

ROUTLEDGE REVIVALS

Directions in Person- Environment Research and Practice

Edited by
Jack L. Nasar and
Wolfgang F. E. Preiser



Routledge Revivals

Directions in Person-Environment Research and Practice

First published in 1999, this book presents a fresh and diverse set of perspectives representing key directions of research and practice in the field of environmental design research. Leading researchers in various areas of person-environment research, such as privacy, children's environment, post-occupancy evaluation, environmental cognition, environmental aesthetics, crime prevention, housing and environmental protection and environmental design present what they consider their best work. The book argues for the value of a multi-disciplinary and interdisciplinary approach to problem-solving and outlines many important directions for methods, research and practice.

This page intentionally left blank

Directions in Person- Environment Research and Practice

Edited By
Jack L. Nasar and Wolfgang F.E.
Preiser



Routledge
Taylor & Francis Group

First published in 1999
by Ashgate Publishing Ltd

This edition first published in 2016 by Routledge
2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN
and by Routledge
711 Third Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 1999 J.L. Nasar and W.F.E. Preiser

The right of Jack L. Nasar and Wolfgang F.E. Preiser to be identified as editors of this work has been asserted by them in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Publisher's Note

The publisher has gone to great lengths to ensure the quality of this reprint but points out that some imperfections in the original copies may be apparent.

Disclaimer

The publisher has made every effort to trace copyright holders and welcomes correspondence from those they have been unable to contact.

A Library of Congress record exists under LC control number: 9873756

ISBN 13: 978-1-138-68674-8 (hbk)

ISBN 13: 978-1-315-54255-3 (ebk)

ISBN 13: 978-1-138-68677-9 (pbk)

Directions in Person-Environment Research and Practice

Edited by

JACK L. NASAR

City & Regional Planning

The Ohio State University

Columbus, OH

and

WOLFGANG F. E. PREISER

College of Design, Architecture, Art and Planning

University of Cincinnati

Cincinnati, OH

Ashgate

Aldershot • Brookfield USA • Singapore • Sydney

© J. L. Nasar and W. F. E. Preiser 1999

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of the publisher.

Published by
Ashgate Publishing Ltd
Gower House
Croft Road
Aldershot
Hants GU11 3HR
England

Ashgate Publishing Company
Old Post Road
Brookfield
Vermont 05036
USA

British Library Cataloguing in Publication Data

Directions in person-environment research and practice. - (Ethnoscapes)

1. Architecture - Human factors
2. Architecture and society
3. Architecture - Psychological aspects
4. Architectural design - Social aspects
5. Architecture - Environmental aspects
6. City planning - Social aspects
7. City planning - Environmental aspects

I. Nasar, Jack L. II. Preiser, Wolfgang F. E.
720.1'03

Library of Congress Catalog Card Number: 98-73756

ISBN 1 84014 178 6

Printed in Great Britain.

Contents

<i>Contributors</i>	ix
<i>Preface</i>	xiii
Introduction: Reflections on Man-Environment Relations <i>Raymond G. Studer</i>	xvii

Part One Theory on the Use of Space	1
1 The Place of Architectural Factors in Behavioral Theories of Privacy <i>John Archea</i>	3
Commentary: John Archea's Legacy <i>Stephen T. Margulis</i>	25
Biographical sketch	27
2 Phenomenological Space-Time: Towards an Experiential Relativity <i>Alton DeLong</i>	29
Commentary	36
Biographical sketch	40
3 Affordances of Children's Environments: A Functional Approach to Environmental Description	43
<i>Harry Heft</i>	
Commentary	66
Biographical sketch	69

Part Two Design and Planning Process	71
4 Built Environment Evaluation: Conceptual Basis, Benefits and Uses	73
<i>Wolfgang F. E. Preiser</i>	
Commentary	96
Biographical sketch	98
5 An Integrative Approach to Public Participation and Knowledge Generation in Planning and Design	99
<i>Fahriye Hazer Sancar</i>	
Commentary	137
Biographical sketch	138
6 Cost Estimating: An Integral Part of the Facility Planning Process	141
<i>Janet Brown Thompson and Kenneth G. Sigel</i>	
Commentary	151
Biographical sketch	151
7 A Conceptual Framework for the Design of Human Mobility Systems	153
<i>Theodore J. Newsom</i>	
Commentary	167
Biographical sketch	168
Part Three Psychological Factors	169
8 Wayfinding and Dementia: Some Research Findings and a New Look at Design	171
<i>Romedi Passini, Constant Rainville, Nicolas Marchand and Yves Joannette</i>	
Commentary	200
Biographical sketch	201

Contents	vii
9 An Integrative Perspective on Worksite Health Promotion	203
<i>David M. DeJoy and David J. Southern</i>	
Commentary	226
Biographical sketch	228
10 Perception and Evaluation of Residential Street Scenes	229
<i>Jack L. Nasar</i>	
Commentary	245
Biographical sketch	246
Part Four Housing and Environmental Planning	249
11 Urban Planning and Residential Burglary Outcomes	251
<i>Carol J. DeFrances and Richard M. Titus</i>	
Commentary	273
Biographical sketch	274
12 The Impact of Change Upon Rural-Urban Migrants in Turkey	275
<i>James J. Potter</i>	
Commentary	300
Biographical sketch	301
13 The Effects of Home Ownership on the Self-esteem, Sense of Control and Life Satisfaction of Low-income People	303
<i>William M. Rohe and Michael A. Stegman</i>	
Commentary	328
Biographical sketch	329
14 Reconsidering Planning and Environmental Protection	331
<i>Glenn Harris and Leslie King</i>	
Commentary	352
Biographical sketch	354

Epilogue: A Pioneer in Many Ways, Not All Intended <i>Robert B. Bechtel</i>	357
--	-----

Index	367
-------	-----

Contributors

JOHN ARCHEA • 1942 - 1993

ROBERT B. BECHTEL • Department of Psychology • University of Arizona
• Tucson • AZ 85721

CAROL J. DEFRANCES • Bureau of Justice Statistics • Washington • DC
20531

DAVID M. DEJOY • Department of Health Promotion and Behavior •
University of Georgia • Athens • GA 30602

ALTON DELONG • Interior Design Program • College of Architecture and
Planning • University of Tennessee • Knoxville • TN 37916

GLENN HARRIS • Environmental Studies Program • St. Lawrence
University • Canton • NY 13617

HARRY HEFT • Department of Psychology • Denison University •
Granville • OH 43023

YVES JOANETTE • École D'Orthophonie et D'Audiologie • Medecine •
Université de Montréal • Montréal • Canada H3W 1W5

LESLIE KING • Environmental Studies Program • University of Northern
British Columbia • Prince George • British Columbia • Canada V2N 4Z9

NICOLAS MARCHAND • Faculté de L'Aménagement • Université de Montréal • Montréal • Canada H3W 1W5

STEPHEN T. MARGULIS • Management Department • Seidman School of Business • Grand Valley State University • Grand Rapids • MI 49504

JACK L. NASAR • City and Regional Planning • The Ohio State University • Columbus • OH 43210

THEODORE J. NEWSOM • Institute for Human Mobility Systems • University of Tennessee • Knoxville • TN 37996

ROMEDI PASSINI • Faculté de L'Aménagement • Université de Montréal • Montréal • Canada H3W 1W5

JAMES J. POTTER • Department of Architecture • University of Nebraska • Lincoln • NE 68588

WOLFGANG F. E. PREISER • School of Architecture and Interior Design • University of Cincinnati • Cincinnati • OH 45221-0016

CONSTANT RAINVILLE • Faculté de L'Aménagement • Université de Montréal • Montréal • Canada H3W 1W5

WILLIAM M. ROHE • City and Regional Planning • Director, Center for Urban and Regional Studies • University of North Carolina • Chapel Hill • NC 27514

FAHRIYE HAZER SANCAR • College of Architecture and Planning • University of Colorado-Boulder • Boulder • CO 80217

KENNETH G. SIGEL • Sardoni Skamska Construction Company • Greenwich • CT 06830

DAVID J. SOUTHERN • Department of Health Promotion and Behavior • University of Georgia • Athens • GA 30602

MICHAEL A. STEGMAN • Public Policy • University of North Carolina •
Chapel Hill • NC 27514

RAYMOND G. STUDER • Department of Planning and Design • College
of Architecture and Planning • University of Colorado • Boulder • CO
80207

JANET BROWN THOMPSON • Facility Planning • JB Strategies •
Lebanon • NH 03766

RICHARD M. TITUS • National Institute of Justice • Washington • DC
20531

This page intentionally left blank

Preface

The genesis of this book goes back to the 26th annual conference of the Environmental Design Research Association (EDRA), in Boston, March, 1995. Over the years, graduates of the Man-Environment Relations (MER) from the Pennsylvania State University would meet informally at the EDRA conferences. The 1995 conference returned to Boston, the site of the Design Methods Group First International Conference, which was held at MIT in June, 1968 (Moore, 1970), and which prompted a split between the rationalists and the behavioralists in the field and led to the founding of EDRA and its first conference at North Carolina State University (Sanoff & Cohn, 1969). EDRA26 was the fifth EDRA conference organized by an MER graduate. Other organizers and MER graduates include John Archea (EDRA2, 1970), Wolfgang Preiser (EDRA4, 1973), Carole Tiernan (EDRA12, 1981), James J. Potter (EDRA14, 1983), and Jack L. Nasar (EDRA26, 1995, and EDRA27, 1996). MER graduates have also chaired EDRA. John Archea and Ray Studer were founding members of EDRA (June 1968). Archea also served on the EDRA Steering Committee (1969-72), and the Board of Directors as Secretary-Treasurer (1977-78), Chair (1978-80), and member (1980-81). Preiser served on the Board as Vice Chair (1973-74) and Secretary (1975-76). Potter joined the board in 1990 and served as chair (1991-92). Nasar joined the Board in 1995, and served as chair from 1996-1998.

As part of the 1995 conference, Nasar scheduled a formal MER session inviting all MER graduates to attend. It was close to the 25th anniversary of the founding of the MER program. Approximately 25 graduates attended. We recalled our time at MER, early EDRA conferences, and we discussed

what we had done over the years and exchanged information on our current research and professional interests and developments. Following the session, we had a less formal gathering over dinner, and it was at this second gathering that the idea of this book was born. From the afternoon discussion, it became apparent that the MER graduates, who had come into the program with varied backgrounds, had also followed very different directions in research and careers upon graduating. Nevertheless, we shared a systematic and holistic philosophy of environmental design research and problem-solving. Though these and similar terms which describe the MER program approach and structure may appear to be overused "buzz word" they truly represent what has become of the MER graduates since the program started in 1969. We also realized that many of the graduates had become recognized leaders in their subfield in environmental design research. Why not assemble in one book the most significant work and publications which represent the diverse accomplishments of the MER graduates?

A number of the dinner participants became contributors to the book. In addition to the editors Jack L. Nasar (Ph.D., 1979), and Wolfgang F. E. Preiser (Ph. D., 1973), they include Al DeLong (Ph.D., 1972), Romedi Passini (Ph.D., 1977), Richard Titus (Ph.D., 1975), Harry Heft (Ph.D., 1976), Glenn Harris (Ph.D., 1977), Fahriye Sancar (Ph.D., 1977), Dave DeJoy (Ph.D., 1978), William Rohe (Ph.D., 1978), Theodore Newsom (Ph. D., 1980), James J. Potter (Ph.D., 1982), and Janet Mackey Brown (Ph.D., 1983).

We subsequently added a chapter by the late John Archea (Ph.D., 1984), who was among the first seven guinea pigs. Others included Alton DeLong, Asher Derman, Imre Kohn, John Liu, Len Olson, and Wolf Preiser.

Not present at the dinner was the creator and mastermind of the MER program, Ray Studer. Ray was strongly and consistently praised by the graduates for his vision and support. We invited him to write the introduction to this book in the form of a retrospective. Also invited into the project was the author of the epilogue, Robert B. Bechtel, who, in his function as editor of the journal *Environment and Behavior*, has been able to follow the field of environmental design research over the past 28 years. Both the journal and the MER Program started in the same year, and their evolution in the formative years was very much intertwined.

Now, a second generation of environmental design researchers is emerging which will build upon and further develop the directions in environmental design research which the first generation had charted. To that

end we dedicate this book to all of those who seek to enhance the quality of the environment with humanistic principles in mind.

JACK L. NASAR
WOLFGANG F. E. PREISER

References

- Moore, G. (Ed.) (1970). *Emerging methods in environmental design and planning*. Cambridge, MA: MIT Press.
- Sanoff, H. and Cohn, S. (1969). *EDRA1: Proceedings of the First Environmental Design Research Association conference*. Raleigh, NC: North Carolina State University.

This page intentionally left blank

Introduction:

Reflections on Man- Environment Relations

RAYMOND G. STUDER*

Introduction

1968 was a very exciting year for the social sciences, and probably a record year for scientific publications up until that time generally. The role of science in human affairs was on the ascent, the “invisible college”, a legacy of the Kennedy years, was still alive, research funds were plentiful, and there was the common belief that science, and social science in particular, was the key to improving the human condition. Widely embraced was the idea that interdisciplinary efforts were required to generate and apply the needed knowledge; the emerging field of environment and behavior was an exemplar of this interdisciplinary view of inquiry. When we were both at Brown University, David Stea and I managed to publish a directory which included a wide spectrum of researchers in the emerging field; the Environmental Design Research Association (EDRA) was born soon thereafter, and several relevant newsletters and a new journal (Environment and Behavior) were soon to be in place. Sensing that this was a seminal moment, many of us, disillusioned with one or another aspect of our fields, were prepared to re-focus our academic commitments in search of a new way of generating and organizing knowledge. The founding of the Man-Environment Relations (MER) program in 1968 was thus not an isolated event, but one which occurred in the context of larger forces underway in the social sciences generally, and a commitment to scientification of various forms of praxis in particular. The following is a brief personal

* Raymond G. Studer, Professor and Chair, Department of Planning and Design, College of Architecture and Planning, University of Colorado, Boulder, CO 80309.

account of the MER program's history; the views of others may vary. The program operated through three phases, which might be nominally described as beginning, middle and end.

The beginning

While at Brown University, I received several letters from Don Ford, who, I gathered, was dean of some sort of new multidisciplinary college at Penn State. The Pennsylvania State University was not among the most likely venues for the academic experiment I had in mind, and although skeptical, finally agreed to visit the campus. In the Spring of 1968, after completing the weekly class I was teaching at Columbia, I proceeded to Philadelphia, assuming that Penn State was on it's outskirts. I found instead upon arriving a four hour drive ahead of me. Penn State, I soon learned, was located in a fairly rural setting, far from the urban problems which seemed to demand engagement. Having arrived in Happy Valley at two in the morning, I bedded down at the Nittany Lion Inn (alias Nitwit Inn, as we later renamed it). The reward for my arduous journey came the next morning upon hearing Don Ford's vision for a new multidisciplinary college. Unlikely venue or not, I was hooked on the idea, dropped negotiations with other universities, subdued my propensity for places urban, and joined the team.

The College was to be organized into four multidisciplinary units. The name of the one I was to head, i.e., "Man-Environment Relations", was not of my choosing. Indeed, its sexist connotations made many of us quite uncomfortable. Later on, we debated endlessly about an alternative (one of our more enterprising graduate students suggested "Harvard Business School"). The acronym "MER" seemed to skirt the issue somewhat. In any event, MER initially included several programs from a previous college of home economics. Beyond consummating a new Ph.D. program, my job was to try to make organizational sense out of an odd collection of programs and faculty, all of whom I quickly grew very fond, whatever their relationship to the new venture.

The programmatic vision was to realize a research-focused, interdisciplinary doctoral program, and later a supporting undergraduate program, which featured three interdependent, inter-professional lines of inquiry: 1) influence of the built environment in human affairs; 2) interdependencies between built and natural environments; and 3) the

processes and procedures of sociophysical intervention in human systems and settings. The intention was to harness the resources of the social, environmental, and systems sciences in order to generate useful knowledge of environment-behavior systems, together with procedures for utilizing this knowledge in the interest of realizing more effective human environments. The then current enthusiasm for realizing such a program notwithstanding, this was to be more easily said than done, for there were simply no existing academic models to draw on. Indeed this may have been the first organized as a formal interdisciplinary academic unit not tied to an existing field.

Not wanting to reveal my uncertainty, or status as an administrative first timer, I first set about the task of creating the new graduate program as though I had done this many times before. I prepared a conceptual program description, a (somewhat primitive, not to mention optimistic) developmental flow diagram with a time-line describing the sequence of required tasks, the faculty resources needed, the types of graduate students, and other components to realize a fully operating, research-focused academic organization (see Figures I.1-I.3). This, as it turned out, was the most tractable part, unconstrained by conventional realities.

The Division included three inherited graduate programs, two of which offered the Ph.D. When I proposed to the Dean of the Graduate School to collapse all of these into a single graduate program with a new name, he approved unilaterally (probably violating all manner of faculty governance norms). Although it embodied some programmatic inelegance, this was no doubt record time (about three months) for realizing a serviceable Ph.D. program. What might have been the most difficult element was thus almost instantly in place.

The search for appropriately directed faculty was more difficult than anticipated, although unconstrained in those days by the arduous search procedures we now enjoy (as I recall, for example, the late Jack Wohlwill and I cut a unilateral deal on a napkin in a Cambridge bar). Many were not disposed to abandon their traditional departments or urban venues in prestigious universities; others were not yet ready to take the plunge, and few were prepared for such an interdisciplinary experiment. The small collection of faculty that did join the effort initially were both highly enthusiastic and competent. The fields initially represented in the faculty included experimental psychology, social psychology, psychiatry,

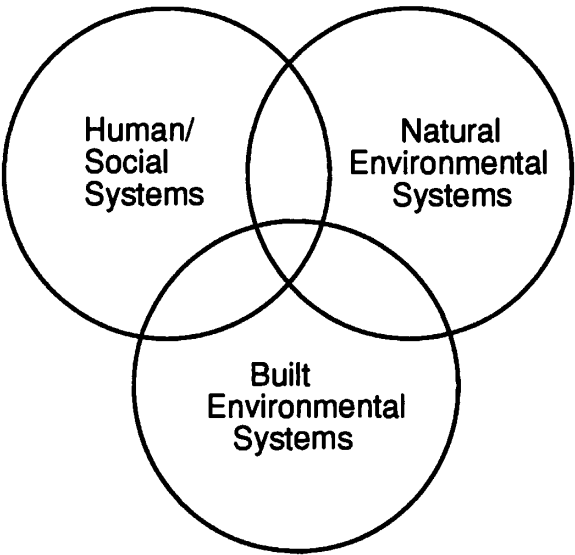


Figure I.1 Graduate program in MER: Conceptual scope

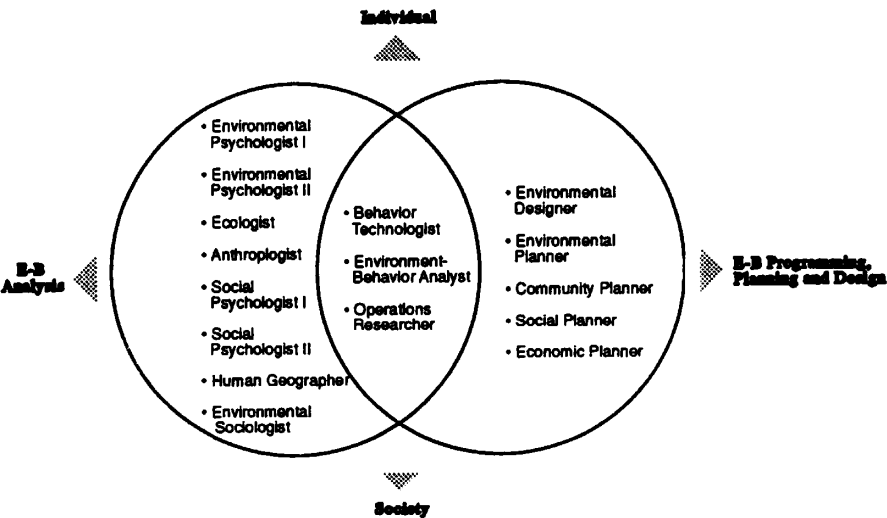


Figure I.2 Graduate program in MER: Faculty resources

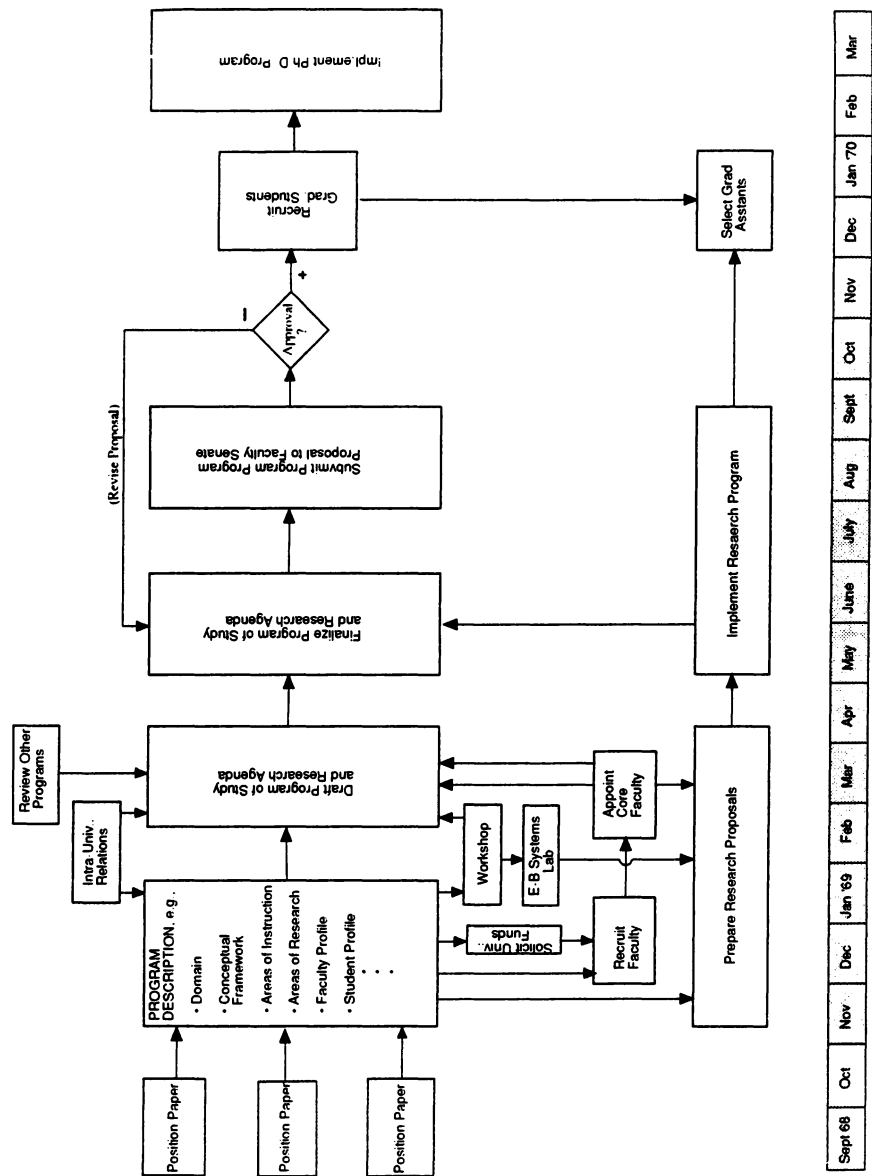


Figure I.3 Graduate program in MER: Development plan

anthropology, operations research, planning, and architecture. Each had a strong vision for what needed to be done; a collective, not to mention synthetic vision was to be more challenging. Our fields we knew very well; the intrinsic demands of interdisciplinarity was another matter, such was the nature of the enterprise. The MER faculty understood that this was to be not a group of scholars loosely affiliated through some kind of center (the conventional manner of interdisciplinary effort), but a fully functioning academic unit. The term “transdisciplinary” came up from time to time to characterize the intended enterprise.

Interestingly enough, recruitment of appropriately directed and well-qualified graduate students was to be a more manageable task, for many gifted, enterprising candidates were searching for just such a program. The first group predictably came from a variety of fields, e.g., psychology, sociology, anthropology, biology, mathematics, architecture, and urban planning; all held advanced degrees from strong universities. Subsequent classes were equally diverse and well qualified. Each was offered a generous assistantship. Indeed all of the program’s students received generous support throughout the life of the program.

It can be said that the graduate students came to the program with a fairly clear interdisciplinary vision, and provided the essential glue which brought disparate ideas together. That is, like the faculty, but much more successfully, these students readily engaged the search for a new synthesis of knowledge. Some students, particularly those from the social sciences, found issues of intervention and application somewhat foreign. Students from the planning and design disciplines, in turn, struggled with the rigors of social science research norms and procedures. A noteworthy representation of the program’s graduates are contributors to this volume. There were many others through the years, highly talented, and each bringing something very special to the setting. Space does not allow mention of each these individuals, or the many graduate students’ stories which could be told.

The MER enterprise emerged and was maintained over the years through: 1) the quality, diverse backgrounds and interests of its faculty and graduate students; 2) the search for a common vision and commitment to a truly interdisciplinary enterprise in the context of disciplinary diversity; 3) a persistent optimism regarding the things science could do for society, and, it should be added; 4) the solidity of all forms of support for the program from the visionary dean of its parent college.

The middle

MER's beginnings were described above, and this was followed by a period (about 1972 to 1980) of enhanced focus, development and maintenance as various actors better understood what was required. Once in place, the program nurtured wide-ranging explorations in increasingly applied contexts. These investigations included the entire spectrum of issues in the environment-behavior field, and decision processes and procedures required to implement relevant knowledge. Predictably, the former, e.g., empirical investigations of environment-behavior phenomena, were better represented than the latter ones, e.g., intervention procedures, and these two domains and related subcultures were, as a rule, difficult to integrate. It can be said that the faculty was more proficient in consummating the multidisciplinary than the interdisciplinary mission of the program. Again, the students were perhaps more successful in this regard.

During the initial, and subsequent phases of the enterprise, many individuals inside and outside the program made enormous contributions. Although others participated for short periods, the program's core faculty over the years included Dan Carson, Jack Wohlwill, Hans Esser, Glen McBride, Harry Coblentz, Stuart Mann, Gene Bazan, Pete Everett, Bob Griffin, Sid Cohn, and Willem van Vliet--, more or less in order of their appearance. Each of these and others who participated in the program brought a particular perspective, expertise, substantive focus and energy. While it seems unfitting to single out particular individuals, for all were important players, Stu Mann deserves special mention as a generous and sustained contributor in several roles. Here again, abundant faculty anecdotes could be included if space allowed.

The novel nature of the enterprise, its focus on a wide range of issues, attracted the presence of a rich array of visitors who made important contributions. Included among many such stimulating individuals were Jack Calhoun, Bob Sommer, Ed Willems, Bill Michelson, Paul Gump, Powell Lawton, Alan Wicker, Ken Craik, and Amos Rapoport. Irv Altman made a significant and sustained contribution; heroic efforts on our part to have him join us were unsuccessful, as he headed for parts West.

The program continued to function fairly well, and we carried on efforts to consolidate and sharpen its mission. Once more, "sharpening the mission" in such a venture was (and is) no mean conceptual task. But we continued to attract strong students representing various contributing

disciplines. Also very helpful throughout were strong faculty from other departments such as Geography, Psychology, Sociology, and Business (Organizational Behavior and Management Science) which greatly strengthened the program. Faculty from these and other units provided generous support as members of various graduate students' committees and research collaborators. In addition, several of the program's students taught courses in the Architecture department, and some participated and obtained master's degrees in the intercollege program in Regional Planning, a program in which several MER faculty taught courses from time to time. Such interdepartmental activities served to further validate the program's interdisciplinary mission.

Throughout the life of the program our students remained enthusiastic in their pursuit of one or another pertinent topic. A rough review of dissertation and master's thesis topics suggests that about 60% dealt with central environment-behavior issues, with an additional 17% focusing on environment-behavior planning and policy level issues (including transportation). About 15% dealt with intervention, policy-making or planning methodology, and a few more focused on natural environmental issues and policies. This distribution of student research topics generally mirrored the faculty's interests.

For better or worse, faculty tended to focus on urban issues, with little involvement in rural communities, and its outreach component was rather limited per se. During this period the Harrisburg Field Research Station was established, thanks to a grant obtained by Jack Wohlwill, which provided a more or less urban context for our research efforts for a period. The Wesleytown new community development also served to energize group research undertakings. These and other forays into real world settings helped to validate the program's relevance to praxis.

The end

The concluding chapter of MER was influenced by contextual challenges to interdisciplinary programs generally, and within the institution in particular. As several related, and more established fields and units also became enamored with the issues we were pursuing, the climate became less cooperative and more competitive for resources. Also, during this period the enthusiasm for this new perspective on the part of several allied

design and planning professions gave way first to impatience, then disillusionment, then reduced interest in the products of both substantive and procedural environment-behavior research, the very locus of our enterprise. This was followed by other well known external and internal pressures, including pervasive “retrenchment”, and reduced funding for “extraneous”, experimental academic enterprises in universities generally. Once interdisciplinary programs like MER can be identified as a luxury, it’s a short step to threatening them with extinction.

A complex set of forces led initially to a merger of MER with another academic unit, i.e., Community Development and the interdepartmental graduate program in Community Systems Planning and Development. This strategy, designed to continue the story, was ultimately unsuccessful, for the die was cast. Our intelligence efforts from within the ax-wielding University administration yielded bad news. Shortly thereafter, the new academic unit designed to carry on was summarily terminated before it was given a chance to succeed. Remaining faculty members were reassigned to other academic units on the campus, or departed for other, more traditional venues.

In any event, my original idea to remain for about three years until the program was well situated, gave way to a stay of eighteen years in various roles, at which time this exhausted interdisciplinarian reluctantly moved, along with Willem van Vliet—, to the University Colorado at Boulder in 1986. While the MER program stays officially on the books, due to the kind of bureaucratic inertia only a veteran Penn State administrator understands, the experiment was essentially at an end. Many other such programs have no doubt faded from the scene as funding became problematic and/or the more established fields seized the opportunities. What the future holds for such academic endeavors is not entirely clear, but without institutional support, it was difficult to continue the struggle.

Retrospective

External historical forces, the withdrawal of institution support, and other contextual changes not doubt led to the phasing out of the MER program. But there were other intrinsic, substantive sources of vulnerability at work. The very elements which made the enterprise so compelling, also rendered

it intellectually precarious. In retrospect, the conceptual scope of the program was probably unrealistic.

Given our overarching goal of utilizing and/or generating knowledge directly relevant to improving human environments, the developmental status of contributing disciplines made the problems of assimilation and synthesis difficult, to say the very least. Moreover, the effort was inundated with axiological conflicts within the social sciences which plague any interdisciplinary striving. That is, although the disciplines from which we drew shared a common (positivist) epistemology, other axiological conflicts across and within these are significant. These were compounded by more profound axiological conflicts across the domains of research and praxis, and within the latter. All of this places a momentous intellectual burden on the kind of interdisciplinary breakthrough to which the program was implicitly committed.

Related to this were issues of academic legitimacy. As noted, our relationships with more established academic units on the Penn State campus were fairly effective in legitimizing our efforts. The Harrisburg Field Research Station, Wesleystown and several other action-oriented projects were attempts to legitimize the program's contributions to praxis. Some have argued that the faculty may have focused their research agenda too exclusively on urban problems. Greater involvement in rural community contexts, and a more robust outreach program to support our research mission was perhaps indicated, given our remote setting. Beyond sponsorship of the EDRA Conference in Pittsburgh with Carnegie-Mellon University and a few individual collaborations, networking with other institutions as a means of legitimizing our program was perhaps less than it should have been. In retrospect, a more robust emphasis and faculty expertise in natural environmental issues could have better positioned the program to pursue nascent societal concerns in that domain. Finally, greater emphasis on land use and other conventional planning/policy issues may have also enhanced the program's legitimacy in terms of praxis.

In the scheme of things, gaining credibility, legitimacy and continuing support for our academic experiment was a formidable undertaking. In spite of it all, a great deal was accomplished. The MER program maintained its interdisciplinary mission over many years, and contributed important knowledge, researchers and practitioners to impacted fields. The program produced about 80 doctoral and masters graduates. These individuals have taken important roles in academia, government, industry and private sector

consulting. Several have subsequently provided leadership in the area of environment-behavior research and attendant organizations such as EDRA, while others are making important contributions to parent or allied fields. Of the Ph.D. graduates, about 57% went into academic settings, 23% into industry or private consulting, and 20% entered government service. Of the Masters graduates, about 18% continued their doctoral studies in MER or elsewhere, 40% went into industry and private sector consulting, and 42% entered various levels of government service. Regardless of venue or context, all of the program's graduates claim a distinctive perspective, and related knowledge and tools which they have taken into their varied professional lives.

Those of us who participated feel that we were part of a unique and valued academic experiment, and have no regrets for that experience. Gratefully, programs such as those at University of California-Irvine, CUNY, University of Wisconsin-Milwaukee, University of Michigan, SUNY-Buffalo, University of Arizona, and several others carry on effectively. Members of the relatively small academy of environment-behavior scholars and practitioners understand the intellectual struggle in which MER and similar programs have engaged. In this regard, we can all take comfort in the fact that this area of inquiry has permeated the very professions which profess to ignore its products. Indeed, entirely new areas of related praxis have flourished.

Beyond their own contributions, graduates of the MER program have subsequently influenced several student cohorts in several fields; through them, the program continues its genesis and genius. The students and faculty of MER, whatever their present niche, carry on the program's underlying mission, which was to bring socially relevant, interdisciplinary rationality to research and praxis.

Biographical sketch

Raymond G. Studer holds a Bachelors in Architecture (University of Texas, Austin, 1957), a Masters in Architecture (Harvard University, 1963) and Ph.D. at University of Pittsburgh (1982).

Over the years, he has served in these capacities: Dean at the University of Colorado, College of Environmental Design (1986-1992); Professor and Chair of the Man-Environment Relations Program, at The Pennsylvania

State University (1968-1986); a Visiting Scholar at Massachusetts Institute of Technology (1977-1978); a Senior Faculty Fellow at Princeton University, (1977-1978); Head, Planning Analysis Project, Brown University (1967-1968); Assistant Professor of Architecture, Rhode Island School of Design (1964-1968); and Instructor of Architecture at Arizona State University (1958-1961). He is presently Professor and Chair of the Department of Planning and Design, College of Architecture and Planning, University of Colorado.

One of the early scholars in the field of environment-behavior research, his research focus has been on planning, design and management decision processes, interactive decision support systems for heterogeneous stakeholder populations, and applications of behavior technology and behavioral ecology.

Part One

Theory on the Use of Space

This page intentionally left blank

1 The Place of Architectural Factors in Behavioral Theories of Privacy

JOHN ARCHEA*

Abstract

Although much of the recent concern for privacy as a central issue in the study of interpersonal behavior has arisen within the area of environmental psychology, the environment presented in this literature tends to lack enduring properties which set it apart from the behavior to which it is presumably related. By contrast, a model of the environment is proposed which is sensitive to physical properties which are independent of normative and symbolic associations imposed by tradition. This model indicates how the selection of one's location and orientation within an architecturally bounded setting can affect both the acquisition of information about surrounding activities and the abilities of others to take notice of one's own behavior. Within this framework selective conspicuousness is suggested as the chief means of privacy regulation. Selective conspicuousness involves a trade off between the environmental and behavioral options available for concealing or disclosing information about oneself with the physical environment presenting certain initial conditions upon which behavior is contingent.

* John Archea, deceased. Special appreciation is extended to Stephen T. Margulis whose discussion of concepts and issues and whose assistance with earlier versions of this article greatly exceeded his responsibilities as the editor of this special issue. Reprinted from *Journal of Social Issues*, Vol. 33, No. 3, 1977, 116-137.

Much of the research interest in privacy as a central aspect of interpersonal behavior has arisen within the area of environmental psychology. While the environment is often discussed at great length in these treatments of privacy, it is not always clear what is being referred to when the term "environment" is used. The notion of a physical or architectural entity is implicit in the frequent attempts to state the design implications of privacy research (Altman, 1974, 1975; Proshansky, et al., 1971). Yet most research on privacy considers the environment solely in terms of the normative or symbolic qualities superimposed upon it by its inhabitants (Altman, 1974, 1975; Bossley, 1976; Laufer, Proshansky, & Wolfe, 1973). The demarcation between the environment as a physical entity and the environment as a set of normative or symbolic associations has not been made explicit (see Levy, 1976; Moore, 1976; Willems & Campbell, 1976).

Conceptualizing the environment

The most elaborate treatment of the environment by an environmental or social psychologist concerned with privacy has been Altman's (1974, 1975) account of clothing, personal space, and territoriality as privacy-regulating mechanisms. He conceptualizes privacy as the key linkage between these three aspects of the environment and verbal or paraverbal behavior. He also conceptualizes these three mechanisms as successively more remote layers of the self. By intentionally confounding the environment with these extensions of one's being and personality, Altman has beclouded the notion of an environment that stands apart from the self. As privacy-regulating mechanisms these three manifestations of the environment are always present when and where the self is present. If, like one's vocabulary or knowledge, these mechanisms are coextensive with one's person, then how are they to be differentiated from that person? More importantly, by what logic do they become aspects of the environment? Altman's position that his complex model suits the complex relationships he seeks to explain begs the question—particularly when he offers his model as a source of guidance for architects (Altman, 1975). Other notions of the environment as something that evokes or sustains a privacy experience (Laufer et al., 1971) or as a prop for the expression of individuality (Bossley, 1976) present similar problems. The environment thus conceived has no existential status independent of the uses to which it is put. This is analogous to the fictitious nineteenth century social

scientist's view of the steam engine as something that is at once the emancipator and the enslaver of the working class. This is one view of what a steam engine can do, but this is not what a steam engine is. The environment similarly construed, has circumstantial attributes and mediating consequences but no enduring properties.

While most environmental psychologists regard the environment as an unavoidable factor in the study of privacy, few seem to separate it from established notions of behavior. Most treatments are analogous to the early physicists' treatment of ether phlogiston as hypothetical place holders for the unexplained variance in prevailing theories. Like its historical counterpart the environmental psychologists' *ethereal environment* is empirically evasive and conceptually vague.

As alternatives to these behavior-centered notions of the environment, consider Canter and Kenny's (1975) view of the environment as a set of locations or places, each differing in their access to information, or Margulis's view of the environment as an information flow network (Margulis, Note 1). Here the environment begins to stand apart from the behavior which occurs within it. It has an existence that precedes and survives the respective arrivals and departures of the people who use it. Instead of being treated as a medium, the environment assumes the characteristics of a variable (Michelson, 1970). Still, the Canter and Kenny and the Margulis formulations are too sketchy to link the personal experience or regulation of privacy to specific environmental variables without further elaboration. Such elaboration will require a conceptualization of the environment that is not encumbered by current models of behavior. The quest for such a model of the environment may have to extend well beyond the traditional boundaries of psychology or the other behavioral sciences.

This article proposes a model of the environment that not only might be useful in conceptualizing privacy and other forms of interpersonal behavior, but that is also independent of the normative and symbolic associations with which tradition and the behavioral sciences have encumbered it. It begins with an explication of the physical properties of the architectural environment followed by a sketch of the behaviorally relevant attributes of the environment so defined. From these attributes, the role of the physical environment in the presentation of information about the self and in the experience of privacy will be developed. It should be noted that the purpose of this analysis is not to design environments but to more fully comprehend interpersonal behavior.

Properties and attributes

The starting point for explicating the relationships between environment and behavior is the recognition that such an analysis is not necessarily a logical extension of the traditional concepts and methods of psychology or the other behavioral sciences. The point is underscored by noting that the major unifying principle behind those conceptual and methodological pursuits has been the notion that the environment is a source of error which must be experimentally or statistically controlled in order to preserve the scientific integrity of behavioral constructs (Archea, 1974, 1975a). Instead of expanding accepted notions of interpersonal behavior to encompass the physical environment, our task should be to reconceptualize the nature of the physical environment so that the relationships between it and human behavior can be fully elaborated. A thorough consideration of this basic task must precede the analysis of specific environment-behavior concepts like privacy. Such a fundamental reassessment calls for a fresh consideration of the properties and attributes of the physical environment and of human behavior itself.

Properties are those intrinsic, defining characteristics of a thing or a class of things that make it what it is. Properties are always present, even if they are not fully understood or utilized by those who construe a thing in a particular way. Something's color, density, tensile or compressive strength, bilateral symmetry, opposable handedness, and binocular vision are all properties. They impose limits on what things can do.

Attributes are those extrinsic, relational characteristics of things or classes of things that relate them to other things for specific purposes. Attributes are contingent upon what things do in relation other things. The concern is with functions, rather than essences. Efficiency, flammability, hazardousness, visibility, intelligence, and competence are all attributes. They link things to contexts. In effect they are the performance characteristics of the situations created when things come together in time and space.

Whereas properties provide a fairly objective set of constraints from which all other characteristics of things derive a part of their existential status, attributes are only conventions. The qualities of attributes are functions of both the nature of the relationships which they characterize and the intentions of those who find such characterizations useful.

In most analyses, privacy is considered to be a relational characteristic, or attribute, of a selected class of interpersonal situations. While the place-

related or environmental aspects of these situations remain implicit in most theoretical treatments (Altman, 1974, 1975; Laufer et al., 1971; Proshansky et al., 1970), there is no justification for leaving these aspects any less explicit or empirically accessible than the person-related or behavioral aspects with which behavioral scientists are so much more familiar. Situations consist of a series of interrelated activities or events which occur within a series of physically and temporally bounded settings. As an attribute of a class of situations, privacy should be considered only in terms of the interrelated constraints which both physical and human properties impose upon interpersonal encounters. Each set of properties presents a necessary condition for the analysis of privacy, but it is their interrelationships which provide the necessary and sufficient conditions for such an analysis. This represents a sharp departure from previous efforts of many environmental psychologists to conceptualize the environment as a higher-order attribute of behavior, thereby endowing it and most situations with limitations that are exclusively human rather than physical.

Part of the problem of objectifying the environmental aspects of privacy may stem from the fact that the issue straddles intellectual communities as divergent in their traditions, objectives and methods as the behavioral sciences and the design professions (Archea, 1975a, 1975b). Although architecture is the field most commonly associated with environmental variables, it has not developed a research tradition that requires the kinds of intersubjectivity shared constructs or theories that psychologists are accustomed to using. Despite an architectural literature that is peppered with stimulating historical and philosophical insights which link privacy to the subdivision of spaces within buildings (Chermayeff & Alexander, 1965; Giedion, 1948; Mumford, 1938; Neutra, 1954) the only attributes of the physical environment for which architects have established explicit conventions are those most related to building fabrication and durability. In addressing attributes related to building occupancy or use, the designer's vocabulary remains metaphorical and autobiographical.

In conceptualizing the behavior-related attributes of the physical environment we are left somewhere between the architects' inclination to define them subjectively and intuitively and the psychologists' inclination to derive them from previously established models of environment-free behavior. The fact that we presently are able to explicate the behavioral aspects of things like privacy with much more precision than the environmental aspects is little more than an artifact of a much longer

scientific tradition in the behavioral sciences than in the design professions. If a commitment to precise definition and measurement had historically favored the environmental side of the coin, we now might be trying to untangle a working understanding of behavior from the heights of kitchen cabinets and the widths of exits.

Information fields

The task of explicating the behavior-related attributes of physical environments necessarily falls upon those who presume that interpersonal behavior is related to the setting in which it occurs. In this section, a general framework for conceptualizing social situations is proposed (also see Archea, 1974). The influence among others, of theoretical geographers Hagerstrand (1967) and Pred (1967) and of the sociologist Goffman (1963, 1971) will be apparent.

The framework begins with the notion that each person is the center of a dynamic field of information surrounding events and activities to which his or her behavior is a continuous adjustment. As one's ability to monitor surrounding activities increases, so does one's awareness of emerging behavioral opportunities. Similarly, as the likelihood of being monitored by others increases, so does the person's accountability for his or her own behavior. Thus, the regulation of interpersonal behavior is influenced by the possibilities for monitoring the behavior of others (access) and by the possibilities that others can monitor one's own behavior (exposure).

Even though all sensory modalities are involved in this process, information conveyed visually is the most effective in governing one's participation in an ongoing situation. In physically bounded settings, the potentials for seeing others (visual access) and for being seen by them (visual exposure) will vary as functions of the positions of walls and other visual barriers. In this manner, the spatial organization of the surrounding environments mediates the range of behavioral options and obligations which are apparent to those within the setting. The crux of this thesis is the notion that *the arrangement of the physical environment regulates the distribution of the information upon which all interpersonal behavior depends.*

From this presumptive notion, several auxiliary propositions follow. First, as situations change over time, access to and exposure from places where social events could develop will have as great an effect on the regulation of

one's behavior as access to or exposure from people who happen to occupy particular places at particular points in time. This suggests that doors, corners and other places in the environment where new information first impinges on a situation will have special behavioral significance. Second, according to their immediate intentions, persons can arrange to see or be seen from any portion of their physical surroundings. In order to achieve desired social consequences, people can strategically locate and orient themselves in a manner that maximizes the benefits of visual access and exposure. Finally, the effectiveness of visual access and exposure in regulating interpersonal behavior can be offset by sensory-motor and experiential attributes of individuals and by the normative attributes of situations. The main point is that, despite an expectation of considerable individual and circumstantial variability, the extent to which the arrangement of their immediate physical surroundings permits people to see or be seen is regarded as the pivotal link between environment and behavior.

Within this framework, the major behavior-related characteristic of the man-made or the natural environment is the manner in which it concentrates, diffuses, segregates, or otherwise localizes information. A closely related quality is the manner in which physical surroundings facilitate the manifestation of the information that is present.

From this analysis, it follows that the environmental attributes relevant to understanding interpersonal situations are: (1) the means by which the environment channels, obstructs, or otherwise regulates the distribution of perceptible energies; and (2) the means by which the environment transduces, amplifies, contrasts or otherwise mediates the appearance of available information. Among the underlying physical properties that constrain the way in which visibility and other environmental attributes can be conceptualized and measured are the position, extent, fixity density, color, radiance, and transparency or opacity of the architectural components of settings.

Whereas the environmental or architectural attributes of a situation affect the flow and appearance of information, the interrelated behavioral attributes affect the process of decoding and encoding that information. They include: the respective locations of the participants in a situation, their head and body orientations, the acuity of their various sensory modalities, the psychomotor responsiveness, their familiarity with the setting, routinization of certain activities, and the normative or symbolic associations shared among the participants. The underlying human properties which limit the ways in which people exchange information with each other are: unidirectional vision of

high resolution but limited lateral extent, omnidirectional audition of somewhat lower resolution, the rates at which information is processed, the categorical structure of short- and long-term memory, and the mechanics of verbal and nonverbal expression.

Some of these characteristics are similar to the strictly behavioral constructs that were criticized earlier in this paper. The main difference is that the framework proposed here requires *simultaneous* consideration of the behavioral and the environmental attributes of situations. In contradistinction to an analysis of behavior or environment, the object of this analysis is the situation itself.

In sum, the physical environment is construed as a mechanism for regulating the flow and appearance of information. People process available information in order to coordinate their own actions with those of others. The result of processing such information is an adjustment in the course of one's own behavior which itself constitutes new information. That new information in turn is redistributed as the organization of the physical environment permits.

A model of spatial behavior

In the framework proposed here, visual access and visual exposure are the most fundamental attributes that subsume both the environmental and the behavioral aspects of interpersonal situations. In this section a model of spatial behavior is outlined, based upon the interaction of visual access and exposure as both are constrained by the properties of physical and human systems.

Visual access

Visual access is the ability to monitor one's immediate spatial surroundings by sight. A person's visual access within an informal social setting establishes the range of opportunities available for synchronizing that person's behavior with the behavior of those who share the setting. The amount of information available from one's immediate social surroundings determines both the number of potential interpersonal relationships from which one can choose and the number of cues available for anticipating changes in those relationships. The extent to which individuals can maintain active surveillance of