

Introduction

It would seem to be either a very brave or foolish thing to do, to assemble a book on design methodology. There is a near-universal fear and loathing of methodology, and methodologists are reviled as impoverished creatures who merely study, rather than practise, a particular art or science. Voltaire said ‘Theology is to religion what poison is to food’, and there are many who would draw the same parallel between methodology and design. One critic, Christopher Alexander, has said, ‘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’ (Alexander, 1971). Design methodologists found this comment particularly wounding since it came from one of the world’s leading design methodologists!

Part of the distrust of methodology arises from an ambiguity in the meaning of the word. In the sense of ‘a methodology’ it can mean a particular, prescribed, rigid approach, of which practitioners are usually justifiably sceptical. But the sense of ‘methodology’ in which it will be used here is to mean the general study of method. So anyone who wishes to reflect on how they practise their particular art or science, and anyone who teaches others to practise, must draw on methodology. However, this is not to say that anyone who practises or teaches must be a methodologist. The distinction has been made by Sir Frederick Bartlett, in the context of experimental science: ‘The experimenter must be able to use specific methods rigorously, but he need not be in the least concerned with methodology as a body of general principles. Outstanding “methodologists” have not themselves usually been successful experimenters’ (Bartlett, 1958).

Design methodology, then, is the study of the principles, practices and procedures of design in a rather broad and general sense. Its central concern is with how designing both *is* and *might be* conducted. This concern therefore includes the study of how designers work and think; the establishment of appropriate structures for the design process; the development and application of new design methods, techniques, and

procedures; and reflection on the nature and extent of design knowledge and its application to design problems.

The development of this relatively new field of design methodology has been conducted principally through means such as conferences and the publication of research papers. There is only one general textbook of design methods, by Jones (1970), and only in 1979 was there established a comprehensive, academic, international journal in the field, the journal of *Design Studies*. For students, teachers, and researchers in architecture, engineering design, industrial design, and other planning and design professions, and for newcomers generally to the field of design methodology, there has been no easy way by which they could become familiar with the field and its history of development. The important papers are scattered through many publications, in conference proceedings and so on, and many are often difficult or impossible to obtain. The purpose of this book, therefore, is to bring together in one volume a set of papers that reliably traces the development of design methodology, and comprehensively maps out the field.

Inevitably, many important papers and publications have not been included here, but the difficult decision to exclude has normally been made on the grounds of whether or not they are relatively easily available elsewhere. References to these other important publications are given with the introductions to each of the separate Parts of this book. It must be realized, however, that this is not a book of design *methods*, nor does it offer a *methodology* for design; it is intended as a reference work for the more general field of design methodology.

The book is divided into five Parts, reflecting both the main sub-divisions of the field and also to some extent its chronological development. The papers have been selected to cover the 20-year period from the first Conference on Design Methods, held in London in 1962 (Jones and Thornley, 1963), to the much larger and more wide-ranging Design Policy Conference, also held in London, in 1982 (Langdon *et al.*, 1984). These two conferences might perhaps be regarded as marking the 'birth' and the 'coming of age' of design methodology.

The conferences which have recorded the growth and development of design methodology between these two points also have been mostly held in Great Britain. The major ones were held in Birmingham in 1965 (Gregory, 1966); Manchester in 1971 (Cross, 1972); London in 1973 (unpublished); and three times in Portsmouth: in 1967 (Broadbent and Ward, 1969), in 1976 (Evans, *et al.*, 1982), and in 1980 (Jacques and Powell, 1981). Most of these conferences have been sponsored by, and held under the auspices of, the Design Research Society. In the USA, two principal conferences which should be mentioned were those held in Boston in 1968 (Moore, 1970) and in New York in 1974 (Spillers, 1974).

These selected conferences have mostly taken a catholic attitude towards design methodology and design research, although some have emphasized particular themes (such as design participation at Manchester in 1971) or particular professional areas of design (such as architectural design at Portsmouth in 1967 and Boston in 1968). The particular 'themes' of this book are reflected in the titles of its separate Parts. It does concentrate more on one professional area than others—on architecture, environmental design, and planning—partly because in that area there seems to have been the most wide-ranging and long-standing interest in all the themes of design methodology.

The papers in Part One, *The Management of Design Process*, are drawn from the period 1962–67. They reflect the concern of the 'design methods movement' in the early 1960s with the development of systematic procedures for the overall management of the design process, and of systematic techniques to be used within such a process. This was the period of 'systematic design' in which attempts were made to restructure the design process on the basis of the new methods and techniques of problem solving, management, and operational research which had been developed in World War 2 and in the 1950s.

It soon became realized, however, that design problems were not so amenable to systematization as had been hoped. Attention turned to trying to understand the apparent complexity of these particular kinds of problems. The papers in Part Two, *The Structure of Design Problems*, reflect this concern and are drawn from the period 1966–73. The major issues in this area of design methodology revolve around the 'ill-structuredness' of design problems.

Another line of approach into the complexity of design problems and the strategies for resolving them is to develop a greater understanding of how designers tackle such problems with their normal, conventional design procedures. Part Three, *The Nature of Design Activity*, embodies a range of methods of enquiry which have been used to investigate designer behaviour, from controlled laboratory experiments to open-ended interviews. The particular set of papers chosen to illustrate this range were all, coincidentally, published in 1979, perhaps indicating a peaking of interest in this kind of investigation in the late 1970s, although studies of designer behaviour have been made since the earliest days of design methodology.

The papers in Part Four, *the Philosophy of Design Method*, are drawn from the period 1972–82. They reflect the more fundamental and philosophical approach which emerged in the second decade of design methodology. This more mature and reflective approach has been able to draw upon the knowledge gained and the lessons learned in the first decade.

Finally, Part Five reviews the History of Design Methodology as told in the words of some of its leading participants. One of the surprising things in the 20 years covered by this book has been the way attitudes and opinions have changed quite dramatically. Protagonists have become antagonists, and internal debate has become internecine conflict.

It is hoped that this book might help to return the discussion and study of design methodology to an appropriate level of discourse. The way the book is structured suggests a subdivision of major interest areas which might constructively be pursued from the foundations now established. The structure also suggests that the 'movement' has progressed through four stages: *prescription* of an ideal design process (Part One), *description* of the intrinsic nature of design problems (Part Two), *observation* of the reality of design activity (Part Three), and *reflection* on the fundamental concepts of design (Part Four). Progressing through these stages might well have been an inevitable process of maturation. In any event, design methodology now seems in a much stronger condition to return to its origins, to the prescription of realistic ideals.

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Developments in Design Methodology

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