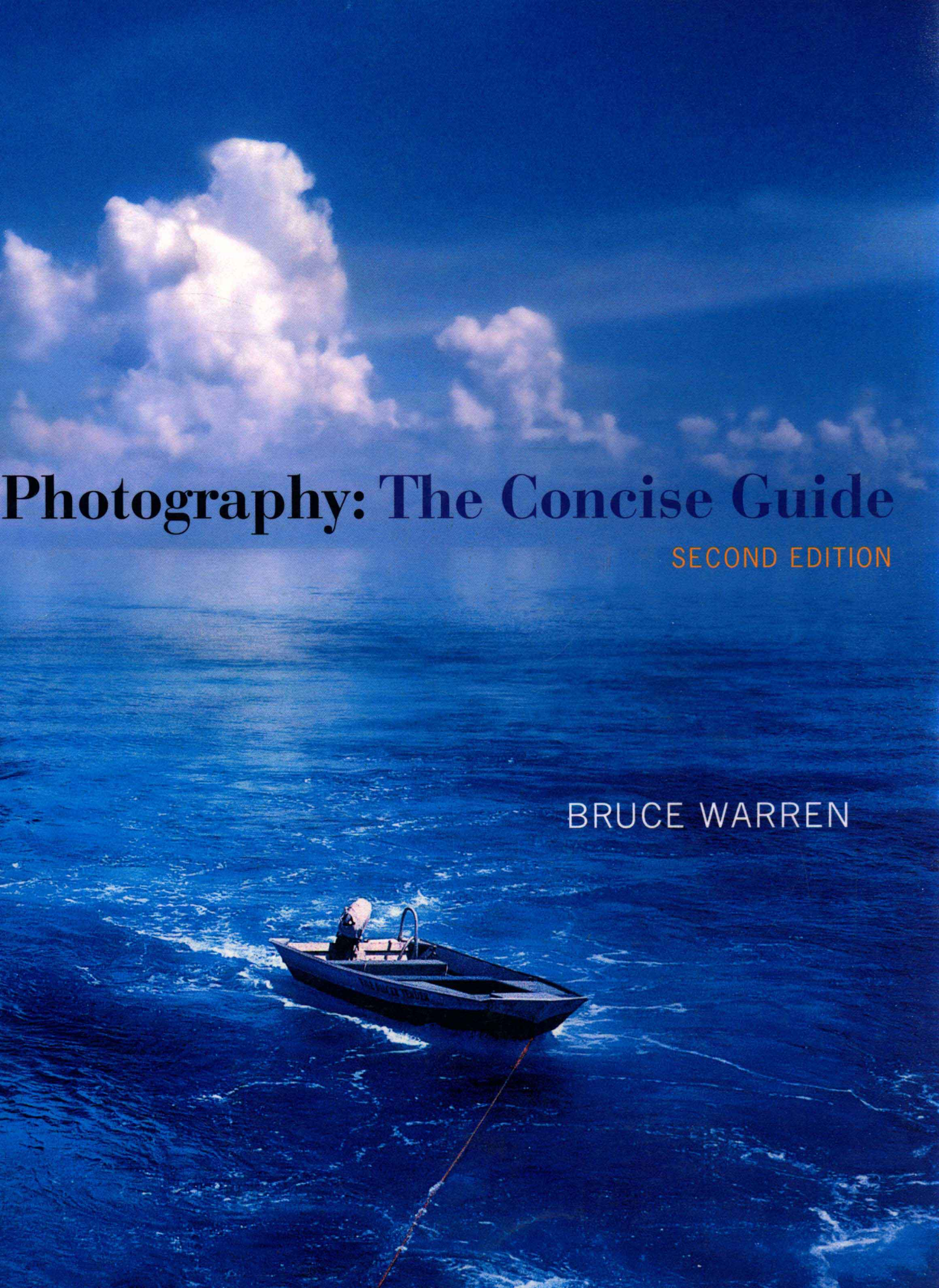

Photography: The Concise Guide

SECOND EDITION

BRUCE WARREN

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Photography: The Concise Guide, Second Edition
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Production Service and Compositor: Integra
Text Designer: Shawn Girsberger
Cover Designer: Shawn Girsberger
Cover Image: © Bruce E. Warren

Library of Congress Control Number: 2011921513

ISBN-13: 978-0-495-89780-4
ISBN-10: 0-495-89780-9

Wadsworth
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Boston, MA 02210
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Printed in the United States of America
1 2 3 4 5 6 7 15 14 13 12 11

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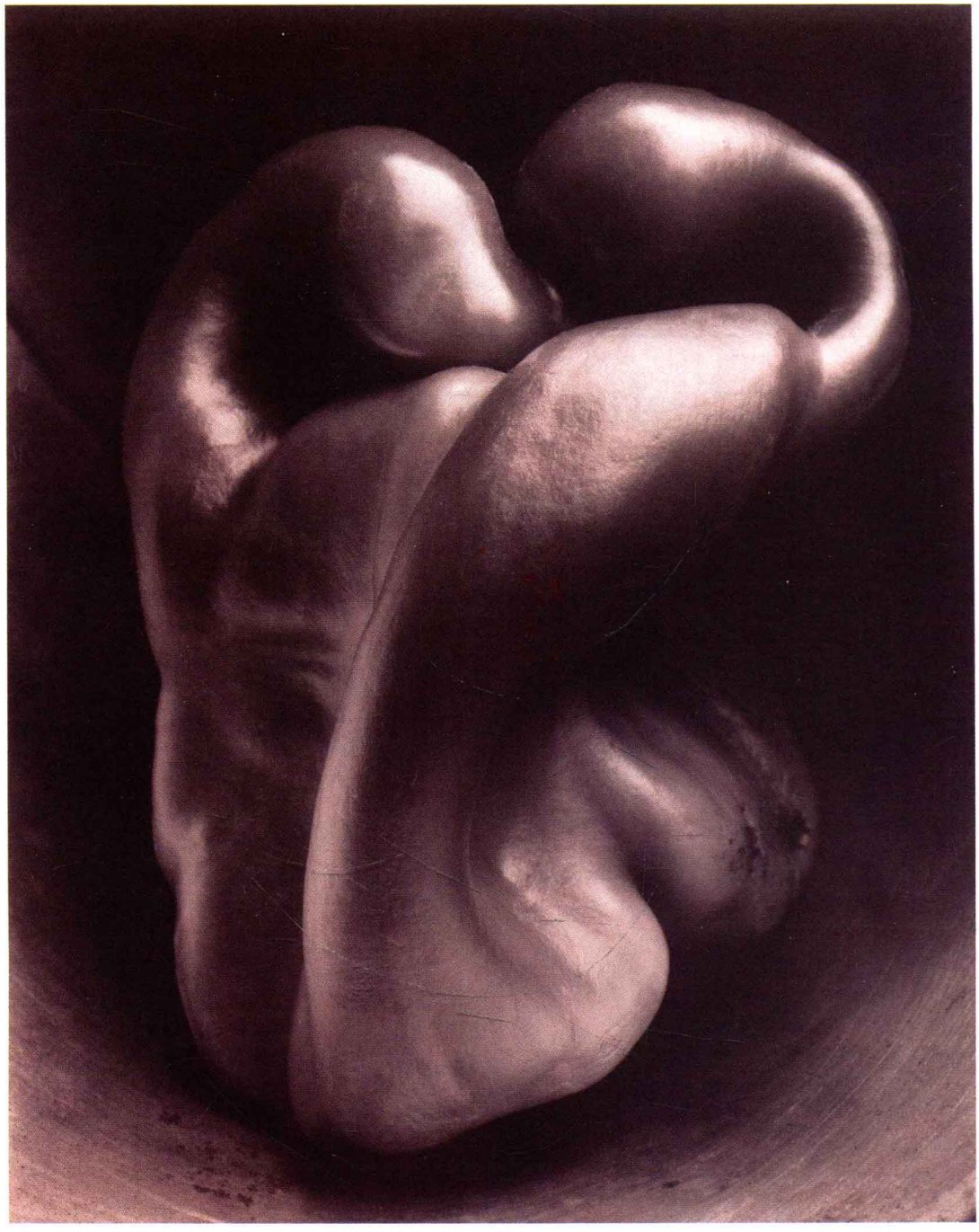

Edward Weston, *Pepper No. 30*, 1930
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PREFACE

▶ Introduction

Photography: The Concise Guide, Second Edition, is an introductory photography book that covers basic and intermediate materials, techniques, and concepts. Based on Bruce Warren's widely used and highly respected *Photography 2E, Photography: The Concise Guide* is a compact but thorough text designed to serve as a textbook for one- and two-semester photography courses. It can also be used by the individual reader, making it an appropriate reference for all photographers. The text's hands-on approach emphasizes the experience of making photographs as a tool for learning. The major change in the second edition is that digital photography techniques have been completely integrated into the text. That means that regardless of equipment, the reader can progress through the book from front to back. The use of icons to indicate sections which apply to digital, film, or both make it easy for the reader to find the relevant material. Black and white and color techniques are covered in the text. A complete chapter on special techniques expands the scope of the book. There is also a Web site associated with the book at: *http://www.login.cengagebrain.com.*

Over 700 illustrations in full color and black-and-white duotone reinforce points made in the text and serve as inspiration. Exemplary photographs by well-known photographers (both contemporary and historical), demonstration photographs showing step-by-step procedures, and a wealth of drawings, charts, graphs, and tables help the reader to understand both the technical and aesthetic aspects of photography. A thorough chapter on the history of photography helps the reader to understand the invention and development of photography, from both technical and aesthetic viewpoints.

▶ Coverage

The reader who is new to photography should begin making photographs immediately. Producing photographic images builds enthusiasm and provides examples of levels of technical control, aesthetics, and use of light.

- **Chapter 1: Getting Started.** Chapter 1 provides just enough technical and aesthetic information to allow the reader to operate a camera and a light meter.
- **Chapters 2–5: Mastering Skills.** Because mastery of the technical aspects of photography is necessary for success in all aspects of the art, the early chapters introduce readers to the tools and techniques of photography, both film and digital.
- **Chapter 6: Troubleshooting.** Chapter 6 is dedicated entirely to solving technical problems; clearly organized and illustrated troubleshooting charts help readers solve common problems. A section on testing equipment helps to pinpoint problems.
- **Chapter 7: Light and Subject.** Chapter 7 discusses the interaction of light and subject and introduces basic lighting techniques, including flash.
- **Chapter 8: Seeing Better Photographs.** The aesthetic aspects of photography are touched on throughout the early chapters, culminating in a detailed treatment of design and aesthetics in chapter 8.
- **Chapter 9: History of Photography.** With the technical and aesthetic information provided in the first chapters, the reader can more fully appreciate the history of photography, presented in chapter 9.
- **Chapter 10: Special Techniques.** Chapter 10 explains special effects and advanced techniques that can be produced in the camera or in the film or digital darkroom, including filters, photomacrography and special effects for both digital and film.

▶ Using This Book

Organization: An important feature of *Photography: The Concise Guide* is its conception of photography as an integrated system of equipment, materials, and procedures, that leads from the original idea to the completed photograph. The book is organized according to this systematic approach, so that the reader always knows how a particular piece of information fits into the overall process. Topic headings are clearly organized. The table of contents is graphically designed to make finding any major topic or section simple. A thorough index strengthens the book's value as a photographic resource.

Film and Digital Icons: Much of the information and techniques in the book apply to both digital and film photography. Some is specific to one or the other. To distinguish digital and film information, two icons are used: indicates material which is specific to digital equipment; indicates material which is specific to film equipment. Both icons are used to indicate material which is common to digital and film. Nearly all of the material in chapters 7–9 is common to both digital and film, so in those chapters the icons are only used where the information is specific to one or the other.

Integrated Illustrations: Photographs and illustrations (numbering over 700) are essential components of *Photography: The Concise Guide,* and their captions are an integral part of the text, with clear caption headings to indicate their place in the flow of information.

Cross References: Because many topics in photography appear in more than one context, both forward and backward cross-references are included in the text, captions, or margin notes to connect the topics.

Glossary: Within the chapters, the first appearance of important photographic terms is in **boldface** type. These terms are formally defined in the glossary.

Notices: Warnings and cautions, including health and environmental notices, are marked with the icon to reinforce their importance.

Resource Center: The Resource Center website (*http://www.login.cengagebrain.com*) now includes the New Art Studio, an easy-to-use online tool, enabling efficient upload of assignments without the hassle of e-mailing and managing large files, as well as the capability for peer-review of student work and professor critique. The Resource Center also features topically organized photography technique tutorials; book-specific quizzes; a gallery of images and web links featuring historical and contemporary methods; as well as listings of the most relevant Photography Galleries, Museums and Institutions throughout the country and globally.

▶ Acknowledgments

A project of this complexity could not be completed without the help of many dedicated people. I would like to thank the professionals at Wadsworth Publishing for their work on this text. A number of others also offered their time, support, and encouragement. Murray Bognovitz deserves special mention; he not only produced the commissioned photographs, but also invested endless hours of his own time in consultation and discussion and offered suggestions that made this book the best it could be. Others who contributed special effort include Joe Chiancone and Merle Tabor Stern. This book owes a great deal to the professionals at West Publishing responsible for the first edition of *Photography*, including Clark Baxter, Nancy Crochiere, Jeff Carpenter, Chris Hurney, and Kara ZumBahlen. A large number of photographers, corporations, and individuals gave time and expertise to the creation of the illustrations. They are listed in the photo credit lines and the "Special Contributors" box below.

The approach to teaching photography presented here owes a great deal to my experience as a faculty member in the photography program at Montgomery College, Rockville, Maryland. Many ideas came from countless meetings and discussions with my fellow faculty members, Tom Logan and Woods Price. The photography students who have passed through my classes also deserve thanks for their hard work and dedication, serving as inspiration and proving ground for my theories.

Thanks are due to the close to 100 instructors who responded to our content questions in a survey. The author would also like to extend heartfelt thanks to those who reviewed the text for the first edition of *Photography: The Concise Guide*. This reviewer panel provided invaluable comments and suggestions. Our thanks to:

Robert Crites, Art Institute of Philadelphia.
Jonathon Goell, Montgomery College.
Bernard Krule, Oakton Community College.
Travis Ueoka, Brookhaven College.

Special Contributors

Several corporations and their representatives were particularly helpful in the creation of the commissioned photographs.

Calumet Photographic: Richard Newman
Abbey Camera, Silver Spring, MD: Robert C. Becker and David Brown
Fuji Photo Film U.S.A., Inc.: Harry Markel
Ilford Photo Corporation: R. Paul Woofter and Wendy Erickson
Ken Hansen Photographic, New York: Ken Hansen.
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Knoxville Museum of Art: Stephen Wicks
Distinctive Bookbinding, Inc., Washington, D.C. and New York
Seawood Photo, San Anselmo, CA: Graham Law
Phase One, Northport, NY: Lisa Struckman
Alfa Color, Gardena, CA: Steve Trerotola

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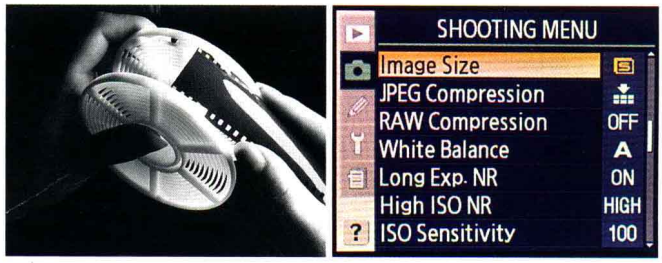
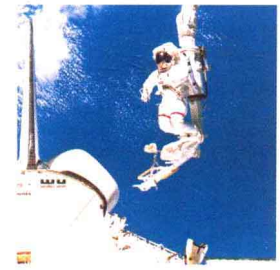
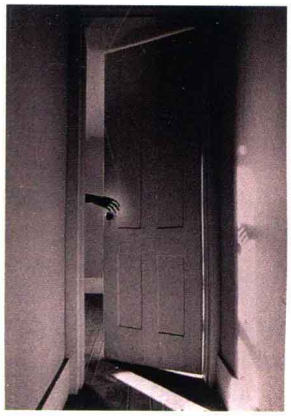
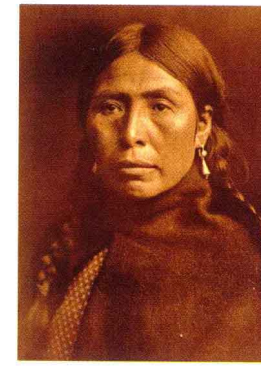
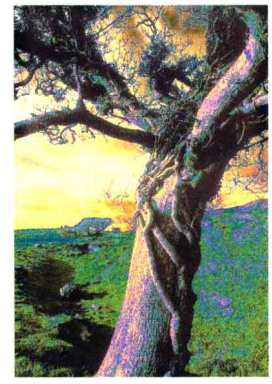






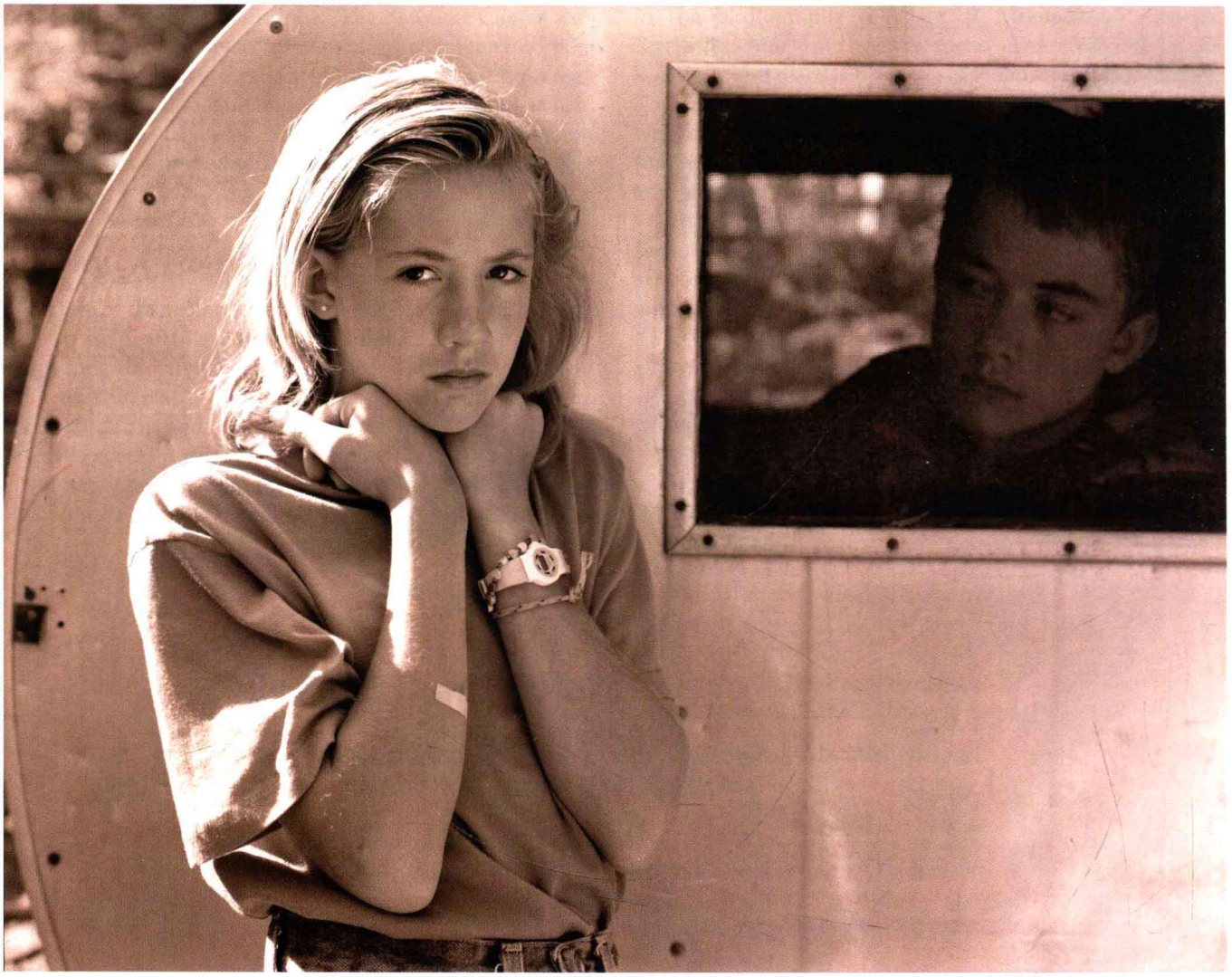




Photography

CHAPTER 1

Getting Started



Jock Sturges, *Melanie and Jessie, Northern California, 1986*

It is not difficult to take photographs. Billions of photographs are made by the public every year with successful results for their purposes. However, photography is a bit like sailing. With a little instruction, it is not too hard to figure out how to get the boat to move, but it can take a lifetime to master all the intricacies. This chapter will give you just enough information to get moving. Once you have started producing photographs, you will probably want more information so that you can get even better results. Use the chapter and page references to locate more in-depth discussion of the steps covered in this chapter.

If things do not turn out as well as you expected, chapter 6 can help you with some possible cures for your problems. Mastering the technical details that make up the craft of photography is only the beginning. To make photographs that communicate your ideas or feelings, you will also have to learn the differences between human visual perception and the way photographs represent reality. The best way to do this is to start making photographs, but you will find some helpful suggestions for improving your photographic seeing in chapter 8.

Equipment and Materials

To begin making photographs, you will need a camera (film or digital) and a light meter, either the one built into your camera or a separate meter. You will also need film for the film camera or a memory card for a **digital camera**.

▶ Light Sensitive Materials

Photographic **film** and **digital sensors** are sensitive to light. When a pattern of light falls on film or a sensor, an image is produced. For film, chemical processing makes this image visible and useful for producing photographs. The images from digital sensors are electronic and are saved as an image file. Any of the many types of film available, black and white or color, may be used for getting started. If you plan to process your own film, black and white is simpler to process.

See chapter 2 for complete film and digital sensor information.

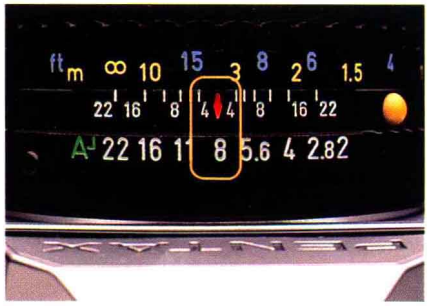
On the film box, you will see a number labeled **ISO**, an indicator of the film speed. The higher this number is, the more sensitive the film is to light. A good starting film is one with an ISO between 100/21° and 400/27°. A digital sensor can be set for any value throughout a range of ISOs, depending on the camera.

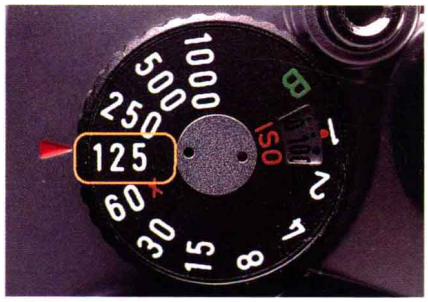
See pages 12 and 24 for more on film sensitivity and page 20 for more on digital sensor sensitivity.

▶ Camera

A camera is basically a light-tight box that holds the film or digital sensor and has a lens that gathers light from the subject, forming an image of the subject on the film or sensor. Many different types, brands, and models of cameras are available. Most modern cameras have several ways of setting the camera controls. For best results, use a camera that offers both automatic and manual settings.

See chapter 3 for information on camera types.





Top: Aperture Control Ring Set at f/8. For more on aperture, see pages 22–23, 56, and 59

Middle: Shutter Speed Dial Set for 1/125 Second. For more on shutters, see pages 22 and 45–49.

Bottom: Aperture and Shutter Speed Readout Set at f/8 at 1/125 Second.

See pages 26–39 for complete information on light meter types and their uses.

▶ Camera Exposure Controls

To produce high-quality images, the film or sensor must receive the proper amount of light, called the correct **exposure**. Two controls on the camera alter exposure: the **aperture** and the **shutter speed**.

Aperture The aperture is a variable-size opening in the lens, much like the iris in the eye. It is adjusted with the aperture ring or controls on the camera body. The numbers on the aperture control are an indication of the size of the opening and are called f-stop numbers. A standard series of f-stop numbers has been established:

1.4	2	2.8	4	5.6	8	11	16	22
More Exposure ←						→ Less Exposure		

Contrary to what you might expect, larger f-stop numbers indicate smaller apertures, which admit less light. Setting the aperture at f/8 will give *less* exposure than setting it at f/4.

Shutter Speed The shutter shields the film or sensor from the image formed by the lens until you are ready to take a photograph. When the shutter release (see "Locating Camera Parts," page 5) is depressed, the shutter opens for the amount of time indicated on the shutter speed control, which is marked with a set of standard shutter speeds in seconds:

1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000
More Exposure (Slower Speeds) ←							→ Less Exposure (Faster Speeds)			

On the shutter speed control or camera readout, these are indicated as whole numbers, but the actual shutter speeds are fractions of a second. The longer shutter speeds give more exposure to the film or sensor: 1/30 second will give *more* exposure than 1/125 second. Some cameras may have longer or shorter shutter speeds in addition to the ones given on this scale.

▶ Light Meter

A reflective-type photographic **light meter** measures the amount of light coming from a subject and gives settings for the aperture and shutter speed to insure proper exposure. Most small cameras made today have a light meter built into them. Separate light meters in their own housings—**hand-held light meters**—are also available.

Your First Photographs

The following procedure explains how to make photographs with both manual and automatic cameras. All cameras utilize the same controls, but the location and operation of those controls will vary, especially on cameras with electronic controls. If your camera is not like the one discussed, refer to your operator's manual to see how the controls on your camera correspond to the ones shown here. Chapters 2 and 3 also help explain the operation of different types of light meters and cameras. Some automatic cameras can be set to manual metering mode. If your camera can be set to completely manual operation, follow the procedures given for manual metering. Refer to the illustrations on the following page to locate controls on some typical cameras. Before beginning, make sure your camera has fresh batteries.

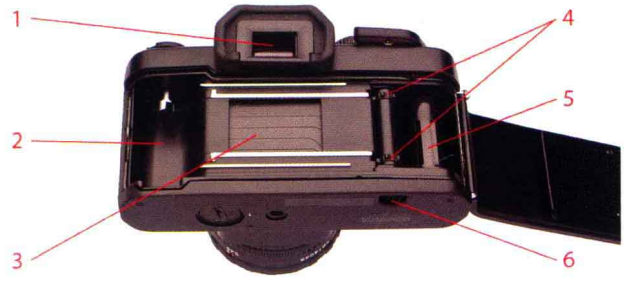
Locating Camera Parts

Film Camera: Manual (Front)

1. Film Advance Lever
2. Film Speed (ISO) Window
3. Shutter Speed Dial
4. Frame Counter
5. Shutter Release
6. Lens
7. Back Cover Release/ Rewind Knob
8. Rewind Crank
9. Aperture Scale
10. Distance Scale
11. Focusing Ring

Film Camera: Automatic (Front)

1. Multifunction Dial (on back)
2. Frame Counter
3. LCD Information Screen
4. Off/On Switch
5. Shutter Release
6. Multifunction Dial
7. Exposure Mode/ISO Control
8. Aperture Scale
9. Distance Scale
10. Focusing Ring
11. Lens



Film Camera: Manual (Back)

1. Viewfinder Eyepiece
2. Film Chamber
3. Shutter
4. Sprockets
5. Take-up Spool
6. Rewind Release Button

Digital Camera (Front)

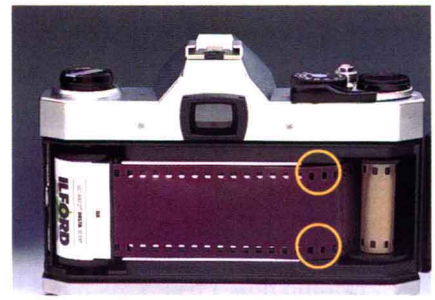
1. ISO Readout
2. Frame Counter
3. Dedicated Function Buttons
4. LCD Information Screen
5. Multifunction Dial
6. Shutter Release
7. Flash Mounting Shoe
8. Exposure Mode Dial
9. Auto/Manual Focus Control
10. Lens Release Button
11. Manual Focus Ring
12. Lens

Digital Camera (Back)

1. Viewfinder Eyepiece
2. Connection Ports Cover
3. Viewing Screen Function Buttons
4. Command Execution Button
5. Multifunction Dial
6. Scroll Wheel for Viewing Screen
7. Memory Card Door and Slot
8. Viewing Screen

Loading the Film into the Camera

1 Open the back cover and insert the film cassette into the camera. The end with the projecting spindle should be toward the bottom of the camera. Do not expose the film cassette to direct sunlight. Push the back cover release–rewind knob all the way in, rotating it slightly if necessary.



2 **Manual Camera:** Insert the end of the narrow film leader firmly into one of the slots on the take-up spool. Operate the shutter release and film-advance lever until the film is securely wrapped around the take-up spool and both edges of the film are engaged with the sprockets. **Auto-load Camera:** The film is not threaded, but the end is aligned with an index mark before closing the back.

3 Close the camera back and press gently until it latches. **Manual Camera:** Alternately press the shutter release and operate the film-advance lever until the frame counter reads 1. **Auto-load camera:** May automatically advance when the back is closed, or require only one press of the shutter release to advance to frame 1.

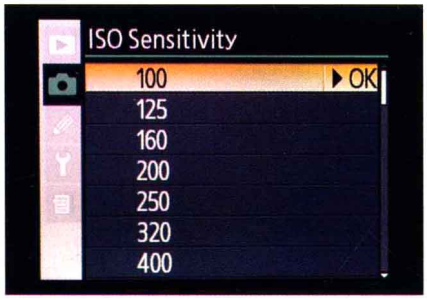
Setting the ISO (Film Camera)

1 Set the number before the slash of the ISO into the film speed window labeled ISO by lifting up on the outer rim of the shutter speed ring and rotating it. On some cameras, the film speed window may be labeled ASA, but the procedures are the same. Electronically controlled cameras display the ISO on the LCD readout screen and usually have a button and wheel used to set the ISO.

2 The dial on the left is set for film labeled ISO 125/22°. Note that not all numbers are marked on the scale. The two dots between the 100 ISO mark and the 200 ISO mark correspond to ISO 125 and ISO 160. (See page 24 for a list of ISO numbers.) The electronically-controlled camera on the right shows the ISO set for 125/22°. Some film cameras can automatically set the ISO if DX coding is indicated in the film labeling.

Inserting Memory Card into a Digital Camera

Make sure the camera is off. Open the memory card door (see your camera instructions) and slide the card into the slot, pressing it until it clicks into place. Close the memory card door and turn the camera on.

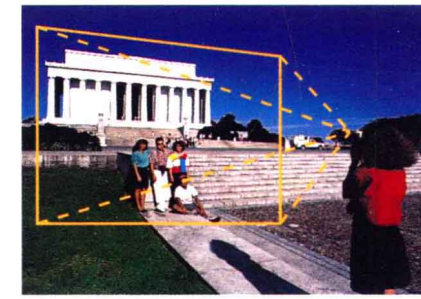


Setting the ISO (Digital Camera)

Access the menu settings on your camera (see your camera instructions) and choose the desired ISO. Some digital cameras also have a dedicated button for setting the ISO. Other initial settings on digital cameras, such as white balance, file size, and file type, are covered on pages 80.

Ideas for Photographs

Most photographs are taken as a record of people, places, things, or events. Many other reasons for making photographs exist, some of which are discussed in chapters 8 and 9. For now, photograph anything that interests you.



Framing and Composing Your Photograph

1 When you take a photograph, only part of what you see of the subject with your eyes will be included within the borders—the "frame"—of the photograph. To see what you will get in your photograph, look through the viewfinder or at the viewing screen of the camera.