

SECOND EDITION

Designing Interiors

ROSEMARY KILMER
W. OTIE KILMER



WILEY

DESIGNING INTERIORS

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Second Edition

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WILEY

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*For our creative daughters, Courtney, Lisa, and Teresa
who all have a passion for interior design*

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Preface

Interior design is an exciting and expanding profession. The responsibilities of an interior designer encompass all spaces, components, and elements within environments built for human needs and aspirations. The education of the professional interior designer aims for the highest levels of creativity, knowledge, and skill in designing for our increasingly complex and technological society. Interior designers are also actively responsive to issues that concern our societies, our people, and this planet. These professionals have a commitment to conserving energy, ending pollution, preventing global warming, and recycling our resources. They support the preservation of endangered life and plant forms, as well as cultures and buildings. Interior designers try to understand the interrelationships of local and global factors and to make positive design decisions on both the macro and the micro levels. Above all, the interior designer is cognizant of human needs, cultural differences, and the contextual links necessary for responsive and responsible environments.

It has been many years since we wrote the first edition of *Designing Interiors*. The intent of the first edition was to provide a strong introduction and understanding of the process of designing interiors from the conceptual ideas to the final implementation. At the time it was first published, it was one of the few books on the market that included this process for both residential and commercial design.

The second edition of *Designing Interiors* follows a similar format and organization to the first edition. The second edition includes updated information and incorporates how interior design is taught and practiced today. This includes an emphasis on issues such as sustainability, universal design, practicing in a global society, and respecting social values.

We have added a great deal of new information, illustrations, and photographs to reinforce current design and construction methods, materials, and practices. However, some of the material we presented 20 years ago still remains relevant today. This includes our commitment to the planet, people, and natural resources we sought to emphasize back then.

This book is intended to serve as a comprehensive overview of the basic knowledge required for the education of the professional interior designer. As the field of interior design becomes an increasingly regulated and licensed profession, education and practice will continue to emphasize a solid expertise in designing for people, their environments, and a better quality of life for all. Complex technical knowledge and creativity will be required to implement environments while protecting the health, safety, and welfare of the public. *Designing Interiors, 2nd edition*, incorporates material essential to the preparation of a designer who has a holistic view and is capable of communicating with other professionals to help create successful and responsive interior spaces.

Interior design is presented in this book as an integrated process applicable to both residential and nonresidential (commercial) interiors. Although interior designers and some colleges focus on one or the other of these, the design of residential interior environments and the design of commercial interior environments are presented herein as similar processes with similar concerns. Although each area has special considerations, the education of interior design students must have a foundation applicable to both.

This book is intended to be used primarily as an introduction to interior design at the college level. However, as the interior design profession is so complex, this book could easily be used in subsequent studio courses that go beyond a mere introduction. As beginning interior design courses can vary in their content, breadth of coverage, and approach, some parts of this book may not be applicable for a single course or for a particular instructor's teaching methods. Some chapters or sections might be bypassed or rearranged according to an instructor's preferences. Some of the technical matter might be saved for use in upper-level courses. However, this book can serve as an introduction to those topics and as a comprehensive reference for interior design students throughout their education.

The text is organized into six parts consisting of related chapters. Content is introduced at basic conceptual levels and applied to the practice of interior design; then more complex information is added. This structure parallels the education and practice of interior designers from initial problem awareness and definition to incorporating various materials and building systems to create interior spaces.

Photographs and other illustrations have been updated and carefully chosen to reinforce ideas within the text. These images enhance the reader's appreciation and understanding of the principles and relationships of interior spaces.

Each chapter ends with a list of books, articles, etc. for further reading.

"PART ONE: INTRODUCTION TO THE INTERIOR DESIGN PROFESSION AND THE HISTORICAL AND THEORETICAL BASIS OF DESIGN" introduces the reader to the field of interior design, discussing the foundations of design from early to modern times. The relationship of interior design to society and built environments is defined and explored. The second edition includes information about current design issues that have changed the emphasis of the interior design profession, such as universal design, globalization, sustainable design, and technological advances. Updated information on professional organizations related to the practice of interior design, academic preparation, and licensing and/or registration laws that affect an interior designer has also been added. An overview of design history helps the beginning student understand the influences that created a particular solution or style. These insights provide the student with a contextual sense in design purpose, drawing from the past to understand tomorrow. We expanded the area on Non-European architecture and interiors to further a student's awareness of global design influences. The timeless elements and principles of design are defined and applied in making functional and aesthetic decisions about the conception and construction of interior spaces. Color and light are examined as interrelated concepts affecting our perceptions of our surroundings. More photographs and illustrations have been added to show students how color theory can be applied in interior environments to create specific moods/atmospheres and enhance the overall aesthetics of a space.

"PART TWO: PLANNING RESIDENTIAL AND COMMERCIAL SPACES" provides an in-depth look at the active, creative processes interior designers use to identify, organize, analyze, and solve problems in the built environment. Various sequences describe how designers achieve effective and unique solutions. Programming is detailed as a method for defining user needs and activities, researching and evaluating facts, and arriving at specific parameters for the interior design. Updated information on evidence-based design research has been added. Space planning is presented with more examples and applications, and expanded to include a variety of additional facilities that an interior designer is involved with today.

"PART THREE: THE EXTERIOR AND INTERIOR ENVIRONMENTS" encompasses the relationships and influences of the exterior and interior environments. Updated information on current concerns for energy conservation and efficiency, historical preservation/restoration, regulatory codes, design for the physically impaired, and other issues are discussed in relation to interior design. Environmental issues and technical systems, such as renewable energy sources and applications, that support and control interior spaces are defined and described as integral parts of the interior designer's practice. Designing with daylight and new artificial light sources has been updated in this second edition. Coordination with other design professionals as an integrated partnership or part of the team needed to construct buildings and interior spaces is discussed and updated.

"PART FOUR: INTERIOR MATERIALS, ARCHITECTURAL SYSTEMS, FINISHES, AND COMPONENTS" examines materials used for constructing and finishing interior spaces; and how these materials and assembly methods generate forms and serve as integral components for creating interior environments. This second edition reflects more on the social and environmental responsibilities of interior designers. It emphasizes the impact that interior designers have on the sustainability of our natural resources and how to be more responsible in their choices of materials, systems, finishes, and products. This second edition also includes many new materials and products that were not available since the last edition.

“PART FIVE: FURNITURE, FURNISHINGS, AND EQUIPMENT” includes a discussion of “accessories” as an integrated part of the furniture, furnishings, and equipment (FF&E) package that interior designers work with. FF&E items are planned for in the beginning of a project and refined to their specific function throughout the design process. This second edition provides a better understanding of how FF&E is incorporated into interior environments through more photographs and illustrations of their application.

“PART SIX: ASPECTS OF PROFESSIONAL PRACTICE” focuses on the professional practice and the designer’s methods of communication (drawings, photographs, models, oral and written presentations, etc.). A business sense is essential for successful designers. Basic practices and business operations are discussed to help the student understand and appreciate the variety and comprehensive practices of interior design before entering the profession. This second edition also features the interior design profession’s use of technological tools for designing tomorrow’s interiors.

In conclusion, we are passionate about the interior design profession as it is an exciting, but very complex profession that demands more responsibility to issues that concern our societies, our people, and our planet. To be an interior designer is more complicated than in past years; however, the rewards are more satisfying due to the abundance of new materials, products, methods, etc. that create an aesthetic and responsive environment that is gratifying and responsive to the user of the space. The authors truly hope this book creates an interest and passion for learning how to create aesthetically pleasing environments that are responsive to the users, society, and our natural resources.

Rosemary and W. Otie Kilmer

Acknowledgments

Writing a second edition of a book is much like writing the original one, especially after 20 years, where the dynamic professions of interior design and architecture have experienced advancing technology and environmental concerns. To keep abreast of the issues and best practice standards facing the interior design profession, we would like to thank the many individuals and organizations for their invaluable help in shaping the 2nd edition of this book. Through their contributions of ideas, criticisms, photographs, and other illustrative materials has made this second edition possible. Our goal was to update this textbook to provide a substantive foundation for learning about the scope of interior design (conception to occupancy), set a professional standard, and express the social awareness of designing interiors for all people.

Without the help and encouragement of many special people, we could never have completed a book of this magnitude and complexity. Although we can't list the numerous individuals and their contributions, we do want to express our sincere thanks here to many. Special appreciation is expressed to the many interior designers, architects, and photographers who have provided illustrations, photographs, and permission to use their materials to make this book a truly visual experience. We are especially thankful to Allsteel; Perkins+Will; Herman Miller, Inc.; Skidmore, Owings and Merrill (SOM); Haworth, Inc.; Kohler; Knoll, Inc.; Kimball Office; Steelcase; National Kitchen and Bath Association (NKBA); EnviroMed Design Group; and Andersen Windows.

Every effort has been made to correctly supply the proper credit information identifying interior designers, architects, photographers, and their projects. We apologize for any errors or omissions that may have occurred in these credits, if any.

We are grateful to a number of interior design educators throughout the country for their reviews, criticism, and helpful suggestions as to the needs of the students and instructors in interior design. In particular, we would like to thank Lisa VanZee of Purdue University for her contributions and illustrations to the book. Special thanks to Jeff Johnston for some of his materials and line art.

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Finally, we wish to express our deep appreciation for the continual support of our family and friends through this long project.

Rosemary and Otie Kilmer

Interior Design, an Introduction

1

Interior design is one of the most exciting and creative professions. A combination of art, science, and technology, interior design, in practice, manipulates space, form, texture, color, and light to enhance the quality of human life. This book is about interior spaces and their design and about interior design as a profession. The practice of actively designing interior space is a major commitment by those who enter the field, that is, people who work toward improving our built environments.

We spend an increasing amount of our lives indoors in built environments. We wake from a night's sleep in some form of interior space and go to learn, work, or play in another space that gives a sense of purpose to our lives. We may briefly go outdoors to get to the site of our day's occupation, but the amount of time spent outdoors is usually only a fraction of the time spent indoors.

Why should we be concerned about the design of interiors? Well-designed spaces can contribute substantially to our sense of well-being, not just serve as shelters. They can be positive influences on our socialization, learning, and general appreciation of life. People's behavior can be positively or negatively reinforced by interaction with environmental forces.

The task of those who design our interior spaces becomes increasingly important as more people spend greater amounts of time indoors. Designers must devise spaces that serve the basic needs of the users and at the same time create positive and uplifting effects. Properly designed environments are efficient and harmonious (Figure 1.1). They can have a pervasive positive influence, which interiors that are not carefully designed may not have.

CURRENT ISSUES IN DESIGN

Interior design is a dynamic profession that changes over time as the result of technological advances, research, codes, culture, and environmental factors. Some of the current issues facing interior designers include universal design, globalization, and sustainable design.

Universal Design

Universal design is a concept that encompasses the design of worldwide environments, spaces, objects, and communication with the intent of serving the widest range of users, regardless of age and physical abilities. Universal design can include accessible design, which specifically focuses on people with disabilities and their right of access



FIGURE 1.1 This Haworth showroom, in San Francisco, is an excellent example of a well-designed interior that serves the needs of the users and creates a positive and uplifting effect.

Courtesy of Perkins + Will; Photo Courtesy of Haworth, Inc.; Nick Merrick © Hedrich Blessing

to entities. However, the two terms should not be used interchangeably. Universal design is involved with more than providing minimal compliance with specific accessibility requirements and guidelines. It seeks to integrate accessible features into the design of the building, interiors, and objects. It addresses the usability issues of spaces and equipment, instead of merely setting standards and minimum requirements, which accessible design does. See Chapter 10 for more detailed information on accessibility. Interior designers are also involved with designing for special populations, which include people of all abilities and ages, including children, the elderly, and those with temporary or permanent special needs (Figure 1.2).

Globalization

Interior designers often work on a global scale and with multicultural communities and people. This is particularly true today as the Internet and other digital media allow designers and others to communicate worldwide. Designers may encompass a multitude of nationalities, cultural traits, physical needs, and preferences. The use of space and the meaning of color may vary among different cultures, regions, and countries. Materials indigenous to a region may also affect how environments are built. Therefore, designers must be aware of particular cultural beliefs and preferences in order to propose appropriate design solutions for a global market (Figure 1.3).

Sustainable Design

Sustainable design seeks to reduce the negative impacts on our environments, eliminate nonrenewable resources, and promote the interaction of people and the natural environment. The need for sustainable design is a direct result of global growth in human population, economic activity, damage to the earth's ecosystem, and depletion of natural resources. Sustainability principles include energy conservation and efficiency, recycled or sustainably



FIGURE 1.2 Mattel Children's Hospital UCLA is designed to serve the needs of its special population.

Courtesy of Perkins + Will; © fotoworks/Benny Chan



FIGURE 1.3 The Park Hotel in Hyderabad, India, infuses a modern, sustainable design with the local craft traditions, and is influenced by the region's reputation as a center for the design and production of gemstones and textiles.

© Skidmore, Owings & Merrill LLP | © Robert Polidori

FIGURE 1.4 Purdue University’s net-zero energy house utilizes hickory flooring, white oak cabinetry, and poplar ceiling beams, which are all environmentally friendly, have longer life cycles, and need less replacement.

Jim Tetro/U.S. Department of Energy Solar Decathlon



produced materials, improved indoor environmental quality (such as air), and requiring performance standards for the quality and durability of products that last longer—reducing or eliminating their replacement cycles (Figure 1.4). Sustainable design is also referred to as *green design*, although the latter term can be somewhat overused to include many things that may not be up to sustainable standards.

The 2030 Challenge is an initiative first put forth in 2003 by the architect Edward Mazria that sets the stage for world reduction of greenhouse gases. It is believed that buildings produce over half of the greenhouse gas emissions on a global scale. The challenge asks the global architectural, design, and construction communities to adopt a series of target dates (2010–2030) as milestones that would result in decreased fossil fuel use, greenhouse gas emissions, and energy consumption. By 2030 the standard is projected to achieve a carbon neutral state for buildings.

HISTORICAL OVERVIEW

Presenting a history of interior design is a difficult task since no specific date, person, or space can be documented as the beginning point. The desire to create functional and pleasant interior environments existed long before freestanding buildings were being constructed. Designing interior spaces can be traced back to early cultures that painted pictures on the walls of their caves and furnished them with pelts for comfort. As people began to plan and construct buildings, the structure and the interior space within it were considered interrelated parts of a whole, which became known as architecture. Interior design, like architectural design, has been a basic part of the planning and building process from the beginning. Yet, the use and acceptance of the term *interior design* did not occur until after World War II. Previously, the term *interior decoration* described the finishing touches applied to the inside of a structure, but “interior decorating” was not recognized as a profession until the turn of the