Adobe®

Photoshop® CS5

Restoration and Retouching

For Digital Photographers Only

Mark Fitzgerald

Adobe® Photoshop® CS5 Restoration and Retouching FOR Digital Photographers ONLY

Adobe® Photoshop® CS5 Restoration and Retouching FOR Digital Photographers ONLY

Mark Fitzgerald

Wiley Publishing, Inc.

Adobe® Photoshop® CS5 Restoration and Retouching for Digital Photographers Only

Published by
Wiley Publishing, Inc.
10475 Crosspoint Boulevard
Indianapolis, IN 46256
www.wiley.com

Copyright © 2010 by Wiley Publishing, Inc., Indianapolis, Indiana

Published simultaneously in Canada

ISBN: 978-0-470-61816-5

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as permitted under Sections 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 646-8600. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, 201-748-6011, fax 201-748-6008, or online at http://www.wiley.com/go/permissions.

LIMIT OF LIABILITY/DISCLAIMER OF WARRANTY: THE PUBLISHER AND THE AUTHOR MAKE NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF THE CONTENTS OF THIS WORK AND SPECIFICALLY DISCLAIM ALL WARRANTIES, INCLUDING WITHOUT LIMITATION WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. NO WARRANTY MAY BE CREATED OR EXTENDED BY SALES OR PROMOTIONAL MATERIALS. THE ADVICE AND STRATEGIES CONTAINED HEREIN MAY NOT BE SUITABLE FOR EVERY SITUATION. THIS WORK IS SOLD WITH THE UNDERSTANDING THAT THE PUBLISHER IS NOT ENGAGED IN RENDERING LEGAL, ACCOUNTING, OR OTHER PROFESSIONAL SERVICES. IF PROFESSIONAL ASSISTANCE IS REQUIRED, THE SERVICES OF A COMPETENT PROFESSIONAL PERSON SHOULD BE SOUGHT. NEITHER THE PUBLISHER NOR THE AUTHOR SHALL BE LIABLE FOR DAMAGES ARISING HEREFROM. THE FACT THAT AN ORGANIZATION OR WEB SITE IS REFERRED TO IN THIS WORK AS A CITATION AND/OR A POTENTIAL SOURCE OF FURTHER INFORMATION DOES NOT MEAN THAT THE AUTHOR OR THE PUBLISHER ENDORSES THE INFORMATION THE ORGANIZATION OF WEB SITE MAY PROVIDE OR RECOMMENDATIONS IT MAY MAKE. FURTHER, READERS SHOULD BE AWARE THAT INTERNET WEB SITES LISTED IN THIS WORK MAY HAVE CHANGED OR DISAPPEARED BETWEEN WHEN THIS WORK WAS WRITTEN AND WHEN IT IS READ.

For general information on our other products and services or to obtain technical support, please contact our Customer Care Department within the U.S. at (877) 762-2974, outside the U.S. at (317) 572-3993 or fax (317) 572-4002.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books.

Library of Congress Control Number: 2010926853

Trademarks: Wiley and the Wiley Publishing logo are trademarks or registered trademarks of John Wiley and Sons, Inc. and/or its affiliates. All other trademarks are the property of their respective owners. Wiley Publishing, Inc. is not associated with any product or vendor mentioned in this book.

about the author

Mark Fitzgerald has spent the majority of his life helping photographers to get the most from their photos. He cut his "photographic teeth" in the professional photolab business when digital photography was only a dream. In 1999, as the possibilities of digital began to emerge, Mark left the lab business and devoted two years to exploring everything digital. After that, he was ready to begin using his new skill-set to help photographers solve their digital retouching and workflow problems.

Today, Mark is an Adobe Certified Photoshop expert who specializes in helping photographers, ranging from established professionals to people who are just finding their passion for photography. Mark has taught countless photographers how to smooth out their workflows through private training, classes, and workshops. He and his wife Julia (with their three dogs, Ruby, Hazel, and Sam) live in Portland, Oregon, where Mark owns a consulting business, The Digital Darkroom. To learn more about Mark, visit www.ddroom.com.

Other Wiley titles by Mark Fitzgerald are *Adobe Photoshop CS3 Restoration and Retouching Bible*, *Adobe Photoshop Lightroom and Photoshop Workflow Bible*, *Adobe Photoshop CS4 After the Shoot*, and *Adobe Photoshop Elements 8 After the Shoot*.

credits

Acquisitions Editor
Courtney Allen

Project Editor
Chris Wolfgang

Technical Editor
Mike Vraneza

Copy Editor
Kim Heusel

Editorial Director
Robyn Siesky

Business Manager
Amy Knies

Sr. Marketing Manager
Sandy Smith

Vice President and Executive Group Publisher
Richard Swadley

Vice President and Executive Publisher
Barry Pruett

Project Coordinator
Kristie Rees

Graphics and Production Specialists
Elizabeth Brooks
Jennifer Mayberry
Ronald G. Terry

Quality Control Technician
Melanie Hoffman

Proofreading
Lisa Young Stiers

Indexing
Estalita Slivoskey

To my wife, Julia, whose unconditional support enabled me to become the person I am today.

acknowledgments

I want to thank the following photographers for letting me use their images. The sample images they so generously provided made it much easier to write this book. Please visit their Web sites to see more of their work.

- Emily Andrews, Emily Andrews Portrait Design: www.emilyandrews.net
- Jerry Auker, Jerry Auker Photography
- Dan Christopher, Dan Christopher Photography: www.danchristopherphotography.com
- David Hitchcock, Hitchcock Creative Photography
- Dave Hutt, Dave Hutt Photography: www.davehuttphotography.com
- Ted Miller Jr.: mrmontana.blogspot.com
- Brannon McBroom, Brannon McBroom Photography: www.bmcbphotography.com
- Carl Murray, Seattle Photography, Inc.: www.seattlephotography.com
- Denyce Weiler, Something Blue Photography: www.somethingbluephotography.com
- Mark Wilson, Hakuna Matata Photography: www.hakunamatataphotography.com
- Doreen Wynja, Eye of the Lady Photography

All other photos were shot by me, or in the case of older, restored photos, are part of my collection of family photos or photos I restored for clients.

Thank you to Springhill Suites by Marriott in downtown Seattle for allowing me to use a photo of the hotel, which is one of my favorite places to stay when I'm in Seattle.

Thanks also to the editing team at Wiley: copy editor Kim Heusel, who noticed so many small details that made big differences; technical editor Mike Vraneza, who used his expertise to check the technical points of this book; and project editor Chris Wolfgang, who managed this project from start to finish.

Finally, a thank you to Courtney Allen, Acquisitions Editor for Wiley Publishing, who so kindly invited me to join the Wiley team. Without her, this book would not be a reality.

contents at a glance

acknowledgments **xi**
introduction **xxv**

Part I Digital Editing Fundamentals 1
chapter **1 Getting Organized 3**
chapter **2 Adjusting Brightness and Contrast 29**
chapter **3 Managing and Correcting Color 49**
chapter **4 Understanding the Advantages Layer 73**

Part II Photoshop Tools and Techniques 91
chapter **5 Using Selections to Isolate Content 93**
chapter **6 Taking Control with Layer Masks 117**
chapter **7 Using Photoshop's Main Retouching Tools 143**

Part III Restoration: Rescuing Damaged Photos 165
chapter **8 Starting with the Scan 167**
chapter **9 Solving Typical Repair Problems 185**
chapter **10 Finishing the Image 207**
chapter **11 Hands-on Restoration Project: The Complete Workflow 233**

Part IV Retouching: Taking Your Images to the Next Level 257
chapter **12 Using Strategies for Success 259**
chapter **13 Solving Special Portrait Retouching Problems 269**
chapter **14 Hands-on Portrait Retouching Project: The Complete Workflow 289**
chapter **15 Hands-on Architectural Retouching Project: The Complete Workflow 311**
Pro Glossary 337
Index 343

contents

acknowledgments **xi**
introduction **xxv**

Part I Digital Editing Fundamentals 1

chapter **1 Getting Organized 3**

Understanding File Formats 4
RAW 4
PSD 5
TIFF 6
JPEG 8
Creating an Organized System 9
Considering the nondestructive workflow 9
Three kinds of workflow files 10
Creating a virtual filing cabinet. 10
Folder and file naming strategies. 11
Filing Photos in Your Virtual Filing Cabinet 13
Managing Your Organizational System with Adobe Bridge CS5 14
Getting a bird's-eye view of Bridge 14
Creating custom workspaces. 17
Using Bridge to batch rename photos 19
Working with labels and rating stars 21
Introducing Mini Bridge 23
Backing Up and Archiving 23
Hard drives 24
CD/DVD 25
Q & A 27

chapter 2 Adjusting Brightness and Contrast 29

Understanding Histograms 30
How exposure affects its histogram 30
How subject matter affects a histogram 31
Working with the histogram panel 36
Adjusting Contrast and Brightness with Levels 38
Using Curves for Advanced Tonal Adjustment 42
Balancing Dynamic Range with the Shadows/Highlights Command 44
Q & A 47

chapter 3 Managing and Correcting Color 49

Calibrating Your Monitor 50
Understanding Color Theory 51
Subtractive color 52
Additive color 52
Managing Color in Photoshop 53
Comparing color spaces 53
Choosing a color space 54
Setting up Photoshop's working space 56
Changing color profiles after a file is open 58
Understanding Color Channels 59
Evaluating Color with the Info Panel and the Color Sampler Tool 60

Adjusting Color 62
Removing a colorcast with Levels 62
Learning color adjustment with the Variations command 63
Adjusting color with the Color Balance command 65
Fine-tuning color with the Hue/Saturation command 66
Using the Vibrance command 70
Q & A 72

chapter **4 Understanding the Advantages of Layers 73**

What Are Layers? 74
Understanding the Background Layer 77
Managing Layers 78
Moving layers. 78
Creating a new layer by copying 80
Merging and flattening layers. 81
Using Adjustment Layers 84
Working with the Adjustments panel 84
Creating an adjustment layer. 85
Working with the Layers Panel 88
Q & A 90

Part II Photoshop Tools and Techniques 91

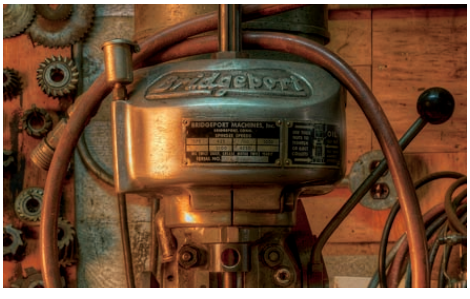
chapter **5 Using Selections to Isolate Content 93**

What Is a Selection? 94
Using Photoshop's Main Selection Tools 94
The Marquee tools 94
The Lasso tools 97
The Magic Wand tool 101
The Quick Selection tool 102
Combining Tools for Selection Success 104
Fine-tuning Selections 105
Feathering a selection's edge transition 105
Using the Refine Edge 106
Saving and Loading Selections 109
Cutting and Pasting with Selections 111
Q & A 116

chapter **6 Taking Control with Layer Masks 117**

Understanding Layer Masks 118
Working with the Brush Tool 119
Setting up Painting Cursor preferences 120
Changing Brush settings with the options bar 120
Shortcuts for managing the Brush tool 123
Exploring advanced options in the Brush panel 124
Using a graphics tablet 125
Working with the Masks Panel 126
Creating a Mask 127
Using Masks with Selections 130
Using Masks with Adjustment Layers 132
Combining Selections, Adjustment Layers, and Masks 134
Comparing Reveal All and Hide All Masks 137
Applying a Gradient to a Mask 138
Q & A 141

chapter **7 Using Photoshop's Main Retouching Tools 143**



Basic Retouching with the Clone Stamp Tool 144
Removing distractions 144
Adding visual elements with retouching. 147
Undoing with the History Brush Tool 149
Advanced Cloning Techniques 150
Cloning to a different layer. 150
Ignoring adjustment layers when cloning. 152
Cloning from one image to another 153
Using the Clone Source panel. 153
Modifying the clone overlay preview 154
Adjusting geometry as you clone. 154
Using the Healing Brush Tool 156
Busting Dust with the Spot Healing Brush. 158
Using the Patch Tool 158
Body Sculpting with the Liquify Filter 161
Q & A 164

Part III Restoration: Rescuing Damaged Photos 165

chapter **8 Starting with the Scan 167**

Considering Copyright **168**
Scanning Prints and Film **168**
Scanner hardware 168
Scanner software 169
Using your scanner 171
Comparing 8-bit and 16-bit Files **172**
Demystifying Resolution **173**
Doing the simple math 174
Resizing and resampling 175
Using the correct image interpolation method 177
Understanding how resolution relates to scanning 178
Scanning Large Originals **179**
Using the Crop and Straighten Photos Command **182**
Adjusting Geometry with the Transform Command **183**
Q & A **184**

chapter **9 Solving Typical Repair Problems 185**

Assessing the Damage **186**
Working with Faded Photos **188**
Fixing Faded Colors with a Single Click **191**
Basic Spotting and Texture Control **192**
Repairing Physical Damage **195**
Rips, tears, and folds 195
Minimizing stains 198
Extreme Damage Control: Replacing Missing Information **201**
Q & A **205**

chapter 10 Finishing the Image 207

Working with Black-and-White Photos 208
Converting to Grayscale mode 208
Desaturating color 209
Using the Black & White command 211
Applying Sepia Tones 215
Using the Hue/Saturation command to tone an image 215
Using the Black & White command for toning 218
Adding Color to a Black-and-White Photo 219
Final Cropping and Sizing 222
Using the Crop tool 223
Working with the Canvas Size command 226
Sharpening Scanned Files 229
Q & A 231

chapter 11 Hands-on Restoration Project: The Complete Workflow 233

Understanding Workflow 234
Evaluating the Project 234
Putting the Pieces Together 236
Fine-tuning tonality 236
Spotting 236
Repairing damage 238

Adjusting Tones Locally with Burning and Dodging 242
What are burning and dodging? 242
Burning and dodging without the Burn and Dodge tools 242
Adding the Finishing Touches 244
Toning 244
Replacing the background 245
Final cropping and sizing 246
Applying Output Sharpening 248
Printing with an Inkjet Printer 250
Understanding the settings 250
Making a print 254
Evaluating the print 255
Q & A 256

Part IV Retouching: Taking Your Images to the Next Level 257

chapter **12 Using Strategies for Success 259**

What Is Retouching? 260
Adding Value with Retouching 260
Comparing Soft-edge Retouching and Hard-edge Retouching 262
Managing The Retouching Workflow 264
Planning ahead 264
The four-phase workflow 265
Knowing when to stop 266
Q & A 267

chapter **13 Solving Special Portrait Retouching Problems 269**

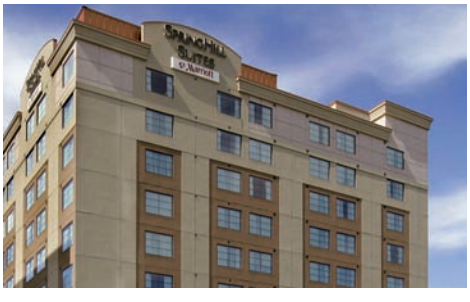
Swapping Heads 270
Replacing Missing Eyes 273
Closed eyes: Replacing missing eyes with donor eyes 273
Glass-glares: Rebuilding without donors 276
Removing Braces 280
Fixing Wrinkled Clothing 282
Smoothing Skin 284
Using the Surface Blur filter to smooth skin 285
Smoothing skin with a plug-in 286
Q & A 288

chapter **14 Hands-on Portrait Retouching Project: The Complete Workflow 289**

Evaluating the Project 290
Phase 1 Workflow: Adjusting Image Fundamentals 290
Phase 2 Workflow: Fixing Distractions 292
Softening wrinkles and blemishes 292
Enhancing eyes 297
Enhancing teeth 299
Taming stray hair 300

Smoothing skin 302
Phase 3 Workflow: Sizing and Finishing Touches 303
Darkening the corners 303
Professional sharpening strategies 304
Using Smart Sharpen 305
Phase 4 Workflow: Output and Archiving 309
Q & A 310

chapter **15 Hands-on Architectural Retouching Project: The Complete Workflow 311**



Evaluating the Project 312
Phase 1 Workflow: Adjusting Image Fundamentals 313
Using Curves to adjust midtone contrast 313
Using Guides for critical alignment 315
Correcting perspective with the Transform command 317
Phase 2 Workflow: Fixing Distractions 320
Retouching hard edges with the Clone Stamp 321
Retouching with Copy, Transform, and Merge 323
Retouching with Vanishing Point 327
Phase 3 Workflow: Finishing the Image 330
Local tonal adjustment 330
Using resampling to increase image size 331
Applying output sharpening 333
Phase 4 Workflow: Output and Archiving 333
Having a lab handle printing 333
Archive important files 334
Q & A 335

Pro Glossary 337

Index 343

introduction

You may be asking why the topics of photo restoration and retouching are being covered together in the same book. That's a reasonable question, considering that on the surface the goals of these two processes seem quite different. The goal of restoration with just about anything — old cars, antique furniture, and so on — is to repair and refurbish something until it resembles mint condition. In the case of old photos, the goal is to erase the years and return the photos to what they looked like when they were new.

The goal of retouching, on the other hand, is to take the original image to a higher level by enhancing its positive aspects and reducing or removing the distracting elements. The finished product becomes something more valuable than the original image because of those enhancements.

Though these two goals seem at odds, the truth is many of the same Photoshop tools and techniques are used to achieve both goals. Because of that, it doesn't make sense to discuss one of these subjects without the other. It also doesn't make sense for you, as a student of Photoshop, to learn to use these tools and techniques for only restoration or retouching. You never know when you may want to try something new. If you take the time to learn everything in this book now, you'll be ready to handle just about any image-editing challenge you're likely to encounter.

What's in This Book?

This book is divided into four main parts. Part I deals with the fundamentals as they apply to restoration and retouching. This is where I show you how to create a solid foundation that supports all of the subsequent work that's done with an image file.

Part II concentrates on the Photoshop tools and techniques that are used in the restoration and retouching processes. Here you focus on what are called Photoshop's *retouching tools*, comparing and contrasting them. As I describe these tools and techniques, I offer conceptual insight into why one way of doing things is often better than another.

In Part III, you learn to apply everything you learned in Parts I and II to the subject of photo restoration. You learn how to repair typical problems and add finishing touches to an image, and you also learn about scanners and scanning. Finally, you get to work on a hands-on restoration project from beginning to end so that you can experience the entire workflow. By the end of this section, you'll know everything you need to know to begin restoring your own old photos.

Part IV is all about retouching. I discuss some of the conceptual issues surrounding retouching, including workflow. Then I show you how to solve some special retouching problems, such as glass-glares and skin smoothing. You finish off this part with two complete hands-on retouching projects. The first one is a typical portrait-retouching project. The second is an architectural-retouching project. By the end of Part IV, you'll have all the tools you need to do just about anything to fine-tune an image.

Throughout this book there are several step-by-step projects with practice files. These files can be downloaded at your convenience at www.wiley.com/go/phoprestorationandretouching.

Who Should Read This Book?

Adobe Photoshop CS5 Restoration and Retouching for Digital Photographers Only is intended for anyone who wants to know how to restore old photos and/or retouch new ones. You don't have to be an accomplished Photoshop user, but it is helpful if you have some experience with the software and its interface. With that said, even a beginner benefits from reading this book. It just may take a little longer to get up to speed with the basics.

This book is not intended as a comprehensive guide to all things Photoshop. My intention is to give you the things you need to accomplish these processes, without distracting you with what you don't need. There are times when I'd like to go into deeper detail, but can't because those details are outside the scope of the book. If I don't cover some topic in detail and you want to know more about it, find a resource to help you explore it. One of the best places to begin your search is Photoshop's online help files (www.adobe.com/support/photoshop).

How to Use This Book

To get the most from this book, start at the beginning and go through it sequentially. This allows you to experience the learning process in the way I envision it. In many cases, ideas in one chapter build on information introduced in previous chapters. This amplification process won't make as much sense if you experience it out of order. Also, take the time to read each chapter, even if you think you already understand its subject. You never know when you'll turn up a nugget that will completely change the way you work with your images.

Download all the sample files from the Web site. Most of them are fairly small files. After you work through a project, take the time to explore those new processes with some of your own photos. I know from my own experience that working with personal files makes a big difference in the learning process. This is where you'll find the time to go as deep as you need to go while exploring the content of this book.

After you've been through the book from front to back, you can use it as a reference guide to help you solve your own restoration and retouching problems. When a specific issue pops up, find the relevant references in the book and review them as needed.

Conventions Used in This Book

I'm big on using keyboard shortcuts in my own workflow, but I won't be stressing them much here because there are potentially hundreds of shortcuts in Photoshop and I don't want to confuse you with them. I also think it's more important that you know where to find a command in the menus, rather than the fastest way to execute it.

With that said, I do think you should begin getting used to the idea of keyboard shortcuts. So I'll share some of the more useful shortcuts. When I first introduce the most common tools and commands, I give you their keyboard shortcuts in parentheses like this: the Lasso tool (L).

NOTE

If you want to know all the keyboard shortcuts, choose Edit⇨Keyboard Shortcuts and click the Summarize button.

Because this book was written on a Mac, all the screenshots are from the Mac version of Photoshop CS5. That shouldn't make much difference, because almost everything is the same in the Mac and Windows versions of the software. If you're using a Windows machine, the only real differences are the keyboard modifier keys.

Macs use the Option (Alt) key and the Command (Apple) key as modifiers, and Windows machines use the Alt key and the Ctrl key for the same functions. (This is all the more confusing because a standard Mac keyboard has a Control key on it that has a completely different function!)

- Mac Option (Alt) key = Windows Alt key
- Mac Command (Apple) key = Windows Ctrl key

Because every modern Mac keyboard I've seen has an Alt label on the Option key, I refer to this key as Alt, which should be straightforward. When I need to mention the two other set of modifier keys, I say ⌘/Ctrl. The only reason I'm putting the Mac command first is to be consistent with the screenshots.

Products Mentioned in this Book

On several occasions I recommend products I use or like. I want you to know that I do not have relationships with any of the companies that sell these products. In other words, these companies do not sponsor me. The only reason I endorse these products is because I think knowing about them will make your Photoshop experience more efficient and enjoyable.