



# Becoming an Architect

Lee W. Waldrep, Ph.D.

Foreword by **Helene Combs Dreiling**, FAIA, 2014 AIA National President

**Third Edition**

A Guide to  
Careers in Design

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*To Cassidy, Karli, Anslie, and my loving wife, Sherry*

*To close friends Doug Garofalo, FAIA (1958-2011)*

*Barbara Laurie, AIA, NOMA (1961-2013)*

## Foreword

“Education is not the filling of a pail, but the lighting of a fire.”

William Butler Yeats

**THE SECOND MOST IMPORTANT WORD** in the third edition of *Becoming an Architect* (“architect” is obviously the first) is “becoming.” Why focus on process rather than the object or goal? Because to strive to be an architect is always a matter of moving forward and beyond, a matter, in short, of becoming. It has to be. Ever since the first human beings climbed down from trees and stepped out of the shadow of caves to build structures of thatch, wood, clay, and stone, the art and science of architecture have evolved in response to technology, cultural imperatives, and climate change. Whatever design and construction skills we brought with us in our journey had to be modified and adapted to the new realities of available materials, site, and weather. This growing body of knowledge then had to be transferred from one generation to the next to keep from literally reinventing the wheel every time we set tool to stone and wood or hand to clay.

The fact that the art and science of architecture is constantly in a state of becoming, of pushing outward at the edges of the known, is the unmistakable handprint of a great irony or paradox: What at first glance seems to be the most static of the arts, upon closer inspection and affection reveals itself as constantly shape-shifting. It becomes, if you will, the most personal, revealing, and lasting signature of the unique values of a culture. In fact, to paraphrase Churchill, architecture shapes cultures and entire civilizations, whether it be the Great Wall of China, the pyramids, or Europe's great cathedrals.

Yet we are not simply passengers headed for new ports. We ourselves are in a state of becoming as our awareness of how little we know drives our thirst to explore and create new knowledge and new ways of applying our maturing skills. This capacity for growth is bestowed on every artist. Consider the early compositions of a Beethoven or the art of Goya or the work of Louis Kahn; compare this to their later or final work. Something profound happens in their “becoming.” Often it is the honing down, the grasp for greater simplicity as vision is refined. The body grows older, but the soul grows lighter; insight becomes more profound. More is accomplished by a few well-wrought lines than protracted arm wrestling with the muse.

Although architecture is a collaborative art (which, thank goodness, is its glory), the endlessly unwinding path to “becoming” can be lonely: It's long past midnight, the screen in front of us is blank, and the client (not to mention our partners) expect a presentation later in the day. Times like these—all too frequent—reveal one of the great strengths of this book, one that's not nearly commented on enough. Within the covers of *Becoming an Architect*, author Lee W. Waldrep has convened some of the most interesting and eloquent voices in our profession. They respond to the questions you would ask if you could beam them down to your living room, studio, or on a long hike through the woods. You may not agree with everything you read. But let it rest a few months, then go back. After all, you will be in a different place.

When I look back through the rear view mirror of my own career, I am not the architect I was when I was fresh out of architecture school. Whether better or worse, I leave to the judgment of others. But wherever I am going, I know other architects have been there before me. What has varied is the speed of change and the many surprises in its wake—not all of which are welcomed. What hasn't changed is the

support, guidance, and, yes, necessary reality checks offered by fellow architects who are on a similar journey of becoming. Men and women who, like me, will be grateful for the companionship of the valuable resource that is *Becoming an Architect*.

Helene Combs Dreiling, FAIA  
2014 President of The American Institute of Architects  
Executive Director, Virginia Center for Architecture



## Preface

IN SECOND GRADE, my career ambition was to become a clown. Only later did I desire to become an architect. One of my older brothers first pursued architecture in college (he later switched to music). A ninth-grade drafting class was my first formal introduction to what I thought was the profession. At the same time, I had the opportunity to meet with an architect in my hometown. In high school, I interned in an architect's office, drafting and making models. All of these experiences helped me decide to pursue architecture in college.

After six years of college, two architecture degrees from Michigan and Arizona State University, a year as national vice president of the American Institute of Architecture Students (AIAS), and three months working in a firm, I decided architecture was not a good fit. However, from my experiences in architecture, I discovered that I wanted to help others in their pursuit of becoming an architect. Thus, the idea for this book has been over 30 years in development.

*Becoming an Architect: A Guide to Careers in Design, 3rd edition*, will help you navigate the process of becoming an architect. Its purpose is to provide you with an outline of the process: (1) a National Architectural Accrediting Board (NAAB) accredited professional degree in architecture, (2) the experience or internship component (IDP), and (3) the Architect Registration Exam (ARE). Further, it will help you launch your professional career in architecture.

Chapter 1, "The Definition of an Architect," introduces the basic duties and tasks of an architect. After reading this chapter, you will be better able to decide if you are suited

to become an architect. The chapter outlines the basic skills, characteristics, attitudes, motivations, and aptitudes of architects. Finally, it provides a profile of the architecture profession.

Chapter 2, “The Education of an Architect,” outlines the education to becoming an architect. It emphasizes that the education of an architect is lifelong and does not end with the receipt of a formal degree. The first of the chapter's three parts focuses on preparation—the courses and activities you can pursue to prepare for an architectural education. The second part provides insight into selecting an architecture program. It delineates the three paths to graduation with a professional degree program. Further, it outlines the attributes—individual, institution, and academic unit—to consider when selecting a program. The third part of the chapter describes the typical architecture curriculum.

As training is a required element of becoming an architect, Chapter 3, “The Experience of an Architect,” concentrates on gaining experience both while in school and upon graduation. First, it discusses strategies to gain experience while in school through part-time, summer, or cooperative education opportunities; afterward, the chapter outlines gaining experience as an emerging professional. An additional portion uses the acronym A.R.C.H.I.T.E.C.T. in support of the search for positions that provide useful experience. The chapter also provides a basic overview of the Intern Development Program (IDP), a required program in almost all 50 states for documenting your experiences under the supervision of a licensed architect. Further, the chapter introduces the requirements and process of the ARE.

Chapter 4, “The Careers of an Architect,” outlines the career designing process (assessing, exploring, decision

making, and planning) and the career paths available to graduates of an architectural education—both those within architectural practice and outside and beyond architecture.

Finally, the Chapter 5, “The Future of the Architecture Profession,” provides insight into the future of the profession of architecture. Terms associated with the future of the profession are outlined and, along with those focused on throughout the book, answer the question, “What do you see as the future for the architecture profession?”

Career profiles of architecture students, emerging professionals, educators, and practitioners appear throughout the book and are a wonderful resource for personal stories. Some profiles highlight the traditional path of an architect within a private architecture firm, while others describe related settings in which an architect might work—corporations, government agencies, and education and research. A series of pointed questions related to the profession and the responses of those individuals profiled are also distributed throughout.

The first of three appendixes lists resources for further information. Note especially the first five associations listed: the American Institute of Architects (AIA), American Institute of Architecture Students (AIAS), Association of Collegiate Schools of Architecture (ACSA), NAAB, and National Council of Architectural Registration Boards (NCARB). Also included are career-related associations and other useful resources, including websites, and recommended reading.

The second appendix lists institutions offering NAAB/Canadian Architectural Certification Board (CACB-CCCA) accredited programs in the United States and Canada. The third appendix lists those students, interns, and professionals profiled in the book.

As you will soon discover, becoming an architect is a satisfying and worthwhile endeavor. Enjoy the process of becoming and being an architect, as it will provide a long and meaningful career path.

Lee W. Waldrep, Ph.D.  
May 2014

# Acknowledgments

WHEN I COMPLETED my doctoral dissertation, I stated that authoring it was the closest I would ever come to designing architecture. This statement remains true, but in terms of work, authoring this book far exceeds writing my dissertation. I still may never design a residence or a skyscraper, but I hope this book helps future architects design their careers.

First, I wish to extend my love and appreciation to my parents, *Carl E. and Marsha L. Waldrep*, who will never see the results of my labor but were certainly an inspiration to me. Although they both passed while I was a child, they continue to live within me to this day.

Next, and just as important, I would like to acknowledge the support of my family—my wife, *Sherry*, and my triplet daughters, *Cassidy, Karli, and Anslie*. Without their willingness to let me escape from family obligations, I would not have completed this project. Now that the book is complete, I am ready to swim in the new pool.

I also wish to express my appreciation to the many students, emerging professionals, educators, and architects profiled throughout this book, many of whom I have known throughout my career (see Appendix C). Without exception, all were more than willing participants to this project and are as much the authors of this book as I am.

Thanks are also extended to *Brian P. Kelly*, AIA, director of the architecture program and associate professor in the School of Architecture, Planning, and Preservation at the University of Maryland; *Michelle A. Rinehart*, EdD, assistant dean for academic affairs and outreach in the College of Architecture at Georgia Institute of Technology

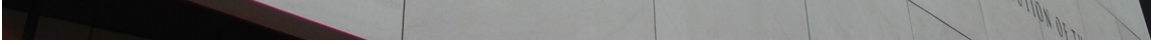
and *David Zach*, futurist for all sharing their insights. Additional thanks are extended to *Andrea Rutledge*, executive director of NAAB, my colleague and friend.

Special kudos to the following individuals: *Jenny Castronuovo*, who more than assisted me with the collection of images for the first edition of the book; *Margaret DeLeeuw*, *Shawna Grant*, *Allison Wilson*, *Robyn Payne*, and *Deana Moore*, who provided insight as the manuscript was being written; and *Michal Seltzer*, for mocking up a cover design for daily inspiration. Also, I wish to express my appreciation to *Dr. Kathryn H. Anthony*, a special friend who knows all too well the challenges of authoring a book. My appreciation is also extended to *Grace H. Kim, AIA*, a friend who first recommended to John Wiley & Sons that I would be a good author for this project. She was also instrumental in providing images.

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Finally, I wish to thank all the architecture students and colleagues within the architecture discipline with whom I have interacted with over my 20-plus-year career; you have been the reason I so much enjoy my work.









# Chapter 1

## The Definition of an Architect

Newseum, Washington, DC. Architect: Polshek Partnership Architects LLP. Photographer: Lee W. Waldrep, Ph.D

*He looked at the granite. To be cut, he thought, and made into walls. He looked at a tree. To be split and made into rafters. He looked at a streak of rust on the stone and thought of iron ore under the ground to be melted and to emerge as girders against the sky. These rocks, he thought, are here for me; waiting for the drill, the dynamite and my voice; waiting to be split, ripped, pounded, reborn, waiting for the shape my hands will give to them.*

Ayn Rand, *The Fountainhead*<sup>1</sup>

AFTER READING THE PRECEDING TEXT from *The Fountainhead* by Ayn Rand, what are your thoughts and feelings? Can you relate to the main character, Howard Roark, in this passage? Are you overcome with the possibilities of creating with the materials around you?

Do you want to be an architect? Do you wish to study architecture? If your answer is “Yes” to any of these questions, this book is for you.

What is the definition of an architect? *The American Heritage Dictionary of the English Language*<sup>2</sup> defines *architect* as:

1. One who designs and supervises the construction of buildings or other structures. *är-ki-tekt*, n. [MF *architecte*, fr. L *architectus*, fr. Gk *architekton* master builder, fr. *Archi-* + *tektion* builder]

Of course, this definition simply scratches the surface. Becoming and being an architect are much more.

## **What Do Architects Do?**

People need places in which to live, work, play, learn, worship, meet, govern, shop, eat—private and public spaces, indoors and out; rooms, buildings, and complexes; neighborhoods and towns; suburbs and cities. Architects, professionals trained in the art and science of building design and licensed to protect public health, safety, and welfare, transform these needs into concepts and then develop the concepts into building images that can be constructed by others.

In designing buildings, architects communicate with and assist those who have needs—clients, users, and the public as a whole—and those who will make the spaces that satisfy those needs—builders and contractors, plumbers and painters, carpenters, and air conditioning mechanics.

Whether the project is a room or a city, a new building or the renovation of an old one, architects provide the professional services—ideas and insights, design and technical knowledge, drawings and specifications, administration, coordination, and informed decision making—whereby an extraordinary range of functional, aesthetic, technological, economic, human, environmental, and safety factors are melded into a coherent and appropriate solution to the problems at hand.



This is what architects are, conceivers of buildings. What they do is to design, that is, supply concrete images for a new structure so that it can be put up. The primary task of the architect, then as now, is to communicate what proposed buildings should be and look like.... The architect's role is that of mediator between the client or patron, that is, the person who decides to build, and the work force with its overseers, which we might collectively refer to as the builder.

Spiro Kostof<sup>3</sup>

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Parthenon, Athens, Greece. PHOTOGRAPHER: R. LINDLEY VANN.

## Design Process

But how does an architect truly design? It begins with a client with the need for a building, a project. To design and build this project, an architect follows the architectural design process. This process begins with the schematic design phase, with the architect first gaining an understanding of the scope of the project to be built from the client. With the program determined, the architect develops preliminary concepts and ideas for the project and presents these to the client for approval or revision. In addition, the architect researches zoning or other restrictions. Next is the design development phase.

In design development, the initial concepts and ideas are further refined. The architect begins to determine the building materials of the project as well as detailing the mechanical, electrical, plumbing, and structural aspects of the project. The architect will formally present the project, at this stage of development, to the client for approval. Next is the construction document phase.

During the construction document phase, the architect produces detailed drawings and specifications of the project to be used for construction. These construction documents include all pertinent information necessary for construction. Once completed, the construction documents (CDs) are provided to potential contractors for bidding. Next is the bid or negotiation phase.

In preparation for actual construction, the architect prepares the bid documents. The bid documents include a number of documents for potential contractors to use in preparing a bid (cost estimate) to construct the project. Once bids are received from contractors, the architect will assist the client in evaluating and selecting the winning proposal. In the end, a contract is awarded to the selected bidder, which allows construction to begin. Next is the construction phase.

During construction, the architect's responsibilities will vary depending on the agreement with the client, but most commonly the architect will assist the contractor to construct the project as specified in the construction documents. As questions or issues arise on the construction site, the architect is there to address them. Depending on the issue, the architect may be required to issue additional drawings.

Thus, an architect must be equipped with a number of talents and skills to take a project from its initial idea to final construction. In the profession, architectural firms

consisting of teams of architects, related professionals, and consultants undertake almost all projects, although there may be some smaller projects, usually residential, that a sole architect might lead.

## Why Architecture?

Why do you desire to become an architect? Have you been building with Legos since you were a child? Did a counselor or teacher suggest architecture to you because of a strong interest and skills in mathematics and art? Or are there other reasons? Aspiring architects cite a love of drawing, creating, and designing; a desire to make a difference in the community; an aptitude for mathematics and science; or a connection to a family member in the profession. Whatever your reason, are you suited to become an architect?

## Is Architecture for You?

How do you know if the pursuit of architecture is right for you? Those within the profession suggest that if you are creative or artistic and good in mathematics and science, you may have what it takes to be a successful architect. However, Dana Cuff, author of *Architecture: The Story of Practice*, suggests it takes more:

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There are two qualities that neither employers nor educators can instill and without which, it is assumed, one cannot become a “good” architect: dedication and talent.

Dana Cuff<sup>4</sup>

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Because of the breadth of skills and talents necessary to be an architect, you may be able to find your niche within the profession regardless. It takes three attributes to be a

successful architecture student—intelligence, creativity, and dedication—and you need any two of the three. Also, your education will develop your knowledge base and design talents.

Unfortunately, there is no magic test to determine if becoming an architect is for you. Perhaps the most effective way to determine whether you should consider becoming an architect is to experience the profession firsthand. Ask lots of questions and recognize that many related career fields might also be appropriate for you.





For the architect must, on the one hand, be a person who is fascinated by how things work and how he can make them work, not in the sense of inventing or repairing machinery, but rather in the organization of time-space elements to produce the desired results; on the other hand, he must have an above average feeling for aesthetics and quite some ability at drawing, painting, and the visual arts in general.

Eugene Raskin<sup>5</sup>

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## ***What Is Architecture?***

› The creation of space.

*John W. Myefski, AIA, Principal, Myefski Architects, Inc.*

› Architecture is the design and manipulation of the built environment to create a sense of place. It is a confluence of science and art that addresses programmatic and aesthetic requirements within the constraints of budget, schedule, life safety, and social responsibility.

*Robert D. Roubik, AIA, LEED AP, Project Architect, Antunovich Associates Architects and Planners*

› Architecture exists in the harmony between sophisticated form, fulfilling a purpose and the tactile nuances of joining materials together.

*Rosannah B. Sandoval, AIA, Designer II, Perkins + Will*

› Architects take big ideas and turn them into reality. Architects build cities, buildings, parks, communities—physical and virtual. They are visionary and incredibly practical at the same time.

*Leigh Stringer, LEED AP, Senior Vice-President, HOK*

› Architecture is the perfect combination of creativity and practicality. It is the opportunity to create an experience for the user through the design of spaces. It is the careful art of designing a space that is functional, enjoyable, and practical.

*Elsa Reifsteck, BS Architectural Studies Graduate, University of Illinois at Urbana-Champaign*

› Architecture is the art and science of planning and designing structures and environments to house the activities of humans.

*H. Alan Brangman, AIA, Vice President of Facilities, Real Estate Auxiliary Services, University of Delaware*

› Architecture is the art of designing buildings and spaces within a given set of parameters that include the programmatic needs of the project, the client's budget, building code regulations, and the inherent properties of the materials being used. Great architecture finds the best solution to a design problem by using both creativity and practicality. Part sculpture, part environmental psychology, part construction technology, architecture is the combination of many separate forces into a harmonic whole.

*Carolyn G. Jones, AIA, LEED AP, Principal, Mulvanny G2*

› The development of architecture is as much a design process as it is a simulation of inhabitable space(s) and building vocabularies. I will go as far to say that architecture is not architecture unless it was developed by means of an analytical process.

*Thomas Fowler IV, AIA, NCARB, DPACSA Professor and Director, Community Interdisciplinary Design Studio (CIDS), California Polytechnic State University—San Luis Obispo*

› Architecture is the built environments that shape the daily lives of people.

*Grace H. Kim, AIA, Principal, Schemata Workshop, Inc.*

› Practical and artistic development of our environment. Winston Churchill once said, to paraphrase, what we build in stone we remember, so at some level architecture is about the creation of the making of memories and developing a sense of place.

*Mary Katherine Lanzillotta, FAIA, Partner, Hartman-Cox Architects*

› Architecture is the design of the built environment through the programming of needs, three-dimensional design, and the application of appropriate building technologies.

*Eric Taylor, Associate, AIA, Photographer, Taylor Design & Photography, Inc.*

› Architecture is the synthesis of art and science utilized to develop a solution to a challenge in the built environment.

*Beth Kalin, Job Captain, Gensler*

› Spaces that give shape to our lives.

*Murrye Bernard, Associate AIA, LEED AP, Managing Editor, Contract Magazine*

› Architecture is about light, shadow, texture, rhythm, form, and function. To me, architecture is the practice of creating and affecting the built environment. The practice of architecture is to understand the problem and finding a solution that is aligned with the vision for the project.

*Sean M. Stadler, AIA, LEED AP, Design Principal, WDG Architecture, PLLC*

› As the Greek origin of the word defines it, architecture is both art and science. It is the practice of bringing these two objectives together in a manner of achieving “form, function, and design.”

*Kathy Denise Dixon, AIA, NOMA, Principal, K. Dixon Architecture, PLLC; Associate Professor, University of the District of Columbia.*

› In its simplest terms, architecture is the design of the built environment—spaces where we live, work, worship, gather, vacation, or simply occupy.

*Jessica L. Leonard, Associate AIA, LEED AP BD+C, Associate, Ayers Saint Gross Architects and Planners*



Walt Disney Concert Hall, Los Angeles, California.  
Architect: Frank Gehry. PHOTOGRAPHER: TINA REAMES.

› To me, architecture is anything that can be designed—a chair, an app, a light fixture, a website, a logo, a film, a building, or a city.

*William J. Carpenter, Ph.D., FAIA, Professor, Southern Polytechnic State University; President, Lightroom*

› Architecture is the stage we live on. It enables activities to take place and shapes how those activities happen. It can link us to nature and reveal relationships we might not have noticed. Architecture is most unsuccessful when it is primarily designed to protect us from the elements and most successful when it improves our quality of life.

*Allison Wilson, Intern Architect, Ayers, Saint Gross*

› Architecture is not limited to buildings, interiors, or covered spaces; it is a designed response to a programmatic necessity where one either does not exist, or where one exists yet lacks integrity.

*Tanya Ally, Architectural Staff, Bonstra / Haresign Architects*

› Architecture is the design of buildings and spaces. The experiences that are created by a design can have more of an impact than the program within the building or space.

*Nicole Gangidino, B.Arch. Candidate, New York Institute of Technology*

› Architecture is the physical and spiritual transformation of chaos into order, darkness into light, and space into place.

*Nathan Kipnis, AIA, Principal, Nathan Kipnis Architects, Inc.*