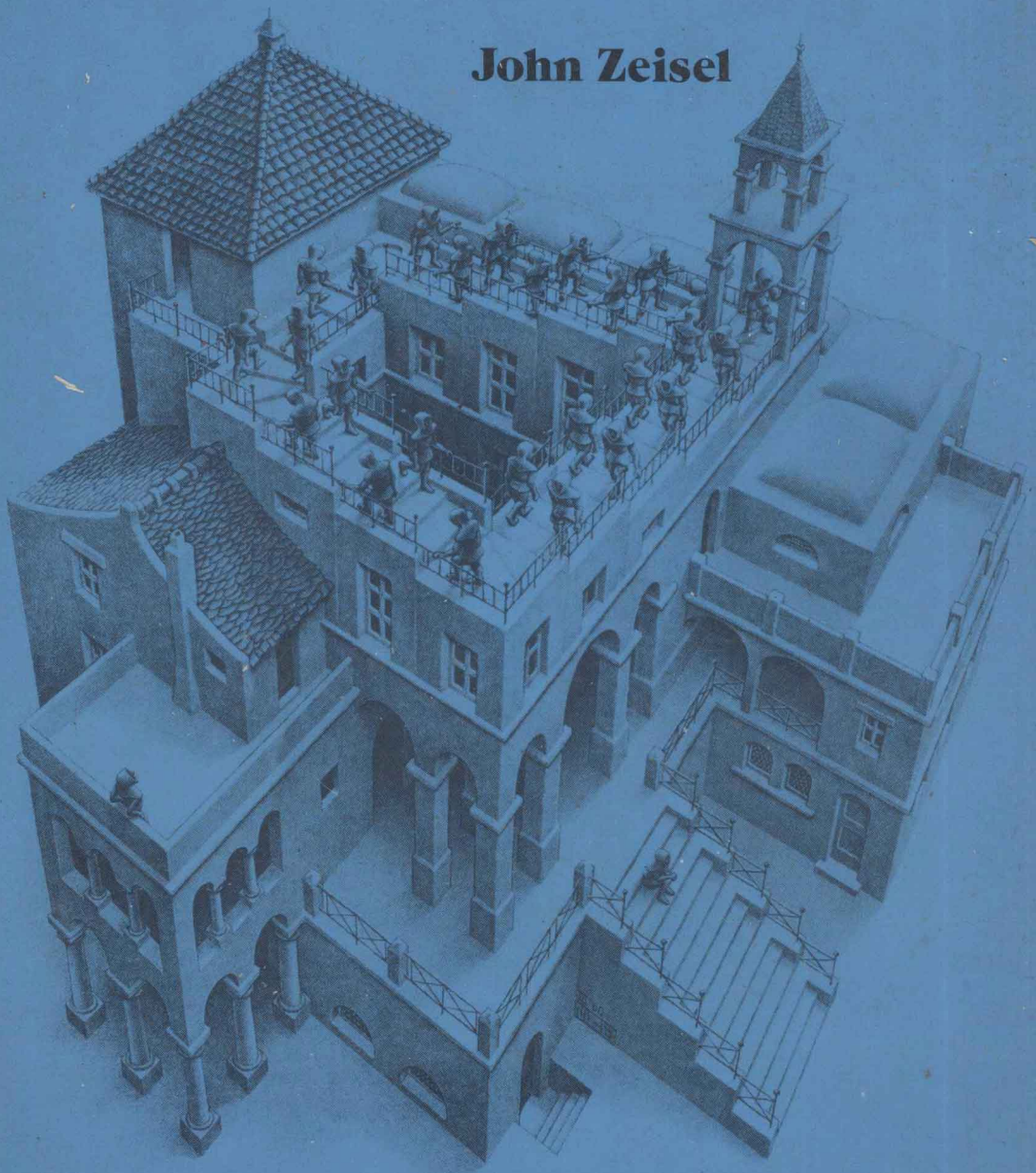
Inquiry by Design

TOOLS FOR ENVIRONMENT-BEHAVIOR RESEARCH

John Zeisel



INQUIRY BY DESIGN: TOOLS FOR ENVIRONMENT-BEHAVIOR RESEARCH

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Harvard University

CAMBRIDGE UNIVERSITY PRESS

Cambridge

New York Port Chester

Melbourne Sydney

To Evan, Elizabeth, and Eva

Published by the Press Syndicate of the University of Cambridge
The Pitt Building, Trumpington Street, Cambridge CB2 1RP
40 West 20th Street, New York, NY 10011, USA
10 Stamford Road, Oakleigh, Melbourne 3166, Australia

First published 1981 by Wadsworth, Inc.
First published by Cambridge University Press 1984
Reprinted 1985, 1986, 1987, 1988, 1990

Printed in the United States of America

ISBN 0-521-31971-4 paperback

SERIES FOREWORD

In recent decades the relationship between human behavior and the physical environment has attracted researchers from the social sciences—psychology, sociology, geography, and anthropology—and from the environmental-design disciplines—architecture, urban and regional planning, and interior design. What is in many respects a new and exciting field of study has developed rapidly. Its multidisciplinary character has led to stimulation and cross-fertilization, on the one hand, and to confusion and difficulty in communication, on the other. Those involved have diverse intellectual style and goals. Some are concerned with basic and theoretical issues; some, with applied real-world problems of environmental design.

This series offers a common meeting ground. It consists of short books on different topics of interest to all those who analyze environment-behavior links. We hope that the series will provide a useful introduction to the field for students, researchers, and practitioners alike, and will facilitate its evolutionary growth as well.

Our goals are as follows: (1) to represent problems the study of which is relatively well established, with a reasonably substantial body of research and knowledge generated; (2) to recruit authors from a variety of disciplines with a variety of perspectives; (3) to ensure that they not only summarize work on their topic but also set forth a "point of view," if not a theoretical orientation—we want the books not only to serve as texts but also to advance the field intellectually—and (4) to produce books useful to a broad range of students and other readers from different disciplines and with different levels of formal professional training. Course instructors will be able to select different combinations of books to meet their particular curricular needs.

Irwin Altman
Daniel Stokols

FOREWORD

Several Invitations to Several Groups of Readers

Donald T. Campbell

It gives me a special pleasure to invite several quite distinct groups of readers to this very fine book by my friend John Zeisel. Let me list all of you first before I explain why I extend each of these several invitations.

- Undergraduates, graduate students, and practitioners in architecture, industrial design, landscape architecture, interior design, and city planning.
- Policy scientists and program-evaluation professionals who are called upon to engage in environment-behavior studies.
- Instructors in research methods in the environment-behavior professions.
- Instructors in applied social-science research methods.
- Program-evaluation methodologists and advocates of an experimenting society.

For those of you who are or will be engaged in the professions of deliberate environmental change, and who do not at all aspire to be research methodologists even for your own field, this book has several distinct values. It invites you to treat each new project not only as an opportunity to apply the skill and wisdom you have already acquired but also as an exploration that can expand that skill and wisdom. From the title on—design itself as a mode of inquiry—it provides both inspiration and commonsense suggestions for learning from your innovations. It will encourage you to collaborate with your clients in still bolder explorations of alternatives that you and they might not otherwise dare try. It will even enable them and you to look with pride on a noble mistake—a mistake no more costly than the banalities you might otherwise commit in the name of timidity —for risking such mistakes is part of your duty to add to the wisdom of the profession you utilize.

This book does a remarkable job of teaching the whole scope of social-science methods, from philosophy of science to doorstep interviewing, without the prerequisites that would exclude many designers from the usual text (statistical methods, formal experimental design, sociological and psychological theories of human behavior, formal courses in philosophy of science). Zeisel's mode of instruction is to start where you are, with a concrete problem you understand, and to illustrate the methodological alternative in that setting before presenting it in

abstract terms. Not only will this training help you to become practitioners of environmental change and intelligent readers of research literature, it will also be a resource for low-cost, informal ways of learning more from your own practice —even through efforts so obvious but so neglected as a two-year-later interview or a questionnaire directed to the occupants of a new environment you have designed.

Most of you have esthetic as well as utilitarian goals. This book will help you tell how well you and your client have done for all types of goals. Some of you will want to develop a unique personal style or "signature." Why not make it also a *tested* style, instead of stubbornly persisting in self-defeating idiosyncrasies? There are plenty of intelligent idiosyncrasies and intelligent versions of your favorite thematic emphasis.

This book can also bring home to you how ambiguous and equivocal are most judgments of effect in natural situations, how many recurrent "optical illusions" and illusions of judgment make our own evaluations of outcomes misleading in ways both overly encouraging and overly discouraging. Greater awareness of the equivocality of inference will help you become a more subtle judge of your project's impact.

This awareness will also, I hope, make you a more self-confident critic of studies presented as definitive social science applied to your area. You, with your site-specific wisdom, are the most competent critic of such studies. You can generate the most relevant and plausible "threats to validity" for a particular study in your field or on your project. Properly understood, this book will help you to keep from being mystified by computer output and elaborate statistical massagings based upon inappropriate assumptions and inadequately controlled and often irrelevant data, so that you will not be cowed into suppressing your doubts and your wise alternative explanations of the outcomes. (I hope it also leads you to demand graphic presentation of the data in its least massaged form as one of the final data presentations.)

Those of you already teaching research methods for the environmental-change professions can improve your teaching by supplementing your present statistical-tools-and-abstractions-first textbook with this text, which reverses the order and presents the need for methodology in concrete settings of obvious professional relevance to your students. It will motivate your students to recognize their own need for the difficult and esoteric skills you must also teach in your more advanced courses. For those of you who are already practicing quantitative, experimental, and quasi-experimental program-evaluation methods and are now called upon to apply your skills in an environment-behavior setting, this book provides both an entré into the specifics of that arena and a review in that setting of methodological maxims you already know. For those professionally practicing *qualitative* ethnographic evaluation, the book will likewise serve to remind you of the need for judgmental discussion of threats to validity and alternative explanations, which cannot be avoided by abandoning quantification and formal proce-

dures. Teachers of applied social-science research methods for any setting will find that the concrete explicitness of the "treatment variables" and settings makes the examples in this book especially useful for conveying general methodological points.

The arenas of deliberate environmental change have a particular relevance for those of us in the field of program evaluation and those who would like our society to become able to learn more about the experiments it undertakes. In our wholesale application of our present techniques to "programs" of all types, an early self-confidence that we knew how to do it and could evaluate any program is being seriously undermined. The frustrations and ambiguities we encounter are chilling the motivation for reform by tempting many in our profession to abandon the goal of impact assessment and thus to abandon the image of an experimenting society. Two major aspects of the problem that have precipitated this loss of heart are the ambiguity and instability of our notions about what the "program" or "reform" consists of and the patent implausibility in many cases of the idea of a program package that could be identified as such for dissemination to other settings. "Community Mental Health Clinics," "Head-Start," "Follow Through," and "Decentralized Decision Making" have all proved to be elusive and unreplicable reforms. And these are among the more specifiable reforms. Governmental tendencies to label what is in actuality only topic-specific revenue sharing as though novel, specifiable alternatives to present practice were involved, and to accompany these with calls for immediate evaluations, have further confused the program-evaluation profession. These are not settings in which we can learn our trade.

In contrast, the innovative alternatives of the deliberate environmental-change professions provide experimental "treatments" that are concrete, often precisely replicable, and subject to precise reexamination as new theoretical understandings focus attention on different attributes. These are the sorts of reforms and programmatic alternatives through which we can improve our competence in the science of program evaluation and in the development of methodology for the experimenting society.

The slum-clearance and public-housing projects of the 1930s were striking social experiments for which we have no formal outcome records (although we have some insightful retrospective speculations). At that time, the architects, builders, and social planners thought they knew what they were doing; they were not aware that they were experimenting with one alternative among many possible ones. We missed that chance. Now we can only look with regret at the row after row of identical highrises, all repeating the same mistakes, and wish that there had been a deliberate variation in the alternatives generated by the planners and architects, plus outcome measures. When the great Model Cities programs came along in the 1950s and 1960s, Congress and the Washington administration, influenced by the ideology of social experimentation, set aside funds specifically for evaluation. But when the local Model Cities administrators went to

colleges and universities for help in evaluation, the skills were not there. Nor did the Model Cities administrators understand how to implement their innovations so as to optimize impact assessment. No book that I know of will do more than this one to ensure that, when the political will to redesign our cities next returns, we will be ready to learn from our experiments.

PREFACE

This book is about using environment-behavior (E-B) research to make better design decisions and to develop knowledge. *Environment* refers to the physical, administrative, and social attributes of settings in which people live, work, and play. To a shopper, for example, a supermarket environment comprises aisles, shopping carts, and check-out counters; administrative rules, regulations, and prices; and other people—how friendly they are, how well they know one another, how they act.

Behavior refers to thing people do, including thinking, feeling, and seeing, as well as talking with others and moving around. This book focuses on how to find out how people behave in reaction to environments. Do people lie, sit, stand, or jump on park benches? When they move into a new home, do tenants tear down any walls? What do people feel when they see an all-glass, modern building in downtown Atlanta? How do tourists avoid getting lost when they try to find their way around an old city such as Amsterdam?

My topic, then, is E-B *research*—planning it, doing it, and using its results. The most effective way to study E-B problems is to employ several methods in parallel, the choice of methods depending on the specific problems and the research situation. I argue that applied E-B researchers need to participate in *design* decisions if they are going to help create natural environmental laboratories. Designers can contribute to a shared body of E-B knowledge if they make design decisions with an eye toward eventual evaluation.

I hope my readers will include members of at least the following groups:

- practicing *designers* and students of design, both graduate and undergraduate, who are interested in building a shared body of E-B knowledge;
- environment-behavior *researchers*, both students and practitioners, who want to understand and control the effects of the research tools they use;
- *instructors* of applied research methods at the graduate and undergraduate levels who want to see how social-science methods can be tailored to the study of problems in one particular field;
- policy and program *evaluators* in the experimenting society who want to carry out E-B evaluations of existing environments or who want to use such studies as examples of the useful information that committed, multidisciplinary efforts can yield.

The book has two parts. In Part One, I discuss design, research, and what researchers and designers can achieve if they work together. More specifically, I address such questions as: What can people do better by organizing their inquiry as research? What goes on in researchers' and designers' minds when they apply their skills? How can a model of these cognitive processes be used to improve the way research and design are carried out? How are research and design activities similar? How are they different? How can researchers and designers exploit their differences to get something out of working together? On what immediate problems can the two professions work better if they work together? What are some possible long-range benefits to people who collaborate?

I present a description of design that people can use to organize their own designing to achieve what they want (Chapter 1), and I stress the (often overlooked) creative and inventive attributes of research (Chapter 2). One reason researchers and designers may choose to work together is to better control the effects of their decisions, especially when the effects lie in the realm of the other discipline (Chapter 3). Another reason is that persons in one discipline, by learning the conceptual tools of the other, can define and approach their own problems in new ways (Chapter 4). I treat research as a set of activities designed to help solve problems in specific situations (Chapter 5). Research quality I describe as the degree to which the research can be shared, used, and improved upon by other people (Chapter 6).

In Part Two, I describe how to carry out E-B research to achieve specific purposes. I discuss five research methods: observing physical traces, such as paths across a lawn or decorations on a living-room wall, to see how people have affected their physical surroundings (Chapter 7); observing behavior in its environmental context to see how people use physical settings (Chapter 8); focused interviewing to probe how individuals define specific situations they have experienced (Chapters 9 and 11); using structured questionnaires to gather data about perceptions, attitudes, and aspirations that can be summarized across individuals to groups (Chapters 10 and 11); and using archival methods—for instance, analyzing documents such as newspapers and institutional records—to turn data recorded for other reasons into information useful in solving E-B problems (Chapter 12). I describe in somewhat greater detail a special E-B archival technique: analyzing the behavioral implications of architectural plans.

Each example in the book is drawn from an actual project in the emerging multidisciplinary field of E-B research; their sources are available in bookstores or libraries. The examples range from basic research like Altman, Nelson, and Lett's study of the behavioral ecology of homes (1972) to applied research like Howell and Epp's design guidelines for shared spaces suited to the needs of older people (1976). I discuss studies to plan environments, like Snyder and Ostrander's behavioral program for an older-veterans' residence in upstate New York (1974), and studies to evaluate environments, like Keller's research on a planned-unit housing development in New Jersey (1976). In explaining methods throughout the book, I draw on informal discussions several of these authors

were gracious enough to have with me about the problems and opportunities their research provided them. I have chosen these examples to reinforce a major theme of this book: researchers and designers who want to use E-B research methods to solve important and interesting problems must know how to tailor their research to the particular questions and situations they are investigating.

Methodologists and designers who do not have a mental picture of the field of environment-behavior studies can develop one by reading the following books, which lie squarely inside this eclectic field. Some represent substantive and theoretical roots of E-B studies; others are more recent. Although other significant works are needed to give the full picture, this list provides an overview of the field:

Christopher Alexander, *Notes on the Synthesis of Form* (1964)
Irwin Altman, *The Environment and Social Behavior* (1975)
Roger Barker, *Ecological Psychology* (1968)
Paul Bell et al., *Environmental Psychology* (1978)
David Canter, *The Psychology of Place* (1977)
Clare Cooper, *Easter Hill Village* (1975)
Roger Downs and David Stea (Eds.), *Image and Environment* (1973)
Leon Festinger et al., *Social Pressures in Informal Groups* (1950)
Herbert Gans, *The Urban Villagers* (1962)
Erving Goffman, *The Presentation of Self in Everyday Life* (1959), and *Behavior in Public Places* (1963)
Robert Gutman (Ed.), *People and Buildings* (1972)
Edward Hall, *The Hidden Dimension* (1966)
Jane Jacobs, *The Death and Life of Great American Cities* (1961)
Christopher Jones, *Design Methods* (1970)
Jon Lang et al. (Eds.), *Designing for Human Behavior* (1974)
Kevin Lynch, *The Image of the City* (1960)
William Michelson, *Man and His Urban Environment* (1970)
Constance Perin, *With Man in Mind* (1970)
Harold Proshansky et al., *Environmental Psychology* (1970)
Amos Rapoport, *House Form and Culture* (1969)
Robert Sommer, *Personal Space* (1969)
Eugene Webb et al., *Unobtrusive Measures* (1966)
John Zeisel, *Sociology and Architectural Design* (1975)

Acknowledgments

There are three classes of people I would like to thank for contributing to this volume: those who directly contributed to its development through discussions, arguments, and editorial help; those who taught me what I know and who are therefore indirect contributors; and those authors from whose work I have learned and who are thus contributors twice removed.

Among people in the first class, Elizabeth Kline is responsible for clear writing in the book, especially when the reader can easily understand complex

ideas. Gerard de Zeeuw is responsible for paradoxes. Thanks to many hours of argument I understand that problems provide opportunities to learn how to solve them and that simplicity is not necessarily clarity. Polly Welch organized the background material for examples and most of the methods. More important, Polly helped to establish the approach taken toward each method in Part Two. Barry Korobkin (1976) uncovered for himself—and, in turn, for me—the significance of "imaging" in design. Imaging remains a crucial tool in establishing links between research information and design decisions.

Irwin Altman, at an Environmental Design Research Association conference, told me to go away to a mountaintop and write this book. He has commented on it critically yet gently. He knows how to use his belief in others to get them to do what he wants them to do—and what they want to do, too. Stephen Demos gave me the chance to try out the ideas for Part One in a design studio. It was this teaching at Harvard's Graduate School of Design that gave me personal insights into how designers go about developing designs. Don Conway provided, in the Research Advisory Panel of the American Institute of Architects, a vehicle for discussing and learning about the needs of practicing architects. Eva Zeisel disputed all my ideas about design and thereby improved them incalculably. Don Campbell suggested I stop rewriting the manuscript.

Other people who have contributed ideas and critical readings to this volume include students, colleagues, family, and friends: Mary Griffen, Andy Seidel, Jan Reizenstein, David Strombom, Derk de Jonge, Bill Wilson, Katherine Murphy, David MacFayden, Gayle Epp, Gary Hack, Eric von Hippel, William Porter, Hans Zeisel, Rephah Berg, John Bergez, and my second and third editors, Dan Stokols and Larry Wrightsman.

People from whom I have learned include teachers, students, colleagues, and friends. Two persons stand out: Paul F. Lazarsfeld and Robert K. Merton. These two sociologists *were* the Columbia University Department of Sociology when I went to school there. Lazarsfeld taught me that it is irrelevant to know how to count things if you do not first know how to look. His jointly edited *Language of Social Research* (1965) showed me that research is a problem-solving tool, the use of which enriches both the tool and the user. Merton taught me that well thought-out concepts are useful for looking at the world in order to do to it what you want. The "glasses" sociologists put on when examining problems are as useful and unique as those of the doctor, lawyer, or physical scientist. His *Social Theory and Social Structure* (1957) is a model of clear and concise writing that I have used since I first picked it up.

Other people who have had an important influence on my writing and thinking about the uses of research include Kenneth J. Lenihan, Ann Ferebee, Alan Barton, Brent Bolin, and Ilse Zeisel.

A number of books and articles were important to my thinking as I wrote this book. In several cases I developed ideas along the lines they established. Although I have incorporated these arguments in discussions of my own and have referenced the sources, some deserve particular recognition: Barton and Lazars-

feld, "Some Functions of Qualitative Analysis in Social Research" (1969); Merton, Fiske, and Kendall, *The Focused Interview* (1956), which served as the model for Chapter 9; Webb et al., *Unobtrusive Measures* (1966); Payne, *The Art of Asking Questions* (1951); Hyman, *Survey Design and Analysis* (1955: 66–89); Galtung, *Theory and Methods of Social Research* (1967: 315–340).

These acknowledgments would not be complete without mention of two institutions that supported and sheltered me at different times while the ideas in this book were being nurtured and developed. The first is now defunct. It was the Bureau of Applied Social Research at Columbia University, directed by Alan Barton. The Bureau was a unique setting: it required that you work and that you think, but it looked the other way and let you sit in your office when you had other things to do, such as write a dissertation or study for doctoral exams.

The Netherlands Institute for Advanced Study in the Humanities and Social Sciences—a brainchild of the Dutch government—is equally unique. It brings together annually 25 Dutch and 15 international scholars to do their own work and to learn from one another. The majority of the writing and rewriting of this book was done from October 1977 to August 1978 at NIAS. Without the nurturing of NIAS—a more than suitable substitute for the mountaintop Irv Altman recommended—this book would not have been written.

John Zeisel

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PART ONE

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