

PUBLIC SPACE DESIGN IN MUSEUMS



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*A thesis submitted in partial
fulfillment of the requirements for
the degree of Master of Architecture
May, 1982*

PUBLICATIONS IN ARCHITECTURE AND URBAN PLANNING

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Report R84-7

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*To my mother Delores B. Robillard
in loving memory*

*and to my family
the ideal life support system
Gert, Norbert, Bob, Bev, Don*

Acknowledgements

I wish to acknowledge the following people for their valuable contributions to this work: Gary T. Moore, whose diligence and skill in the teaching of Environment Behavior studies encouraged me to pursue this project, and whose insights into the development and communication of design guidelines helped clarify the organization of the material; Timothy McGinty, whose knowledge and understanding of architectural design, graphic styles and techniques strengthened the development of this study; C.G. Screven whose excitement and concern for the betterment of museum environments continually reaffirmed the need for this project, and whose expertise in museum visitor research made this document possible; Charles R. Ince, Jr., President of A.I.A. Research Corporation, for selecting me the 1980 A.I.A. Research Intern, (Washington, D.C.) which provided the opportunity to conduct preliminary research in an environment overflowing with museum resources; Barry Steeves, for his editing of the final copy and training in document development; Joni Zarzynski, for her prompt and proficient typing skills; and Sandra B. Schroeder, assistant to the dean for student affairs, for her enthusiasm for the project and patience while awaiting the final outcome.

Finally, I wish to thank Luetta Al-Saadi, Roger and Laura DeYoung, Richard Kieffer, Ricki and Karen Miller, Bill Simon and Emmett Sullivan for their constant support, encouragement and understanding especially during the difficult times of the manual's production.

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Thesis Intent

This thesis was undertaken to:

- Identify implications for museum design that is available in current literature but has not been collected into a single source.
- Clarify the potential of behavioral research in affecting design.
- Address complaints about the usefulness of Environmental-Behavior Studies including charges that the research asks the wrong questions in the wrong ways for the results to be useful to designers, that the language and packaging of the reports has not kept the practitioner in mind, and that the research is often irrelevant, inaccurate and misleading.

Thesis Committee

GARY T. MOORE, Chair
Assistant Professor of Architecture, University of Wisconsin-Milwaukee. Major contributions to this thesis include:

- Behavioral factors in architecture.
- Design guideline development.
- Editor.

TIM MCGINTY
Associate Professor of Architecture, University of Wisconsin-Milwaukee. Major contributions to this thesis include:

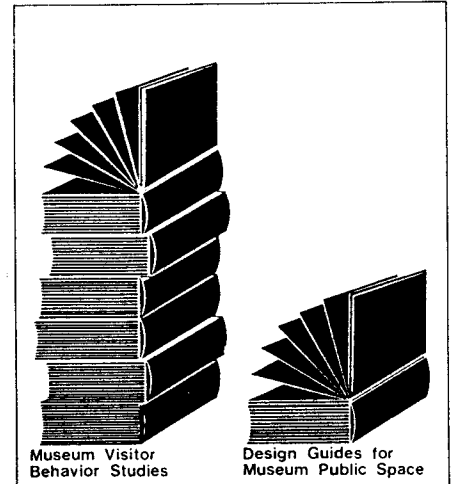
- Graphics.
- Architectural design.
- Editor.

C. G. SCREVEN
Professor of Psychology, University of Wisconsin-Milwaukee. Major contributions to this thesis include:

- Visitor responses to museum materials and environments.
- Visitor reactions to museum exhibits.
- Editor.

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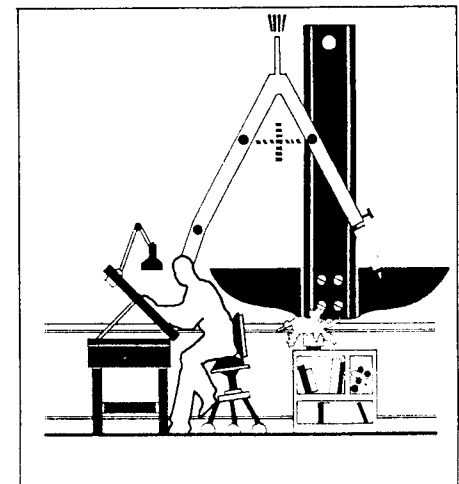
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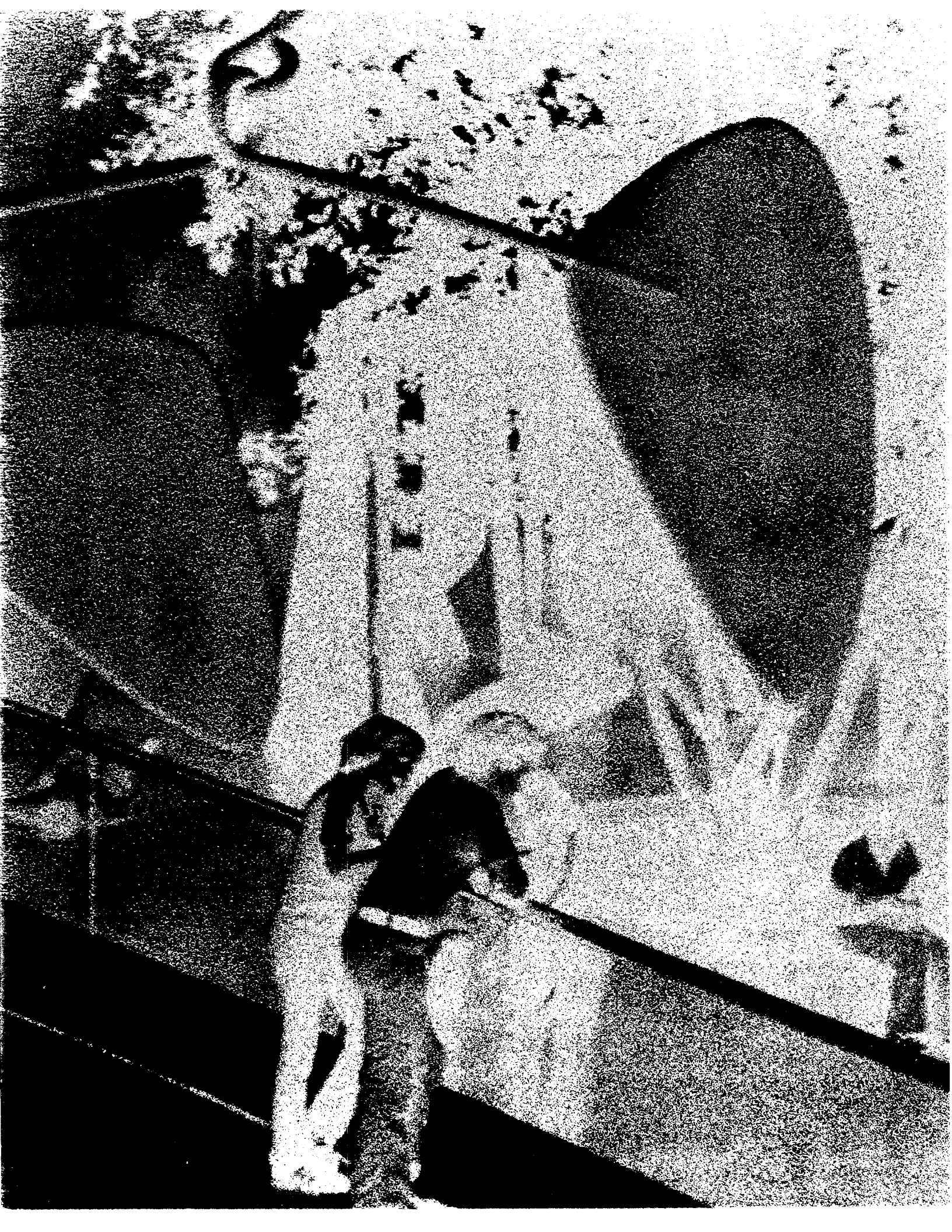
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PREFACE

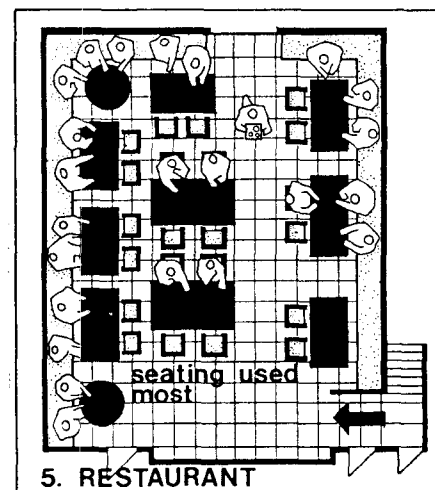
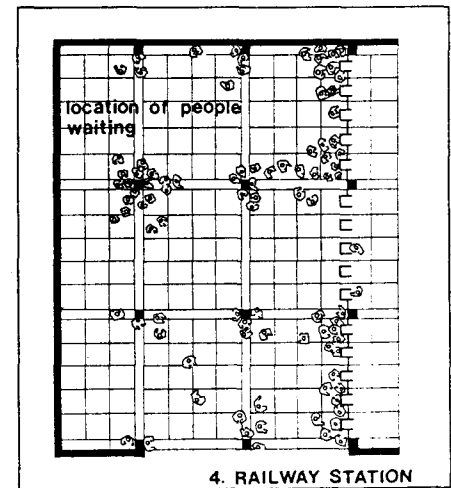
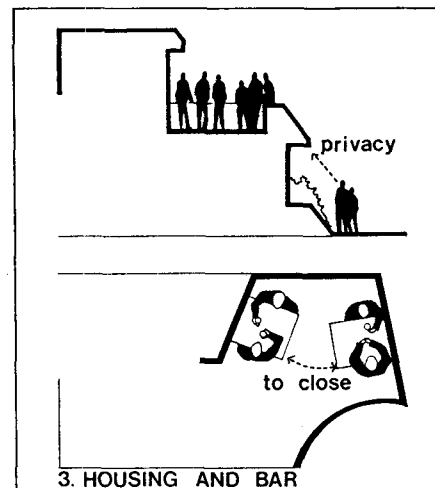
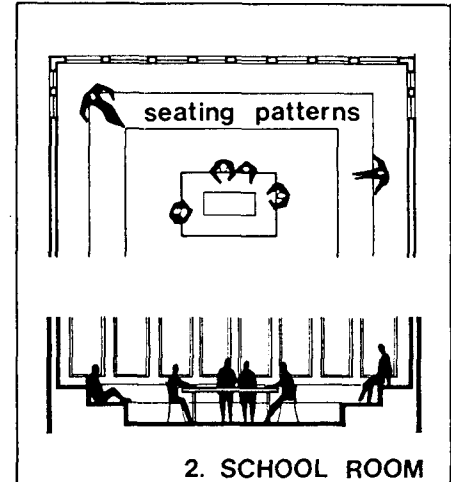
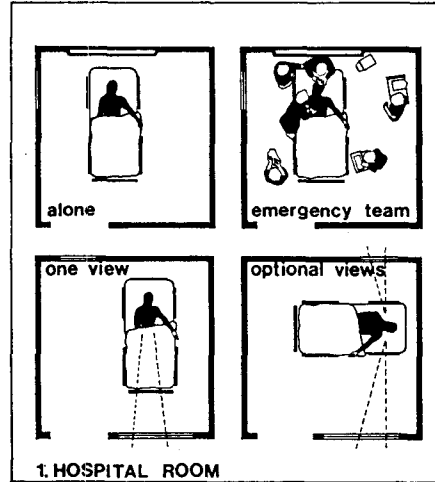
Environment—Behavior Studies in Architecture

"SINCE EVERY KIND OF HUMAN REACTION IS CONCEIVABLE, IT IS OF GREAT IMPORTANCE TO KNOW WHICH REACTIONS ACTUALLY OCCUR MOST FREQUENTLY, AND UNDER WHAT CONDITIONS. ONLY THEN WILL A MORE ADVANCED UNDERSTANDING OF THE MAN/ENVIRONMENT RELATIONSHIP EMERGE, WHICH WILL UNDOUBTEDLY HAVE BENEFICIAL EFFECTS UPON OUR LIVES." (Mikellides, 1980)

There is an enormous interest in developing a better understanding of the design requirements for particular building types (e.g., restaurants, schools housing, bars, hospitals, railroad stations) and special user groups (e.g., children, elderly, handicapped). Environment-Behavior Studies, by examining the relationship between human behavior and the surrounding environment, has begun to address this problem. Although in an early stage of development, a great deal of useful information has evolved through basic and applied research. The findings are being developed into building programs and design guidelines, providing the architect with necessary information to make basic design decisions for specific building types and user groups.

Despite this growing body of research, which shows that scientifically based analysis can improve design the architectural profession has remained suspicious of social-scientific methodology. According to Robert Sommer, there are very few professional behavioral scientists employed full time in architectural offices. He notes that, "behavioral consultation is more the exception than the rule in architectural practice, even on major projects." (Sommer, 1980)

Although the negative attitude of most practitioners towards behavioral science has declined somewhat over the last few years (e.g. with the increase in publications and Environmental Design Research Association; EDRA conferences), today's design researcher, concerned with improving this relationship, must develop their ex-



DRAWINGS 1-5 REPRESENT A NUMBER OF VISITOR-BEHAVIOR STUDIES THAT HAVE BEEN CONDUCTED IN DIFFERENT SETTINGS, EACH HAS SPECIFIC DESIGN IMPLICATIONS: 1. HOSPITAL ROOM, (SPACE SIZE AND WINDOW PLACEMENT), 2. SCHOOL ROOM, (SEATING PATTERNS), 3. HOUSING AND BAR, (VISUAL PRIVACY WITH OVER-HANG AND AISLE WIDTHS), 4. RAILWAY STATION, (LOCATION FOR WAITING AREAS) AND 5. RESTAURANT, (LAYOUT).

Author	Book
CHRISTOPHER ALEXANDER	A PATTERN LANGUAGE.
DONALD APPLEYARD	HUMAN BEHAVIOR AND ENVIRONMENT.
ROBERT BECHTEL	ENCLOSING BEHAVIOR.
JOE BENJAMIN	IN SEARCH OF ADVENTURE AND GROUNDS FOR PLAY.
CHARLES BURNETTE	DESIGNING FOR HUMAN BEHAVIOR.
DAVID CANTER	THE PSYCHOLOGY OF PLACE.
CLARE COOPER	EASTER HILL VILLAGE.
KENNETH CRAIK	ENVIRONMENTAL PSYCHOLOGY.
MATS EGELIUS	RALPH ERSKINE: A HUMAN ARCHITECT.
ROBERT GUTMAN	PEOPLE AND BUILDINGS.
EDWARD T. HALL	THE HIDDEN DIMENSION.
CLOVIS HEIMSATH	BEHAVIORAL ARCHITECTURE.
W. H. ITTELSON	AN INTRODUCTION TO ENVIRONMENTAL PSYCHOLOGY.
JON LANG	DESIGNING FOR HUMAN BEHAVIOR.
HERBERT MCLAUGHLIN	AIA HANDBOOK ON ARCHITECTURAL PROGRAMMING.
ALBERT MEHRABIAN	PUBLIC PLACES AND PRIVATE SPACES.
WILLIAM H. MICHELSON	MAN AND HIS URBAN ENVIRONMENT.
BYRON MIKELLIDES	ARCHITECTURE FOR PEOPLE.
CHARLES MOORE	THE PLACE OF HOUSES.
GARY T. MOORE	EMERGING METHODS IN ENVIRONMENTAL DESIGN AND PLANNING.
OSCAR NEWMAN	DEFENSIBLE SPACE.
HAROLD M. PROSHOWSKY	ENVIRONMENTAL PSYCHOLOGY: PEOPLE AND THEIR PHYSICAL SETTINGS.
BORIS S. PUSHKAREV	URBAN SPACE FOR PEDESTRIANS.
AMOS RAPOPORT	HUMAN ASPECTS OF URBAN FORM.
THOMAS F. SAARINEN	ENVIRONMENTAL PLANNING: PERCEPTION AND BEHAVIOR.
HENRY SANOFF	DESIGNING WITH COMMUNITY PARTICIPATION.
PETER F. SMITH	ARCHITECTURE AND THE HUMAN DIMENSION.
ROBERT SOMMER	PERSONAL SPACE.
DAVID STEA	IMAGE AND ENVIRONMENT: COGNITIVE MAPPING AND SPATIAL BEHAVIOR.
JOHN ZEISEL	SOCIOLOGY AND ARCHITECTURAL DESIGN.

THE ABOVE CHART LISTS KEY BOOKS AND ARTICLES BY ARCHITECTS AND WRITERS WHO HAVE ENCOURAGED THE PURSUIT OF ENVIRONMENT-BEHAVIOR STUDIES IN ARCHITECTURE.

expertise on particular building types and subject matter, such as museums. The results of such efforts can then be used by other designers in a variety of applications.

There are a number of architects and writers who in various ways, are encouraging a more humane architecture and have recognized the merits of behavioral research on their designs and have applied them regularly in the design process. Museum design is one of the areas where behavioral research is most obviously relevant and helps establish models for other applications.

While the design profession has not embraced the systematic study of visitor responses to museum materials and environments, museologists, social scientists, and students have. Using audience surveys, behavior studies, experimental research, and evaluation studies these concerned groups have set out to communicate more effectively with a variety of visitors; to find out who they are, how they behave, and why they come or do not come to the museum. Their findings and conclusions, if handled with sensitivity, have shown to have profound affects on museum design and the overall success of the museum experience.

Purpose and Organization of the Manual

The purpose of this manual is to provide architects and museum professionals with information on visitor behavior in museums and principles that can be applied during design to improve the quality of the museums public spaces. The information is intended to assist all architects, but specifically those architects working with museums interested in the public educational role of museums.

Chapter 1, INTRODUCTION: THE MUSEUM PROBLEM, introduces the problem, the inaccessibility of comprehensive books and articles on design guidelines for museum architecture, and the importance of the problem, the continuing museum building boom and the need for rehabilitation or replacement

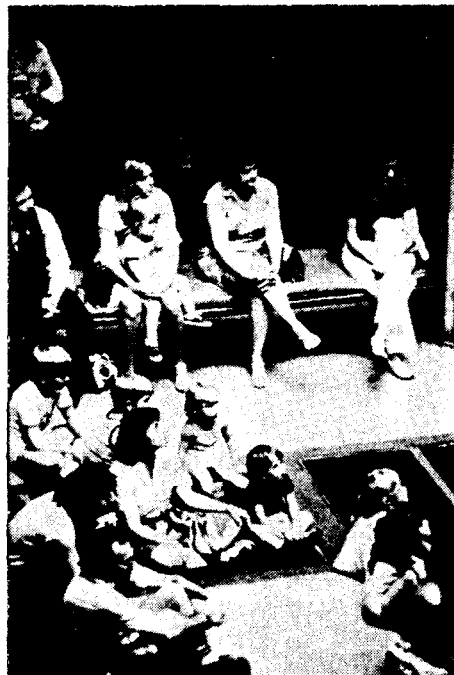
of older museum facilities. Chapter 2, **THE MUSEUM AND ITS VISITORS: A LITERATURE REVIEW**, discusses the museum visitor characteristics and a review of related literature on visitor-behavior studies. Chapter 3, **PUBLIC SPACE DESIGN GUIDELINES**, presents behaviorally-based design implications for the museums entrance hall, circulation paths, galleries and lounges. Finally the resource index contains an annotated bibliography.

Methods of Information Gathering

Interest in this study was developed in of a series of interviews with museum directors, curators, and designers as well as through personal observations of people touring museum exhibits. Interviews focused on several issues, including the relationship between museum personnel and architects, activities and needs of visitors, museum personnel's perceptions and preferences for use of public space, observation of visitor reactions to the different types of public space (e.g., entrance hall, circulation paths, galleries, lounges), and overall condition of existing museums. These discussions raised questions regarding the effect of architectural components on the museum experience, particularly the visitors learning experience.

Preliminary investigation of literature in the field revealed that between 1900 and 1980 over 200 references dealing with visitor behavior in museums had been recorded by Elliott and Loomis (1975), in their study, "Studies of Visitor Behavior In Museums and Exhibitions: An Annotated Bibliography of Sources Primarily in the English Language." and by Screven (1976), in his study, "A Bibliography in Visitor Education Research."

A critical look into studies shows that researchers have been able to identify some critical performance and learning criteria for measuring the impact of museum spaces on museum visitors, as well as some key issues of significance for architects.



OBSERVING THE MUSEUM VISITOR IN MUSEUM PUBLIC SPACES (I.E., ENTRANCE HALLS, CIRCULATION, GALLERIES, AND LOUNGES), PROVIDED A DEFINITIVE PICTURE OF WHAT PEOPLE DO IN A PHYSICAL AND/OR SOCIAL SETTING AND WHAT THE PHYSICAL SETTING IS. FROM LEFT TO RIGHT, NATIONAL GALLERY OF ART-WEST, WASHINGTON, D.C., NATIONAL GALLERY OF ART-EAST, WASHINGTON, D.C., AND CORCORAN GALLERY, WASH. D.C.,

ATTENTION ATTENTION

"Behavioral consultation on design projects is still going on. The chief impediment to its effectiveness is the lack of a solid data base dealing with the behavioral effects of buildings." Robert Sommer. "Architecture. Psychology: The Passion Has Passed." AIA Journal, April, 1980.

Take the QUIZ that follows, using intuition and best judgement. Your answers can be compared to those given in the manual, at the designated pages.

- 1) To improve the museum experience, the entrance hall bookshop, should be located to the right of the entry.
True or False **See pp.36**
- 2) Salient cues provided by the architecture (e.g., atrium), are more successful as orientation devices than maps or signs.
True or False **See pp.40**
- 3) Gallery spaces should contain more than two doorways to increase their usage.
True or False **See pp.46**
- 4) Lounge spaces should blend into the gallery areas; contrast in their design (e.g., color, lighting etc.), can disrupt the viewing of exhibits.
True or False **See pp.60**

The data used in the manual came from selected research papers, trade magazines, research journals, professional journals, journalism critiques, dissertations and text books. Items were chosen based on criteria suggested by Screven (1976):

- The content involves the collection of empirical data of some kind.
- The paper is accessible in a nationally or internationally circulated journal, monograph or book.
- Sampling methods and controls meet minimum scientific standards; that is acceptable efforts were made to establish the reliability of observations, obtained differences and so forth, and sampling procedures were specified.

It is hoped that this manual proves to be a frequently used addition to the designer's reference shelf. It is intended to mark a beginning towards a more conscious effort by the architectural profession in understanding the behavior of the museum visitor in public spaces. If beyond that, it helps the designer accept the challenge of finding creative and effective solutions to the problems of museum design, then both clients and the community will benefit.