thing of getting the users involved?)

Chris: Here's a good example of what I was just talking about. I believe passionately in the idea that people should design buildings for themselves. In other words, not only that they should be *involved* in the buildings that are for them but that they should actually help *design* them. I also believe passionately in the importance of information. But the moment these two ideas are brought under the rubric of methodology I start laughing or crying. It just is nonsense. Why call it methodology? Why be so pretentious? Why does one have to call the simple idea of getting people to design their own buildings—why does that have to be known as a methodology? What's the matter with the people who are calling it that?

Max: I think it becomes a methodology when you make them the actual designers in effect. That is, when you completely step out of the picture and you simply base all decisions on the results of what they've said. In other words when you don't become responsible for it then it clearly is a methodology.

Chris: But why do you want to call it a methodology? Why not just call it something to do? It's the pretentiousness of the whole thing that annoys me so much. You see this is the point: if you call it "It's A Good Idea To Do," I like it very much; if you call it a "Method," I like it but I'm beginning to get turned off; if you call it a "Methodology," I just don't want to talk about it.

Max: If this is how you feel about design methods, how do you view your earlier book, *Notes*, and what was your intent then? It is clear that you are viewed as a major theorist in design methods. What is your feeling about that?

Chris: Well, as far as I am concerned, the whole thing has been a painful and drawn-out misunderstanding. My situation in 1958 was very simple. I wanted to be able to create beautiful buildings. I didn't know how, and nothing that I was learning in

school, was helping me. Yet at the same time, I had a very clear sense of the difference—I knew what beautiful buildings were—and as far as I was concerned, not only was I incapable of making them, but so were most of the architects now practicing. What I wanted to be able to do was to create buildings with the same kind of beauty that traditional architecture had. So I began to find out what to do. This really meant going to the roots of form. To that extent, even the simple emphasis on function, and requirements, in *Notes*, was, for me, merely a way of getting at beauty—a way of getting at the foundations of a well-made, beautiful thing. And the so-called "method" of that book was, in the same way, simply a process which seemed to me to go to the heart of what had to be going on in a beautiful building.

Max: If this was your intent, why did you present it so clearly and sharply as a "method?"

Chris: As you know, I studied mathematics for a long time. What I learned, among other things, was that if you want to specify something precisely, the only way to specify it and be sure that you aren't kidding yourself, is to specify a clearly defined step-by-step process which anyone can carry out, for constructing the thing you are trying to specify. In short, if you really understand what a fine piece of architecture is—really, thoroughly understand it—you will be able to specify a step-by-step process which will always lead to the creation of such a thing. Anything short of that means that you don't really understand what is going on. So, for me, the definition of a process, or a method, was just a way of being precise, a way of being sure I wasn't just waffling.

Max: But you did actually use it, didn't you? At what point did you discover that it wasn't necessary to go mechanically through all of the interactions, and then to use the computer programs to get subsystems, and so on?

Chris: Well, during my experience in India, designing the Indian village, and then again during the design of the San Francisco rapid transit stations, I began to see that we could go straight to the diagrams for subsystems of forces, without going through the

earlier steps of the procedure—and in my later work I began to call these diagrams “patterns.” But this discovery, in itself, is not essential. That isn’t what I want to talk about because there is a danger that people will once again think that what is at stake here is a “method”—except that it is now a new method, a revised method. That isn’t the point at all. The real point concerns the motives behind all this work. My motive, from the very outset, has always been the same: to make better designs. This is a very practical motive. Whenever something doesn’t help me make better designs, I get rid of it, fast. What I am most anxious to convey to you, and to the people who read this interview, is the idea that if that is your motive, then what you do will always make sense, and get you somewhere—but that if your motive ever degenerates, and has only to do with method, for its own sake, then it will become dessicated, dried up, and senseless.

* * * * *

RICHARD L. MEIER

Professor of Environmental Design
University of California, Berkeley

Question 1: What do you see design methodology as trying to do?

Response: Open up the intuitive design process to scientific investigation, introduce techniques of optimization already known, and eventually contribute to the studies upon the intellectual potentialities of man, both as an individual and when organized. It concentrates on the synthesis process (e.g., theorem formulation rather than proof) with the result that the discoveries of genius may increasingly be accomplished by lesser people with the aid of hard work.

Question 2: How and why has design methodology emerged as a special interest area?

Response: A number of eclectic minds influenced by modern psychology, philosophy, and science have chosen to become architects and design engineers.

The professions have remained open-minded enough not to reject them totally. These people have been mobile enough to start finding each other so that a near-to-critical mass now exists in English-speaking countries.

Question 3: What kinds of problems has design methodology successfully attacked? How important have these successes been to design problem-solving, either in theory or in practice?

Response: Being a general systems theorist, I have not tried to separate their thinking from the many analogs elsewhere in science. The principal effect in architecture is to improve the quality of discourse. Now it is possible to design a series of simple, inexpensive, yet elegant experiments that can be reproduced anywhere in the world. The consensus that arises should begin to fuse together the “schools” of designers, similar to what happened in psychology in the ‘40’s and ‘50’s.

Question 4: In what areas should future work center in design methodology? Why?

Response: I am open-minded about direction, since it depends upon the accidental fusion of discipline and experience in several men’s heads simultaneously in such a manner that they can learn to converse with each other and simultaneously recruit new, creative minds to their foci of interest. I have committed myself to solving problems related to high-intensity urban life. How can this be achieved and advanced with a minimum consumption of scarce natural resources? Asian cultures are more pertinent than Western at this time.

Question 5: What work are you familiar with that would indicate important future directions?

Response: An efflorescence of new thinking has been arising in Paris, Poland, and the United States on the link-up between semiotics and architecture applied to the decoding of the cityscape. This kind of information will suggest the viability of newly designed images (or proposals). At the other end of the spectrum is the accommodation in organizations, education, personality, and physical arrangement to the stress of communications overload, which occurs primarily in cities, and is found in precincts where responsible professionals are most concentrated.