

## DESIGN RESEARCH and...

### On culture, space and history in design research

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#### Introduction <sup>1</sup>

This paper attempts to present a brief overview of what I would consider to be the dominant *concepts*, *major trends*, underlying theoretical and philosophical *assumptions* and explicit or implicit *emphases* in the field of design research with specific reference to culture, space and history. The admittedly broad generalizations contained in what follows are derived from my observations on the research community where many, but not all, are Design Research Society members.

Taking Bruce Archer's summary of the history of DRS <sup>2</sup> as the background, and rather than attempting to survey either the work of the whole membership of DRS (who have diverse but somewhat overlapping interests) or the whole field of design research (which is too onerous a task for a brief paper), I will briefly deal with some key concepts, tendencies and emphases from a personal point of view and with respect to the broad areas of culture, space and history.

The only exception to this disclaimer is a survey (presented as Section 2 below) of all the keywords from the past two years' issues of *Design Studies* which is the major international journal on design research published by Butterworths in co-operation with the Design Research Society. (The other good source could have been the international DRS Conferences that regularly took place during the past two decades, but the last DRS Conference was in 1984, and its proceedings have not been published.)

Obviously, there are limits to how accurately two or three keywords could represent a 5000-word paper, or the extent to which the papers in that journal would reflect either the design discipline as a whole, or the work of the DRS. However, without undertaking an extensive content or discourse analysis of a much larger sample from a longer period and especially from a wider range of publications it is not possible to lay claim to anything more

than identifying some *indicators*. I therefore present these 'indicators' in a separate section and quite independently of the observations that follow, leaving an assessment of their respective values to the readers. The two sections have no preconceived relationship, and they are not intended to prove, demonstrate or necessarily support each other.

## **SECTION 1**

### **Culture, space and history *vis a vis* some dominant concepts, trends and emphases in design research**

#### **Concepts of design**

- After a long history of practice with almost no definition and no theory, design activity over the past two-three decades came to be seen as a 'problem solving' activity, but with less than adequate attention to the definition, content and problematic aspects of the *objects* and the *problems* of design themselves.
- The concept of design has an ambiguous and ambitious content: it is a noun and a verb and it stands for an activity, a process, a practice, a form of representation, a product, and more recently an 'added value'.<sup>3</sup>
- While design was seen largely as a cognitive, mental or technical process, its contextual, cultural or spatial aspects have been somewhat neglected.

#### **Concepts of design (as a) process**

- Probably the key accomplishment of the design methods and design research 'movements' of the past three decades has been the establishment of the concept of design as a *process*. This was achieved against the powerful background of design practices and disciplines that traditionally and habitually
  - (a) preferred to deal with the *products* (or expected products),
  - (b) believed in such questionable credo as magical creative leaps, the inviolability of the client's wishes or the sanctity of the brief, or
  - (c) oscillated between the priority of technological mastery, ill-defined social objectives and either total rejection of or total adherence to historical forms.
- The other contribution of design research to the popular design discourse has been the notion of design as a *problem solving activity*.

- Now, following the developments just mentioned, particularly the emergence of the notions of 'design problem' and 'design process' *could have* suggested the need to analyse not just the problem *solving*, but the *problem* itself, or underline the importance of examining the multiplicity of *other processes* that surround and constantly interact with the limited operations within the design process. The absence of a substantial concern with cultural, spatial and historical issues in the recent body of design research can be interpreted both as a result of, but also as a factor in the relative weaknesses in design research. Among these weaknesses the central one is to do with the need to study the 'problems' themselves with all their contextual complexity.

### Concepts of design research

- Design research as a new field of research has, especially in its early years, had to borrow most of its concepts, theories, models and methods from other, more established, disciplines such as physical sciences, systems engineering, operational research, computing and various other technological fields, rather than, say, from social / human sciences. This choice of source for a developing field inevitably brought with it certain attitudes, gaps, limitations and priorities from the chosen sources .

### Design and knowledge

- Whilst (as Bruce Archer points out in his paper) no class of knowledge can be regarded as illegitimate for design practice, the scope, depth and structure of this broad knowledge base cannot be determined simply by the creative instincts of the designers or the immediate requirements of specific briefs.

- Not all pieces of information or bodies of knowledge used in design activity are necessarily systematic and generalizable, while not all research knowledge is readily usable in design practice.

- The body of knowledge that different design practices do (or should) rely on are not all technical or reducible to specifications. Similarly, not all design knowledge is positive and instrumental. Design in a complex and contradictory world necessarily involves contradictory factors, demands and determinants that are usually excluded from the *instrumental* knowledge that is taught in schools or given in technical specifications. Social and cultural factors are ever-present in the context, but they are also the internally contradictory ingredients of design activity. In fact, these factors are both the necessary *content* and the major *context* of design practice. Design research that excludes such externalities (or 'noises') would be excluding a vital aspect of knowledge.

## Design studies and the social sciences

- Whilst designers and design researchers might be aware of the social contexts that they are working in, there has been a traditional lack of systematic interest in, and an integral understanding of, society among them. Design practice, design research and design education all share this shortcoming. But, it is possible to observe a similar lack of interest in and an understanding of what I would call the 'designed world', 'design culture' or 'built culture' among the social scientists. Whilst the designers may produce their designs with a social knowledge that is unlikely to be more rigorous than what any intelligent lay person may possess, the social scientists' grasp of design, architecture, space, form, etc. seldom go beyond that of 'general culture'. This common condition points to what I call a '*symmetry of ignorance*'.
- Various recent research areas and (sub-)disciplines (e.g. environmental studies, man-environment studies, environmental psychology, environmental design research, and more recently built form and culture research, ...) have different attitudes to design due to their disciplinary origins and differential constituencies. They range from minimal interest in design to interest only in its end-products, or from no interest in the process itself to an interest only in social (e.g. behavioural or use) processes. However, they are quite similar, for instance, in their remoteness from economic, political and (except perhaps in built form and culture research) historical concerns.

## Concepts of culture in design research

- Design is a cultural activity just as much as, and partly because, it is necessarily an economic, technical, political, cognitive, ... activity.
- Designed objects (from a spoon to a 500-bed hospital building, or from a record sleeve to an expert system) are *cultural objects* on account of their very conception, production and use.
- Cultural objects are not simply imbued with cultural values and meanings, but are themselves (a) the *components* of culture, and (b) the *makers* of cultural patterns.
- If understanding culture is vitally important in designing for relevant cultural contexts, conversely, understanding particular cultures cannot be complete without systematic and analytical understanding of their cultural objects.
- Studies of design, designed objects and urban and built forms have all developed in ways that so far took no more than a marginal notice of the disciplines that were dealing with culture (e.g. history, anthropology, linguistics, media studies — with the only exception being a passing interest in semiotics).

### Concepts of space in design research

- Space and time are probably the ever-present dimensions and certainly the most central characteristics of social existence, from the smallest huts to metropolitan areas and from the internal dynamics of family life to the organization of manufacturing plants. Yet,

(a) in much of architectural and in some of urban research the question of space has either been ignored, or is understood as the visual and volumetric qualities of buildings, hence mainly described and studied (!) in impressionistic, photographic, hand-gestural or poetic terms. The structure, syntax or morphology of space *in relation to social structure* have only recently been paid sufficiently serious attention.<sup>4</sup>

(b) In 'environmental design research' space is generally seen as synonymous with the concept of 'environment' (— itself a highly problematical concept<sup>5</sup>), or it is seen as an *already accomplished* backdrop (i.e. a physical product) within or against which 'behaviour' takes place.

(c) In design research, on the other hand, space has been seen as one of the *objects of design process* (individual or participatory) but not as an *object*, itself embodying within its constitution many cultural, institutional, historical ... patterns and relations.

d) When even the essentially *spatial* disciplines of architecture and planning were neglecting the importance of space, many (primarily) non-spatial fields that design research deals with could not be expected to foreground space as a central object of research.

### Concepts of history in design research

- Design process has generally been seen as an a-historical and almost timeless, process — although most design researchers would admit that many of the design-related processes do indeed take place in some kind of time scale. But this concept of time is generally confined to that of chronology or the clock, rather than that of history.

- The a-historicity and a-temporality of the concepts of design variously follow from the concept of design as, an individualistic / universalistic / non-social / non-culture-bound / ... activity (even when it takes place in teams or organizations).

- As pointed out above, the sources of concepts, theories, models and methods adopted by design research have so far tended to be physical sciences, engineering, computer sciences and more recently management, that is, disciplines that are not primarily known for their historical insights,

(with the possible exception of the highly developed *historiography* of science, technology, etc.).

- Design history deals mainly with *products* (the results of design and production) while design research and design methods deal primarily with the *processes*. Two perspectives have so far failed to come together in any significant way.
- Architectural history has traditionally borrowed its concepts and discourse from (high) art history, and has mainly concentrated on a small number of privileged and ingenious buildings called 'Architecture'. It has paid only marginal and uneven attention to the principles of design or the process of construction. This attention was not systematic, and has generally ignored the non-formal aspects of architecture, the social and cultural determination of functions and the central role of spatial relations in *forming* the building.

### Fallacies, paradoxes

- It goes without saying that no discipline can cover everything. Yet, it is paradoxical that design research which treats 'design' as a uniquely and internally multi- and cross-disciplinary activity, is at the same time fairly disinterested in the various contexts of design. For, if design is such a central activity in a very large number of practices so much so that it is difficult to confine it into one or two domains, how can it not also be related to the equally varied connections of all those practices where design occupies such a key place?

Some entrenched and fallacious attitudes hinder explorations of this very question and any substantial expansion of the field. Some such common fallacies include:

- 'Embodiment fallacy': It is often claimed by designers that design, designed objects and space embody social, historical and cultural dimensions *anyway* and almost independent of our knowledge of them. However this plausible observation is used to suggest that there isn't really any need to study or take conscious notice of those dimensions.
- 'Inseparability fallacy' and 'unknowability fallacy': Against the argument that design activity and designed objects need to be studied analytically and in all their connections and complexity, it is said that we cannot separate the aspects of design as it is a 'holistic' activity, and that we cannot know it all anyway.
- 'Agnostic fallacy': Even in cultures where pretending to be more than one really is an accepted behaviour, the demand to expand the field of one's concerns, hence knowledge, is often met with a protest among the

practitioners of design, but sadly among some academics too: 'we cannot study everything, can we?

- 'Creativity fallacy': Also following on from the unknowability argument, many designers claim or assume that design is all to do with individual creativity, hence making research largely irrelevant to design practice.

### Design and design research in context /as context

- Obviously, the scope, the subject matter and the objectives of any research activity are *determined* or *contextualized* by a variety of social (cultural?), local (spatial?) and current (historical?) conditions.

- Culture, space and history cannot just be so many interesting subject areas for research and education. *Research*, as a special type of activity, itself has a culture, it is organized in physical and institutional spaces, and it takes place in time. In short, it has various cultural, spatial and historical contexts that largely determine what is researched and how.

- Nobody denies the existence of context(s), and variously responds to it (often considering it as a set of negative constraints or a nuisance the effects of which should be avoided). But there isn't a 'theory of context' that would enable those involved in designing, producing or living in/with designed objects to positively get into communication with the multitude of internal or contextual variables. But, this involves breaking yet another set of contexts — contexts that are economically and politically biased (manifested in the urge to be 'practical', in the pressures to 'respond to the client's demands', in 'solving given problems' or in the painful contradictions of trying to be 'relevant to the real world').

- To understand design research as a concrete activity, we might ask some fundamental questions as to why it does or does not deal with particular subject matters, how and where it organizes itself, what self-image does it produce or project, to whom it tries to 'sell' its products, what questions it includes and excludes at what periods, to which institutions does it attach (or is forced to attach), or from which it detaches (or is forced to detach) itself, or what is and is not published, publicized or taught ... . In order to tackle these questions and to continuously regenerate a critical and rigorous tradition, design research must be free of the fetters of the purely pragmatic contexts while in no way ignoring them.

- To exemplify the inevitability of the contexts and the variability of the responses to them, as well as to bring home the urgency of a broader based and critical design research, we may want to look at the very *context* in which design research and education in Great Britain has been operating in the '80s. This can be done by an analysis of issues such as dominant research orientations, concepts and emphases, priorities for funding, or status of research in design education, etc. *in their relationship to each other*. And there

is no reason why such an inquiry could not begin by looking at the key terms of design discourse hovering above and within the design research community at the time of writing this paper:

'design for profit'  
'productivity'  
'competitiveness'  
'profitability'  
'market forces'  
'wealth creation'  
'value for money'  
'corporate design'  
'design management'  
'design industry'  
'designer politics'  
'.....'

Obviously, research, and increasingly educational, work that are not (or do not appear to be) *directly* and *immediately* contributing to the set of economic, political or ideological priorities implied by these concepts are unlikely to be encouraged at the moment. Cultural, spatial and historical studies are, by their very nature, among such *excluded* areas. If we add to this fact their traditional absence in design research, and the underlying anti-intellectualism in professional practices, we can appreciate the double impact of the changing political context on the likely direction of design research.

Yet, and despite all this, the specific contextual biases confronting research work should not be seen as an excuse to exclude the possibility of research on the very culture, space and historicity of design under *those* contexts and values. And, perhaps at a later stage, other studies can and should be undertaken to assess the culture, space and society that the dominant forces are shaping through various means which *include* design.



## **SECTION 2**

### **A preliminary analysis of research priorities as reflected in keywords**

**The sample:** 53 papers in the eight issues of *DESIGN STUDIES*: Vol. 9, 1988 and Vol.10, 1989 6.

**Keywords** (as given at the beginning of each paper but here made into an alphabetical cumulative list. The numbers in [ ] indicate the number of occurrences of individual words):

adaptive suspension vehicle	design effectivities
adult design values	design information
architectural design [3]	design knowledge [5]
architectural education	design management
architectural technology	design method(s) [2]
architecture [2]	design methodology [3]
artificial intelligence	design modelling
arts facilities	design models
automotive design	design participation [2]
blackboard models	design principles
branch library	design procedures
bridge design	<b>design process</b> [10]
CAAD	design processes
<b>CAD</b> [9]	design reasoning
CAD-CAM	design study comparison
Calbuild	design theory [3]
car styling	designer behaviour
case studies [2]	diagrams
catapults	drawing
causation	empirical data
child requirements	<b>engineering design</b> [8]
civil engineering	engineering design methods
cognition	engineering education
community needs	engineering method
community participation [2]	environmental design
complexity	evaluation
computer systems	expert systems
conceptual design process	expert systems
constraints	failure
construction design	form
creativity	fuzziness
design	games
design acceptance	graphical thinking
design attitudes	hypermedia
design decision-making	hypertext
design dependencies	idea-formation
design education [5]	inadequacies in definitions
design eduction	information systems

innovation	research and policy issues in design
interactive decision-making	space planning
interpretation	standardization
knowledge-based systems	standards
learning	statistical methods
learning package	structured systems analysis
logic of design [2]	structured systems design
mechanical design process	methodologies
mechatronics	studio instruction
model(s) [2]	style
modern movement	symbolic modelling
new product success	symmetry
open space projects	systematic design
periodic structures	systems analysis
phenomenology	tesselation
planning theory	three-dimensional
principles of design	simulation models
problem formulation	tiling
problem solving	transit planning
problem structure	user needs [2]
product design [3]	verbal behaviour
programming	video protocol
programming process	visual references
protocol analysis [2]	visual thinking
prototyping	Vitruvius
public involvement	walking machine

### Brief comments on the cumulative list of keywords

Besides being convenient guides to the *contents* of the articles keywords (usually 3 per article and given at the beginning of each article) represent the *keys* to the subject matters of the texts published. As they are decided by the respective authors and/or the editors, they can be taken to be reliably reflecting the intended content and emphases of the papers. The method of drawing conclusions from a list of keywords has obvious built-in limitations and cannot be a substitute for a detailed and systematic discourse analysis. Furthermore, the two years' issues of a journal may not accurately reflect the total content of the journal in all its 10 volumes. Some of the issues that are devoted to special topics may indeed be covering areas that may appear to be absent in the sample chosen. However, a cumulative list of keywords from a reasonably large and most recent published textual sample is as close as one can get to identifying emphases, popular topics and, of course, omissions and gaps in a field of (published) research.

On the basis of this understanding, the following observations can be made regarding the list above:

1. The keywords with the highest number of occurrences are to do with design processes and methods — that is, the traditional concerns of design

research (e.g. design process [10], CAD [9] — highlighted in bold characters in the list).

2. However, as distinct from traditional architectural research where the key object is invariably the buildings, i.e. the *product*, the key object of design research as reflected in these 53 papers seems to be the *process* of design.

3. There is a marked difference in research emphasis between *architectural* [3] and **engineering design** [8] (— highlighted in bold characters in the list) in favour of *engineering design*.

4. Similarly, there appears to be a choice of emphasis between *built form* [0] and industrial (non-building) products [3] in favour of *products*.

5. Simply looking at the keywords from 53 articles, it can be seen that the very terms of '*culture*', '*space*' and '*history*' are absent.

6. Terms that are directly related to culture (such as society, tradition, worldview, ideology, politics, customs, identity, values, behaviour, ...), space (such as place, region, ecology, context, city, in/out, land, geography, movement, housing, workplace, ...) and history (time, past/present, development, change, transformation, ...) are also missing.

7. What could be seen as attempts at a self-understanding of the field of design research (such as the culture of designers, designer culture, ideology of design and designers, history of design / design history, longitudinal research on developments in design research, relations with sister disciplines, etc.) are also rare. (Admittedly, some articles could be covering such areas implicitly or as part of their concerns, or might indeed be calling them by different terms. These could only be revealed through an analysis of their contents.)

8. There are only a few direct references to *historical* subjects (e.g. modern movement, Vitruvius, ...), some to architectural design, hence to spatial design, and some references to design may in fact mean architectural design, but there seems to be no reference to the nature of urban or architectural space especially in relation to culture and history.

## Notes

1. This paper is a contribution to the Joint Session of IAPS/ EDRA/ PAPER/ MERA/ DRS to take place, under the coordination of Roderick Lawrence, as part of the 11th International Conference of IAPS at METU, Ankara between 8-12 July 1990. It was written as a result of the DRS Chairperson Professor Bruce Archer not being able to present his paper 'An outline of the history and concerns of the Design Research Society' at the Conference, and the present author being asked to take his place there. It is meant to complement Archer's paper without covering the same ground and more directly addressing to the questions of the place of cultural, spatial and historical concerns in design research. These brief notes represent the author's personal thoughts and does not claim to be a comprehensive survey of the field of design research, nor does it aim to represent the DRS as a whole.
2. cf. his paper 'An Outline of the History and Concerns of The Design Research Society' in the proceedings of the IAPS 11 / METU Conference: *Culture Space History*, Ankara, 1990.
3. cf. my 'Materiality of Design', in *Block*, No.5, 1981, pp.19-27, (shorter version in Jacques, R & Powell, J (eds)(1981) *Design : Science : Method*, Guildford, Westbury House, pp.106-111.
4. cf. for ex., Hillier, B & Hanson J (1984) *Social Logic of Space*, Cambridge, CUP, or Markus, T A (ed)(1982) *Order in Space and Society*, Edinburgh, Mainstream.
5. The concept of 'environment' embodies an important problematicity with serious implications as I have gone to great lengths to demonstrate in my *Environmental Discourse*, London, Question Press, 1982.
6. *Design Studies*, Vols 9 and 10, 1988 and 1989, edited by Nigel Cross, published by Butterworth Scientific Ltd, Guildford.