1973

Call for Papers for the 1973 Design Activity International Conference

Design Research Society and Design Methods Group

Design Research Society UK
Design Methods Group USA

THE DESIGN ACTIVITY INTERNATIONAL CONFERENCE

1973 August 29-31
The Polytechnic of Central London

THE DESIGN ACTIVITY INTERNATIONAL CONFERENCE
1973 AUGUST 29-31

Advance Booking Form

TO: The Secretariat, DRS/DMG 'Design Activity' Conference,
c/o Polytechnic of Central London (Short Course Unit)
35 Marylebone Road,
London NW1 5LS, U.K.

I plan to attend the DRS/DMG Conference on THE DESIGN ACTIVITY

- ☐ I shall want accommodation on the campus
- ☐ I do not require accommodation

I enclose the advance booking fee (deductable from the full fee):

- ☐ £4
- ☐ $10
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- ☐ Money order
- ☐ Other

Name .....

Profession .....

Address .....

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- ☐ DRS member
- ☐ DMG member
- ☐ Full-time student

* This form should reach the Secretariat by 15th February 1973 *

Advance booking fees should be made payable to:

DRS/DMG 'DESIGN ACTIVITY' CONFERENCE

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THE DESIGN ACTIVITY INTERNATIONAL CONFERENCE
1973 AUGUST 29-31

Call for Papers

You are invited to submit a paper for the DRS/DMG International Conference on THE DESIGN ACTIVITY.

To ensure that meaningful discussion of the main issues in design research, design methodology and design practice will evolve during the conference, a number of "stimulus statements" have been prepared dealing with the four main themes of the conference. It is intended that papers submitted should take one or more of the stimulus statements as a starting point and make a clear contribution to one of the four session themes. To encourage submissions to the Case Studies theme, a prize of $1,000 is being offered for the most significant contribution in this session.

The first stage in the submission of papers is the preparation of an abstract. Using the attached form, the title of the paper, the author's name (on a separate line) and the abstract itself should be typed (using, if possible, an electric typewriter with carbon ribbon) within the box, leaving a 2 mm margin between the edge of the text and the box. Please avoid folding the form across the text.

ABSTRACTS MUST BE SUBMITTED BY 15TH FEBRUARY 1973

Following collation of the abstracts, special paper will be issued for the preparation of the full papers in "camera-ready" form.

Return the ABSTRACT form to:

Dr. T.W. Maver
ABACUS
University of Strathclyde
GLASGOW G4 0NG
U.K.

Send a copy of the form to:

Mr. J.P. Protzen
Department of Architecture
University of California
Berkeley, California 94720
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Abstract Pro-forma

Name: ..... Profession: .....

Address: .....

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Paper intended for Session 1 ☐ Design Morphologies
2 ☐ Design Processes, Techniques, Algorithms
3 ☐ Design Objectives
4 ☐ Case Studies

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Stimulus Statements

THE SECOND GENERATION AND BEYOND - Donald P. Grant, Cal. Poly.

Rittel distinguishes between a "first generation" and a "second generation" in design methods. He characterises the first generation as being based on an assumption that there is professional expertise that can be applied to other people's problems; that the design process is not an argumentative process, but one wherein the professional informs himself about a client's problem and then formulates a solution on the basis of his professional expertise; that any "publicizing" or exposure of the means by which decisions are reached is unnecessary because the professional is guided by his code of ethics; that quantified, objective measures obviate any need for "objectification", or making understandable; and that the development of increasingly complex techniques and procedures leads to better solutions, albeit at the cost of making the professional designer increasingly indispensable. The growth of the legal profession's role in society provides an interesting analogy.

Rittel describes what he sees as the "second generation" in terms of seven characteristics. The first is that, especially in the case of deontic knowledge (images of what ought to be), expertise does not reside solely in the professional, but in all those whose interests are affected by a design or planning problem. Rittel refers to this as a "symmetry of ignorance" between designer and clients, and poses this as a logical rather than sentimental argument for user participation in design and planning decisions. The second characteristic of the second generation is that planning and design should be viewed as an argumentative process, or network of issues to be argued and decided. The third characteristic is that any given issue can always be viewed as a symptom of some more fundamental one; the fourth is an ideal of "transparence of argument"; the fifth is the principle of "objectification" (making understandable) as a means toward forgetting less and stimulating doubt; the sixth is that a client who delegates judgment to a professional must be able to maintain control over that delegated judgment; and the seventh is that the designer/planner conspires with his client to develop a solution, thus eliminating the problem of getting one's proposals implemented, since the question of convincing the client is obviated by his participation in producing the proposal (Rittel, Horst W.J., January 1972, THE DMG 5TH ANNIVERSARY REPORT, DMG Occasional Paper No. 1, pp. 5-10).

Rittel's view is that the highly quantified, ostensibly objective techniques of the first generation, such as benefit-cost analysis and hierarchical decomposition of problem structures, might be useful in support of positions taken in arguing issues, but should by no means be viewed as conclusive, objective truths or as black boxes from which final decisions emanate.

It is interesting to reflect upon the development during the last decade of the methods and approaches listed as the subheadings for this session. There has been a tendency toward developing strings of methods that, when combined end-to-end, would yield a complete prefabricated procedure for design and planning, and a further tendency toward increasingly large-scale and complex techniques aimed at yielding as their outputs completely formed proposals. There has been a parallel tendency in computer-aided design, in the form of a drive toward total automation-for-its-own-sake, evidenced in the body of conference papers that have accumulated over the past decade.

The organizers of the 1967 Portsmouth Symposium (see Ward, A., and Broadbent, G., DESIGN METHODS IN ARCHITECTURE, Lund-Humphries, 1969) observed that a characteristic of the development of architectural design methods up to that time had been a heavy dependence on borrowing methods from other fields, and that perhaps that symposium should mark a turning point toward the emergence of new methods and approaches generated from within the field, and aimed at the problems unique to architectural design. Perhaps the coming DRS/DMG conference should aim at being a turn from the first generation in design methods toward the second generation, and from a basically academic and theoretic orientation towards application in practice.

Science fiction in the western coutries went through a phase of pure adventurism, then one of high concentration on technical wonders, and then emerged into its present emphasis on socio-economic, psychological and political themes (with a major off-shoot into the whimsical-fantastic). Design methods and computer-aided design have gone through their period of high concentration on technical wonders, if not their periods of pure adventurism (The Architecture Machine perhaps?), and should perhaps now begin to emerge into a period in which the major concerns will be those dealt with in an argumentative, second-generation framework: problems of conflicting images of what ought to be, of conflicting interests, and of resolving planning problems in which many differing values must be accommodated side-by-side. And we should not neglect to observe that a survey of the contributions of some of our colleagues from the Portsmouth Symposium down to the present seems to qualify us as having produced a major off-shoot into the whimsical-fantastic, or at least the fuzzo-poetic.

Several classes of technique have been progressively developed during the past few years, two notable examples being hierarchical decomposition and the family of economy-of-movement-criterion, graph-based space

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location techniques. Virtually every conference in which design methods and computer-aided design have been represented has yielded a few more variations of each of these two themes. Both Rittel and Jones have observed at different times that one major benefit derived from design methods may turn out to have been in the education of designers. In this light, the great proliferation of papers describing variations of a few basic themes might be viewed as evidence of much healthy learning activity, worthwhile even without much fallout in terms of practice. But it seems to me that at this point we should shift the emphasis in our field toward greater relevance in dealing with socio-economic and political problems in design and planning, and toward bridging the gap between theory and application in practice.

I submit that the theme of all the sessions of this conference should be a shift toward application in practice, and toward an emphasis on the development and use of second generation approaches. This proposal does not rest on any assumption that the very technical and highly quantification-oriented efforts of the first generation have been taken to their logical conclusions with all their loose ends brought neatly together; but simply that it is now time to concentrate on the overall functions of design and planning methods in human affairs. A shift toward second generation concerns might serve to define areas in which it would be seen to be worthwhile to carry on further development of first generation techniques for use in the realm of argumentation, self-education and decision making.

DESIGN FOR REVOLUTION OR REACTION? - Professor Thomas A. Markus, Strathclyde University

No doubt the underlying theme of this conference will be that progress in design research will emancipate users of the environment, give them better solutions, more control in use, and release the designer from the onerous duty of making value judgements on behalf of clients whom he does not know, with whom he shares no values and amongst whom he will never live. Participation with a vengeance. To support these views we will hear about, and see, demonstrations of optimisation techniques in which goals are user-selected and, no doubt, user-monitored; we shall observe computer-aided design techniques which make the process "transparent" to all; we shall see architecture machines which sense what is needed without the intervention of a human brain or hand, and execute it; and we shall certainly be asked to participate in design games of a great variety. The games people play. Just who are the design researchers kidding?

It all started innocently enough, when Alexander, Archer, Asimow et al realised that systems, mathematical structures, and operational research may make the traditional task easier or quicker, or may at least explain what went on. It was necessary to empahsise the difficulty of the traditional task (the vastness of the solution space, the 700 million ways of placing 12 cubes into a 2 x 3 x 2 matrix) in order that the little techniques should appear big and general. It was necessary to glory in the buildings, towns and road systems with the most obvious functional, human, aesthetic and economic defects. Real as these failures were, the researchers gradually became frozen in the stance of amazed mockery, and were unable to discuss any but these real or imaginary fiascos. With the apparent hardness, it was considered wise to mix a little romantic warmth by reference to Indian villages, cave dwellings and pop-art, just to prove that in spite of superficial appearances, the researchers were still people. Woolly-liberal, left-wing philosophy was de rigeur and, to cap it all, a healthy attack on planning bureaucracies, the established design professions and the ignorance and two-facedness of elected representatives when it came to matters of environment. If this description looks like a caricature, we should remind ourselves of the issues on which design research has remained significantly silent.

What work exists, or is even being contemplated, in which the effects of the social and political frameworks in which different designers work is related to the methodologies they use? Has anyone even proposed the outline of a political theory of design? What do the various methods tell us about resources for the environment - land ownership, the ownership of the means by which environment is produced, tenancy terms, the relation between designers and their employers?

It is perhaps most useful to examine the notion, now widely accepted, that the design researcher's task is the creation of a process which can be handed over to the community at large, which will enable all to participate in design, and which will allow continuous design over the life of the product to proceed. First, it is obvious that there are as many possible processes as there are products. The choice between alternative products involved value judgements, and it was the dictatorial exercise of these on behalf of others that, it is claimed, makes it necessary for people to be given viable processes in which they can make their own value judgements. But who chooses between once process and another? Either this is a technical judgement, made by experts, or a moral one. If technical, how does the expert who makes the decision get into that position of control? If moral, what guarantee is there that the community, whoever they may be, has the full and fair range to choose from, and the education and foresight to exercise its moral choice freely and wisely?

Secondly, is there not every likelihood that any useful technique will be misappropriated by those who already have power, used for their own ends, and, if they fail, used to demonstrate the need to maintain "expert" judgement in the hands of the controllers? There is every sign that "participation" has already become a bandwagon onto which every politician is jumping in the hope of maintaining his power; the resulting crushing of political aspirations is as cruel as it is shortsighted, as it has been the biggest single impetus to genuine radical forces.

Even if the new processes worked, were morally defensible and the community could operate them, what evidence is there that the community wants them? I would maintain that there is no more desire for environmental freedom and creativity than there is for genuine political freedom. We are faced, as Marx was, by the inability of the masses to perceive their loss of freedom, and their apathy towards revolution. Marx saw that the movement towards real economic and social freedom would be led by a small elite, who would struggle as

hard to carry the beneficiaries with them as to conquer the existing of power.

The naiveté of a-political design methods is most clearly seen in the fact that no account is taken at all of the basic economic fact that all environment is built on land, and all land is owned by someone. Surely a method which suits the owner, cannot be suitable for a disappropriated tenant, factory worker or school-teacher? A method which can be used by an owner who has his own means of production - i.e. controls a contractor and producer of materials, cannot be suitable for an owner who is in a market bargaining situation vis-a-vis such producers?

Obliviousness to these central issues is disguised by a concern for technical issues - validity of simulations, economy of computer programs, logic of decision systems. But the technical issues are of far greater complexity than the older technical problems of design - structural, environmental, etc. - which were already beyond the ken of the man in the street and which led to the legitimisation of the design professional. As the gap widens, the design professional will gain even further power, no matter how much he protests his social responsibility. He remains responsible to those who hire him; if hiring him really threatens to transfer control of the environment from the hands of land-owners, they will ensure that he remains inaccessible, either absorbing him into their own organisations, or by destroying him. If design researchers seriously consider that a British Minister of the Environment, or a U.S. Federal Housing Agency is going to apply design techniques which lead to worker control of industry, patient and medical staff control of hospitals, and parent-teacher-children control of schools, then they display a level of ignorance which should make us doubt everything they do; if they don't seriously believe this, then we can justifiably ask them to show some evidence that they are preparing a subversive strategy which is part and parcel of their methodology.

Christians look forward to a state where religion withers away, as its purpose will have been achieved; Marxists to a state where politics withers away when social justice and freedom reign; designers should look forward to a state where the need for design processes withers away as people live in a harmonious relationship with their environment. But religion and politics are, until the coming of the millenium, forces to be used for challenge and radical attack; design processes could be used in the same way, with a new generation of researchers who will face up to the ethical and political forces which will oppose a transfer of power. In case this sounds like an indictment of mere ineffectiveness, I would add that what researchers are currently engaged on is positively dangerous; they are adding to the tools of repression, by producing powerful simulations and systems which merely enable the manipulation of communities to take place more efficiently.

THE SCOPE FOR FORMAL QUANTITATIVE ANALYSIS - Professor Mike Simpson, Lancaster University

In design, the objectives are many and varied - ranging from prime cost to aesthetic considerations. And normally a large number of design alternatives are feasible, from overall forms in the early stages of design to the later detailed aspects. We clearly have a classic decision problem with many alternative strategies and many measures of effectiveness. But the "simplifying" techniques of cost benefit analysis and similar ploys are not useful in the complexities of the design process. What, if anything, can be achieved by formal analysis? What techniques are useful? At what stages in the design process is analysis feasible? When is it likely to be most effective?

In simple detail design situations or in the evaluation of installed equipment, objectives may be simplified to very few commensurate factors. We nevertheless face formidable problems of how best to provide the facility for representing design alternative and to present data resulting from any evaluation process. Both these are the subject of much current research - mostly associated with computers and electronic data display equipment. Much of this work, however, leads to procedures which are either inflexible or confusing to the user. We shall only make significant progress when we are able to represent designs efficiently, modify them rapidly and easily, and present outputs quickly and in formats familiar to the user.

In more complex cases where objectives are not commensurate, the difficutly of resolving conflicting objectives has received little attention. It seems clear that we must settle for ways of presenting data to designers in such a form as to enable them to take value judgements most effectively. Yet we know little of the consistency with which these judgements are arrived at, nor of any differences between the various parties involved in design - or architects and clients, for example. Substantial work into the relevance of decision theory seems called for.

Finally, the comprehensiveness of the coverage offered by "design" evaluation techniques" must be questioned. Much otherwise good work has clearly been limited in its utility by being too restrictive in the factors included and available for manipulation. While progress is possible in some detail areas, we are in no position to assess the most effective points in the design process generally for using such techniques until we can cover all the important factors. But extending current work (to include, for example, structural aspects as well as cladding materials in building studies) while, at the same time, maintaining flexibility, presents formidable difficulties.

AN EVOLUTIONARY APPROACH - Philip Steadman, Cambridge University

To my mind the subject of the second session planned for this conference, on "design processes, techniques and algorithms", raises a number of issues of progressively widening scope; and I would like to try to list what I see these issues to be, in order of increasing breadth and generality.

First of all, the list of topics under this heading seems at first sight something of an assortment, a rather mixed bag of mathematical and operations research tools, with the names of some rather more general activities, such as "performance measurement" and "evaluation" lurking in amongst. I think it would be valuable first of all if contributors to this conference could perhaps attempt to set particular topics within some mathematical unification of this otherwise rather fragmented field, the greater part of which could be said to be covered under the term "optimisation of generalised combinatorial systems". Allen J. Scott in his book Combinatorial Programming, Spatial Analysis and Planning, for instance, has made a great step forward in this direction, and has managed to provide an overall framework within which to set linear programming methods, branch-and-bound and backtrack programming for tree-search methods, scheduling, variations on the assignment and transportation problems - under which heading would be subsumed much of the "generative" spatial allocation work - network problems, and methods in taxonomic analysis including hierarchical decomposition procedures.

On the particular subject of "generative" design methods in architecture, I would like to see some of the proponents of these methods - particularly those based primarily on traffic criteria - confront what seem to me to be some fundamental circularities in these approaches. The first circularity arises out of the fact that any such method must take, as given, some frequencies of traffic flow or "association" values, which are drawn from surveys of existing buildings, or else from other more or less arbitrary assumptions based on experience; whereas it is quite reasonable to imagine that the very spatial arrangement in which rooms or activities are set in the generated design, will itself have effects back on the resulting traffic patterns or associations. The second circularity concerns the fact that any allocation process, beyond the most trivial and unrealistic examples, requires the initial specification of some sort of spatial framework, with the positions of circulation routes and in particular vertical circulation points fixed in advance, into which the given rooms or spaces are set. This choice of spatial framework has a crucially determining effect on the actual layout produced: and only slightly different spatial frameworks can produce wholly different allocation solutions.

These circularities inherent in the "generative" approach to architectural design, seem to me to be only special cases of a more widespread difficulty in current attitudes to automated or systematic design. The difficulty is caused by an assumption, usually hidden and implicit, rather than made explicit, that the very process of making a sufficiently exact statement of the terms of some design problem will in itself provide the answer to that problem; in Auguste Choisy's words, "the problem posed, the solution is indicated". This is an admittedly bald and over-simplified statement of an attitude that, in my view, is still nevertheless to be found, in one form or another, behind much of the recent work for example in "hierarchical structuring of complex problems" growing out of Christopher Alexander's original ideas, as well as elsewhere: and it is essentially fallacious. I would suggest that this is an equivalent, in the creative design world, of the inductive fallacy in relation to scientific discovery; the mistaken notion that by a patient accumulation of objective "facts" about the world and a study of their relationships, some pattern will of itself emerge and present itself to the observer. Karl Popper has shown how we must rather see the scientific method as an alternating process of hypothesis and testing, of "conjecture and refutation". The scientist imposes theory onto the world, to see if it will fit, rather than the world imposing theory onto him.

Many writers on design method have identified a typically cyclic character to the process of design. Authors may differ as to the exact number and names they give to the various stages in this cycle, but all ultimately agree that the process consists centrally of alternating phases of invention and criticism. Some initial "design hypothesis" is put forward, is subjected to testing and evaluation against the stated performance criteria, is modified as a result, is tested again, and so on until some satisfactory resolution is reached. This has clear parallels with Popper's "hypothetico-deductive" scheme in scientific procedure; some tentative theory is proposed, and is then tested by experiment in an attempt to disprove it, is maybe modified as a result of failure, and so on. The interesting and difficult psychological question in either case is, where does the initial hypothesis/design idea come from in the first place? I would suggest that, in the design context, the first maybe shadowy and ill-defined design hypothesis can only come from the designer's preconceptions; from existing objects or buildings of the type with which he is concerned, and with which he is familiar, or those which have existed in the past; from current stereotypes. And that these preconceptions, so far from being embarrassments of which the designer's mind should be ideally rid, are on the contrary, all that he has got to work from. It is only the excessive emphasis placed on individual originality in design, and a romantic conception of the creative artist's function, that has led to the idea that every designer, in every design problem, starts on a completely clean sheet to examine the structure of his problem afresh, independent of the previous accumulation of experience of countless other attempts at the same problem, and of the lessons which these earlier attempts have taught. (Here again I am caricaturing a position which may not be so common in this extreme formulation, but is very general in milder forms, and again, in the unspoken assumptions made about the context into which design aids and design systems are intended to be introduced.)

All of this argues in favour of an evolutionary approach in design method and design research, and for a clear distinction to be made between two kinds of activity in this field. On the one hand there is the purely analytic activity of studying existing artefacts, building, buildings and cities, in an attempt to achieve a better understanding of how these objects function and of where their exact failings lie. This would amount to what Herbert Simon has called a "science of the artificial"; it is an essentially scientific activity, whose purpose is to understand the world of man-made objects. On the other hand there is the activity of design itself, an engineering type of activity, whose purpose is to change this world. I have myself often used the parallel example here, at the urban scale, of the distinction between urban geography - a scientific endeavour - and urban planning - an engineering endeavour; and in my view we have equivalents of both these types of activity at the scale of architectural and industrial design research. Of course it goes without saying that the information and understanding gained from the scientific, analytic activity is intended for practical use in producing better decisions in the design activity; but the conceptual distinction between the two activities is nevertheless very important.

In the light of this distinction, it becomes clear that mathematical or computer applications in the design field generally, will be of two rather different kinds. One kind will comprise mathematical and computer models

whose purpose is to represent existing artefacts, buildings and cities, and by this means to increase our understanding of the characteristic behaviour and performance of existing or hypothetical type-designs, and possibly also to project their predicted behaviour into the future. The second will comprise aids to decision-making during the actual process of producing particular designs on particular occasions. I should like to see the distinction between these two functions made clear in the conference papers, as it seems to me to have important bearing on the design and nature of computer systems and models and the functions they must fulfil. In the case of computer aids intended for application in practice on an everyday basis, it is clear that the criteria by which these must be judged are: do they actually help designers to solve the everyday problems with which they are actually faced; are they simple, convenient and reliable in use; and not least, are their costs within the reach of what the particular type of office or other intended user can afford?

It is no accident that the existing examples of operating computer systems in present use in architectural design, are in the fields of hospital building, large-scale industrialised building systems, and by large central or local government authorities: and perhaps some contributors to the conference might like to address the political and economic problems of what order of funds and what minimum size of organisation are required in order to benefit from computer applications; and what degree of centralised planning - as in the U.K. health and education building programmes for example - this presupposes.

On the other hand the criteria by which programs and models intended primarily for research purposes should be judged, are quite other ones. Their everyday reliability is not so important a consideration; they can address broader and more long-term issues; there is no equivalent problem of the immediate presentation of results in (say, graphical) forms so as to be readily assimilable by the mathematically untrained user; and most important they will produce results which are of general significance beyond the narrow limits of particular design tasks, and for which programs need perhaps to be run, or results calculated, only once, and then these results are known and can be circulated via the conventional means of papers or books, rather than necessarily in three-dimensional living colour on the cathode ray tube.

A NEED FOR UNDERSTANDING AND CROSS-FERTILISATION - Sydney Gregory, University of Aston

In an economic environment which is currently more concerned with survival and profitability than with expansion and innovation the picture of engineering design activity, in a professional sense, may be best described in terms of three associated working sectors: design by an individual using brain and hand, where the extent of manual work depends on the kind and level of engineering; the application of computers; and the coordination and effective working of design groups.

Thoughts about design activity relate in some way to these practical situations.

As far as can be seen design by the individual still tends to be operated on a very informal and intuitive basis although making use of special techniques every now and then. There is no strong emphasis upon the understanding and teaching of improved methods.

In respect of computers, in spite of apparently differing rates of adoption depending upon the branch of technology concerned, there is sufficient commercial pressure by computer manufacturers and the suppliers of computer services, as well as the interest of computer specialists, to cause the application of computing machines to be pursued at least up to the useful limit. In some areas there is an impression that computers have now become as commonplace as slide-rules.

Depending upon one's job and view of the world it is now back to the individual to undertake the interesting or the arduous task of linking together bits of computer application to produce adequate designs.

To go further in computer application needs more understanding of the activity of design, particularly by the individual.

But to see design only in terms of individuals, whether exploiting computation or not, is to neglect operational reality. In a great number of practical situations design is carried out by groups of people and is itself part of a larger activity. This leads to problems of coordination and, more importantly, of motivation and effectiveness. If we are to proceed from design to action in today's conditions we need to understand better how to bring many individuals into effective and satisfying operation.

There is quite clearly a difference in approach and emphasis by which engineers tackle their tasks from the way which architects and others concerned largely with the direct development of human living patterns enter upon their work and thinking and arguing about it. At times this leads to exasperating misunderstandings and friction.

But, even among engineering disciplines, there appear to be differences in dealing with professional tasks. Some disciplines are involved in areas where there is a high rate of change, e.g. computer hardware design, computer software design, chemical engineering process design, etc. Others are involved in less rapidly changing areas. Again, some disciplines require to deal with topics containing a considerable repetitive content, as in the design of structures, whereas others have much less of this kind of work.

Because of this diversity of approach and emphasis and because of the differences at the tactical level of design there is good reason to believe that an exchange of experience between professionals within the various design-based disciplines may lead to better understanding of one another and improved technical performance by cross-fertilisation. We are much more likely to make contact in discussing the "nuts and bolts" of design than in any attempt to reach conclusions about the objectives of design except that we are all, pretty certainly

aiming at good design - and the definition of "good" is still not agreed by philosophers and religionists.

I think we need some careful reviews of what is actually being achieved and used within the most advanced regions of technological design in the three working sectors already noted: individual activity, computation, and the operation of groups. These would need to be carried through to provide some kind of comparability and to reveal the maximum of useful knowledge about design activity as such. The emphasis should be on practice and the possibilities of practical application.

SOFTWARE DESIGN WORKSHOP - Professor J. Christopher Jones and Christopher Crickmay, Open University

It seems to us that design methods are better applied to the design of software than hardware. By software we mean such things as governments, institutions, laws, rules, education systems, packaged holidays, careers, information systems and the like. We see design methods as the means by which imagination can be applied to all these barren areas of life from which it seems to be so absent. So we propose a Software Design Workshop at the conference and hope that this would result in definite principles and proposals for the redesign of the complete software of industrial life, or of large enough sections of it to make a big difference to everybody's life style. As stimuli, we propose the following software for the workshop itself:

(i) Workshop to be opened for the whole conference period and to provide facilities (space, quiet, paper, felt pens, display panels, tape recorders, video camera, etc.), for any person or group to do software design projects of any size, or a few words on a pad to videotape demonstrations of new life styles resulting from software redesign.

(ii) Software designers should be free of political and economic constraint. They could assume that not only software, but anything else can change in the future, including human nature, beliefs, political systems, etc., and that proposals do not need to be feasible in the immediate present.

(iii) One way of getting started with such a project is to choose one or more items by chance from the attached "post industrial action list" as starting points for software redesign. An expanded version of this list with several pages, on each item, will be available to those who participate in the project.

CRITERIA

1 Is it stable, i.e. is it independent of any particular social framework?
2 Is it integrative and non-specialised?
3 Does it "go with the flow"?
4 Is it structural?
5 Is it releasing and liberating in its effect?
6 Does it link global and personal?
7 Is perception and learning the mode of arriving at it?
8 Is it multi-level?
9 Has it got the variety of life in it?
10 Is it open to chance?
11 Does it combine rationality with intuition?
12 Is it gentle and friendly?
13 Is there joy in it?
14 Is it done for its own sake?

QUALITIES OF PROCESS

15 The ordinary as marvellous
16 Starting with fragments
17 Aiming at harmony
18 Ontologically appealing (and socially risky)
19 Speed-of-thought medium
20 Starting with the world not with a rational framework
21 Experience, not product, the purpose
22 Carefully detailed, precise, concentrated
23 Letting the world tell you what to do
24 The unknown, waiting to be discovered
25 The innocent, or naive, question
26 Looking for new classes of things
27 Searching for new patterns
28 Trusting chaos
29 Extra sensitivity to being at the receiving end
30 Starting with what's fishy
31 Juxtaposition
32 Tempo
33 Historic moments

STARTING POINTS

34 Network living
35 Switching on the light
36 Audience brings its own media
37 No names
38 Electric cable
39 Future-bearing facts
40 Alternative life styles
41 Media mixing
42 Radical technology
43 New symbols and myths for modern life
44 New visions of man in nature
45 New meta-institutions
46 Automation
47 Post-rational methods
48 Alternative politics
49 Computer in the village
50 Interface shifting
51 Wide-aim and multi-purpose technology
52 New methods comparison
53 Slow process perception
54 Readymade world
55 Test living
56 Responsive machines
57 Mechanical versus human
58 World problems (as seeds of solutions)
59 Linear/structural transitions
60 Reversals
61 Rubbish
62 The body and the nervous system
63 Multi-cultures and culture mixing
64 Information technology

FURTHER SUGGESTIONS FOR THE SOFTWARE DESIGN PROJECT ARE WELCOME AND WILL BE INCLUDED IN LATER CONFERENCE PRE-MAILING IF THEY REACH TOM MAVER IN TIME.

META CARDS

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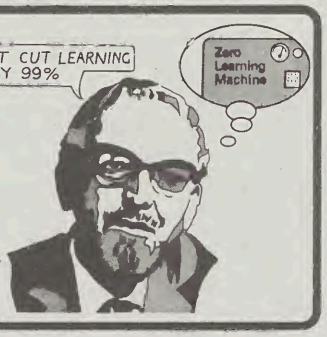
looking for a PROBLEM

CRITERIA



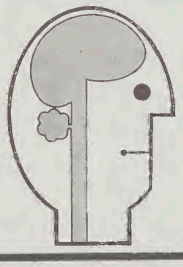
enable everyone to agree on whether the design succeeds or fails . . . they must be measurable.

RIGHT CONDITIONS

information enough to inform intuitions

rigidity bad for diverging good for converging

criticism avoid it in the early stages.



time available relate strategy to it

assimilation allow time for it

uncertainty too much can halt progress

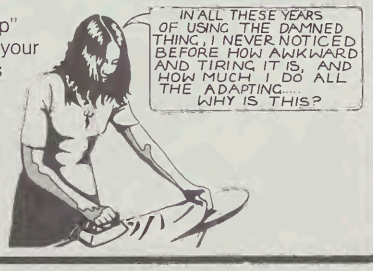
intuitions trust them if they are well informed

collecting relevant INFORMATION

don't collect more information than you can absorb in the time . . . which is very little unless it falls into a pattern.

being a USER

go on a "trip" and record your impressions



REDUCING DATA

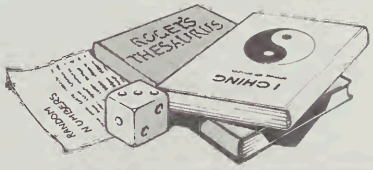
simplifying insights.....

classification.....

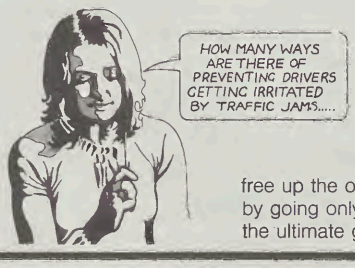
- ride
  - vibration movement
    - vertical
    - lateral
    - horizontal
  - other energy changes
    - visual motions
    - noise

summarising from memory.....

using CHANCE

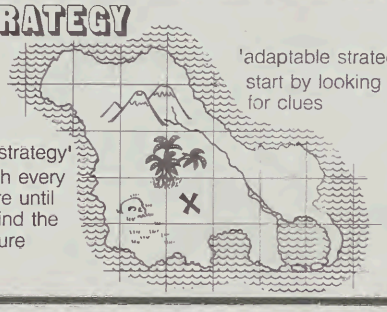


GOALS



free up the options by going only for the ultimate goal.

STRATEGY



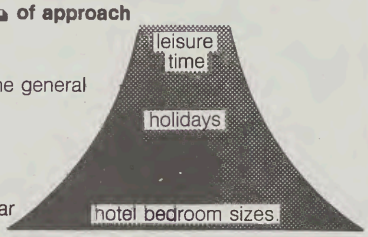
'adaptable strategy' start by looking for clues

'fixed strategy' search every square until you find the treasure

CHECKLIST

what?.....
why?.....
when?.....
how?.....
by whom?.....

LEVEL of approach



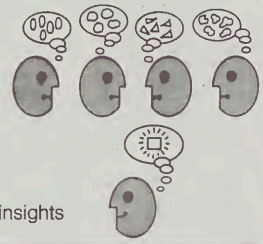
start with the general

or

the particular

but move from one to the other.

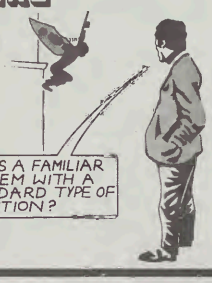
TEAM



many heads for variety of ideas and information

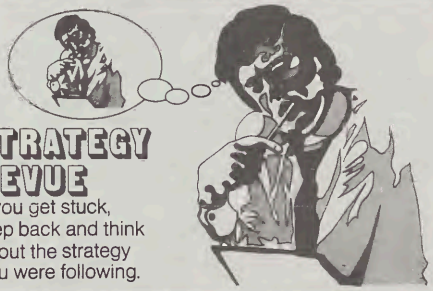
one head for simplifying insights

PROFESSIONAL PROCEDURE



if the existing solution works, why try and think of another?

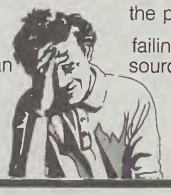
STRATEGY REVUE



if you get stuck, step back and think about the strategy you were following.

TYPICAL ERRORS

typical strategic errors



giving the job to the wrong man

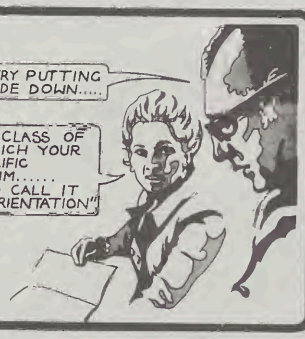
wasting time on things that don't matter

failing to consider interactions outside the problem boundary

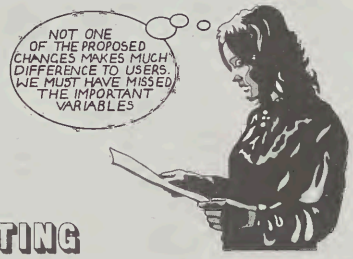
failing to find the right sources of information

discovering key decisions too late

SEARCH SPACE



TESTING



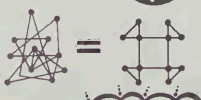
SYSTEMATIC DESIGN METHODS

don't get so caught up in the method as to lose your grip on the whole process.

getting going in THREE STAGES

1. look widely enough for a solution

2. turn a complicated jumble into a new pattern



3. converge rapidly on a single design

ACTIVITIES

COLATERAL ACTIVITIES PROGRAM

CALL FOR ACTIVITIES

As well as the core of Conference discussion focusing around the given papers, the Conference Committee would like a 'context of activities' to be set up by you, the participants - a sort of co-lateral activities programme, expanding in other forms and media the central discourse (Design Morphologies; Design Processes, Techniques and Algorithms; Design Objectives; Case Studies).

With this in mind we now wish to issue a CALL FOR ACTIVITIES:

'activity' areas proposed so far:

displays by specific groups
film
exhibition: schemes, etc.
games, World Game, etc.
software design workshop (see stimulus statements)
counterplanning exercises generally.

activities might be organised to extend beyond Conference time and location - e.g. as a travelling package between National Societies, etc. if there was enough interest.

proposals should in some sense expand, reflect on and relate to the main policy programme.

have you an 'activity' in the above or other areas that you would like to contribute - as a group, department, organisation, or individual?
how far can you organise this?
what assistance if any would you need?

an outline of the proposed activity should be sent demarcating essential material, together with a statement as to the nature of its relationship to the main programme if this is thought necessary.

proposers should bear in mind the normal constraints on Conference time, facilities, organisation and funds; generally proposals would be expected to be self-funding, and self-organising if this were extensive.

policy and timing for submission of 'Activities' will be generally as for Papers.

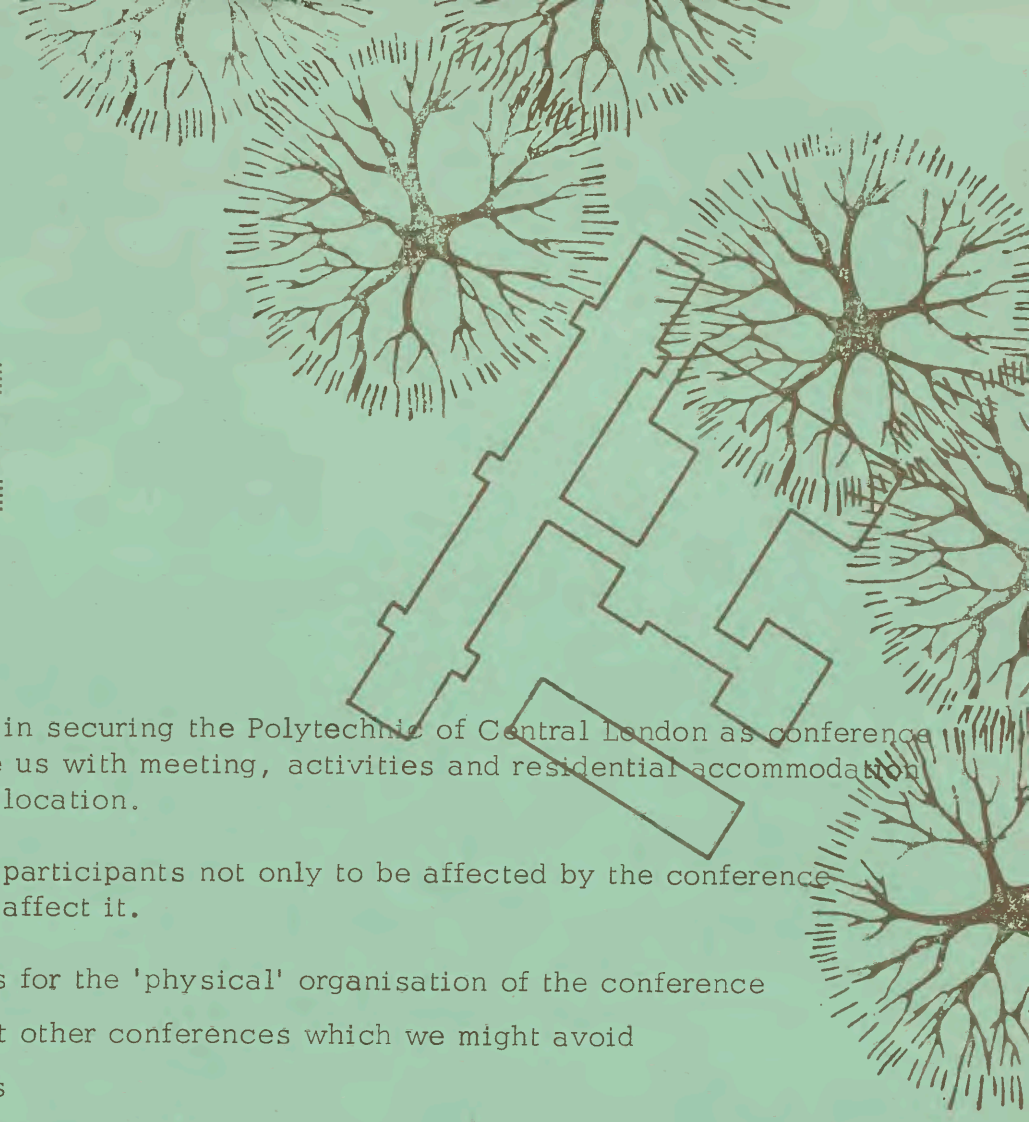
Your proposals, CLEARLY MARKED ACTIVITIES, should be sent in the first instance to:

The Secretariat, DRS/DMG 'Design Activity' Conference,
c/o Polytechnic of Central London (Short Course Unit)
35 Marylebone Road,
London NW1 5LS, U.K.

to arrive at the latest by 15th February in order that advanced planning may proceed.

Thanks - Martin Field DRS/DMG Conference Committee

SITE



We have been fortunate in securing the Polytechnic of Central London as conference site. This will provide us with meeting, activities and residential accommodation at an integrated central location.

We wish for conference participants not only to be affected by the conference environment but also to affect it.

Have YOU any proposals for the 'physical' organisation of the conference

failures noticed at other conferences which we might avoid

positive proposals

'environmental' arrangements/layout

'discoursing' arrangements

special facilities that we might provide to improve the conference

etc., etc.

would you like to organise your proposal in some sense - as a conference 'activity'? - give details of what you could do.

would you like to assist with physical organisation?
what could you do and when?

Your proposals should be sent in the first instance to:

The Secretariat, DRS/DMG 'Design Activity' Conference,
c/o Polytechnic of Central London (Short Course Unit)
35 Marylebone Road,
London NW1 5LS, U.K.

to arrive at the latest by 15th February in order that they may be coordinated with the physical planning for the conference.

Thanks - Martin Field, DRS/DMG Conference Committee

PROCEEDINGS

DESIGN ACTIVITY INTERNATIONAL CONFERENCE

The Conference

The Design Activity International Conference, jointly sponsored by the Design Research Society (UK) and the Design Methods Group (USA) took place at the Polytechnic of Central London on 29 - 31 August 1973. At an early stage in the planning it was decided to identify the major themes of the Conference and these were developed in the call for papers as a series of "stimulus statements". Some 300 abstracts were submitted resulting in the contribution of 111 full papers. The papers, submitted on camera-ready paper were reduced, reproduced as 5 volumes corresponding to the five themes and distributed as preprints to the Conference delegates. Some 300 delegates, from 15 countries attended the Conference

A half-day session was devoted to each theme. In each session, three raporteurs (2 from UK, one from USA) introduced the issues arising from the papers; groups were formed to discuss these issues in depth; the session then ended with the raporteurs summing up the conclusions of the discussion groups.

Purpose and Aim of the Proceedings

a) to provide delegates with a more permanent record of the subject matter of the Conference

b) to disseminate the subject matter of the Conference to those who were unwilling or unable to attend the Conference

c) to provide an up-to-date text on the state of development of theory and practice in design decision-making

d) to provide up-to-date material for the teaching of design theory and practice

e) to help establish design as respectable professional discipline.

Readership

a) delegates to the Conference - 300

b) members of DMG (other than above) - 500

c) members of DRS (other than above) - 150

d) people who submitted abstracts (other than above) - 150

e) people on DRS, DMG mailing lists - (potentially) 4000

f) postgraduate students in schools of architecture, building science, engineering, urban planning, etc. - (potentially) 600

g) undergraduates in the above schools (say one year of the course - (potentially) 3000

Main Features

It is proposed that the proceedings should be formatted as follows:

1 General foreword (TWM)

2 Design Morphologies
- Foreword (raporteurs)
- Papers (say 8)
- Index and Biblio. (TWM)

3 Design Algorithms, Process, Techniques
- Foreword (raporteurs)
- Papers (say 8)
- Index and Biblio. (TWM)

4 Design Objectives
- Foreword (raporteurs)
- Papers (say 8)
- Index and Biblio. (TWM)

5 Design Case Studies
- Foreword (raporteurs)
- Papers (say 8)
- Index and Biblio. (TWM)

6 Design Education and Professionalism
- Foreword (raporteurs)
- Papers (say 8)
- Index and Biblio. (TWM)

7 Overall Index and Biblio. (TWM)

8 List of names, addresses of authors of all (111) papers at Conference.

THE DESIGN ACTIVITY INTERNATIONAL CONFERENCE
1973 AUGUST 29-31

Conference Concept and Administration

The Design Research Society of the United Kingdom and the Design Methods Group of the United States of America are co-sponsoring what will be the second international conference on design research, design methodology and design practice to be sponsored by each group. The DMG held its first international conference in Cambridge, U.S.A., in 1968 ("Emerging Methods in Environmental Design and Planning" edited by Gary Moore, MIT Press). The DRS held its first international conference in Manchester, U.K., in 1971 ("Design Participation" edited by Nigel Cross, Academy Editions).

The forthcoming conference, to be held at the Polytechnic of Central London from the 29th to the 31st August 1973, will be titled "The Design Activity"; the formal programs will consist of four main themes:

1 DESIGN MORPHOLOGIES The nature of the design activity; the sequence and inter-relation of analysis, synthesis, evaluation in decision-making, etc.

2 DESIGN PROCESSES, TECHNIQUES AND ALGORITHMS Performance specification and measurement; hierarchical structuring of complex problems; scheduling techniques; generative techniques (spatial and other) appraisal/evaluation techniques; iterative convergence; simulation techniques; forecasting, feedback and flexibility, etc.

3 DESIGN OBJECTIVES Objectives and constraints; value judgments; the politician, the designer and society; action research, participation and education, etc.

4 CASE STUDIES Systematic design methods applied in the real world.

Additionally it is intended to encourage a programme of events, displays, projects and exhibitions which will run concurrently with the formal programme.

The strategy for the period leading up to the conference is as follows:

15th FEB 1973	Deadline for submission of abstracts Deadline for provisional bookings
31st Mar 1973	Publication of abstracts Issue of final booking forms and tentative programme
15th APR 1973	Deadline for submission of papers
15th JULY 1973	Publication of papers Issue of final programme and guide to London living

Abstracts, full papers and discussion at the conference will all be published in the DMG/DRS JOURNAL : DESIGN RESEARCH AND METHODS.

The size of the conference will be limited to about 300 people; accommodation will be available on the PCL Campus at 35 Marylebone Road in Central London.

Conference fees are set at:

£20/$50

or £16/$40 for DRS/DMG members

or £ 8/$20 for authors and full-time students

Accommodation fees are set provisionally at £12/$30. To ensure a place at the conference it is advisable to return the advance booking form and advance booking fee by 15th February 1973.

DR. T.W. MAVER, PROGRAM DIRECTOR (U.K.), ABACUS, UNIVERSITY OF STRATHCLYDE, GLASGOW G4 0NG, U.K.

Sponsored by
Design Research Society UK
Design Methods Group USA

Conference Committee

DRS: Tom Maver
Martin Field
Reg Talbot
Doug Hykin
Sydney Gregory
Hans Haenlein

DMG: Jean-Pierre Protzen
Don Grant
Tom Thomson
Elizabeth Bexton
Martin Starr

Designed by Robin Th'ng