



Preface

My love of photography started very early. As a teenager I worked in a small full-service photography shop. Portraits were made, events were photographed, snapshots were developed and printed, and equipment was sold. From that experience, I learned about photographic techniques and the value of quality cameras and lenses. I started developing and enlarging my own photographs, and I searched for ways to learn more. Fortunately, I found the book *Lenses in Photography* by Rudolf Kingslake in the photography shop, and I studied it diligently. I still have that book and refer to it frequently. At that time (the 1950s), my uncle was serving with the Air Force in Germany, and he was able to buy fine cameras for me. First, I got a Zeiss Ikonta 35. It was bare bones, with no rangefinder or light meter, but it had a wonderful Zeiss Tessar $f/2.8$ lens. It was great for documenting sports and other high school events. Later, when I started doing freelance photography (while still in high school),

I ordered a Rolleicord III medium format camera. It served me well and is still functional.

From the beginning I was fascinated by all aspects of photography. I love the equipment, the techniques, the processing of images, and, of course, the chance to photograph interesting things. Photography also provided a summer job and a doorway to business and social interactions. Photographs documenting those years reveal small-town life in the 1950s and a few cheesecake pictures as well. My career as a scientist and a university professor took me away from photography for many years, but in the past decade I have returned to that early love. I spend a lot of time on nature photography now, and I enjoy photo shoots with the Carolinas' Nature Photographers Association (CNPA). Of course, everything is digital, so the chemical darkroom is no longer necessary. This has given me a new world of opportunities and an array of new subjects to understand.



In my case, understanding the way photography works has increased enjoyment of it. Each new question is a challenge. The process of working through the concepts of photography from basic optics and image sensors to human perception of color and the appreciation of beauty was an exhilarating experience for me. I have written this book for those who also enjoy photography, and who want to know more about their photographic equipment and the operation of their eyes and brain as well. The book is specifically aimed at those who enjoy science and are not afraid of a little math. Of course, perfectly good photographs can be made by those who have no interest in the scientific side of photography. They see a clean separation between the scientific part and the artistic part, and they reject the scientific part.

On the other hand, some great photographers and other artists as well have benefited from a knowledge of their media and ways to get the most out of it: Ansel Adams comes to mind. In addition to making awe-inspiring photographs, Adams wrote technical books on cameras, negatives, and prints. To each his/her own, but I believe that in photography, as elsewhere, knowledge is power.

I have worked on this book for four years, trying the patience of my wife and friends. I appreciate comments from all those who have read sections of it at various stages of its gestation. I am sure to leave out some generous and helpful people, but here is at least a partial list of those who have contributed at various times with corrections and advice: John Fowler, Archibald Fripp, Richard Jarnagin, and Calvin Wong.

—CHARLES S. JOHNSON, JR.