

PHOTOSHOP LAB COLOR

The Canyon Conundrum

*And Other Adventures in
The Most Powerful Colorspace*

DAN MARGULIS



Peachpit Press

Copyright ©2005 by Dan Margulis

Peachpit Press

1249 Eighth Street
Berkeley, CA 94710
510/524-2178
Fax: 541/524-2221

Find us on the World Wide Web at www.peachpit.com.

Peachpit Press is a division of Pearson Education.

Many of the designations used by manufacturers and sellers to distinguish their products are claimed as trademarks. Where those designations appear in this book, and Peachpit was aware of a trademark claim, the designations appear as requested by the owner of the trademark. All other product names and services identified throughout this book are used in editorial fashion only and for the benefit of such companies with no intention of infringement of the trademark. No such use, or the use of any trade name, is intended to convey endorsement or other affiliation with this book.

Many of the images presented in this volume are copyrighted by third parties and are used herein by license or by special permission. Readers are directed to the “Notes & Credits” section commencing on Page 351 for further information concerning the ownership of the images.

Notice of Rights

All rights reserved. No part of the text of this book, and no part of the images as they appear in print, may be reproduced or transmitted in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. For information on getting permission for reprints and excerpts, contact permissions@peachpit.com.

The digital images and other materials on the enclosed CD are provided solely for the personal, private, and noncommercial use of the reader, and for educational purposes only. They may not be displayed publicly, posted electronically, shared with other persons, published in any form, or reproduced in any fashion whatsoever except to the extent necessary and appropriate for private study by the reader.

Disclaimer

The information in this book is distributed on an “As Is” basis, without warranty. While every precaution has been taken in the preparation of this book, neither the author nor Peachpit Press shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the instructions contained in this book or by the computer software and hardware products described in it.

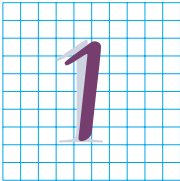
ISBN: 0-321-35678-0
10 9 8 7 6 5 4 3 2 1

Manufactured in the United States of America.

Table of Contents

Foreword by David Biedny ix

Introduction xiii



The Canyon Conundrum

The basic LAB enhancement technique is very powerful—but it always seems to be used on a single category of image.

Introduction 3 *The Rules of the Game* 4

A 30-Second Definition of LAB 5

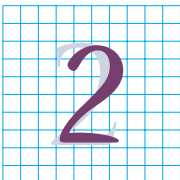
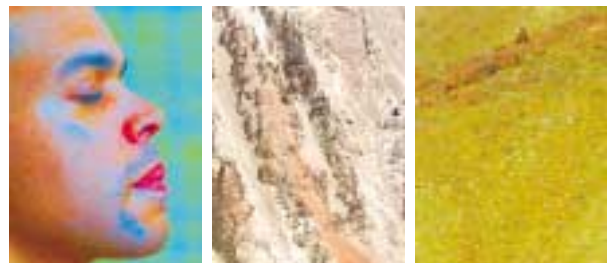
Assembling the Ingredients 7

A Canyon Correction, Step by Step 9

Finding Color Where None Exists 9

A River Runs Through It 11 *A Closer Look* 15

Going Too Far, and Then Coming Back 19



LAB by the Numbers

A general description of how LAB is set up, complete with opponent-color channels, imaginary colors, and positive and negative numbers.

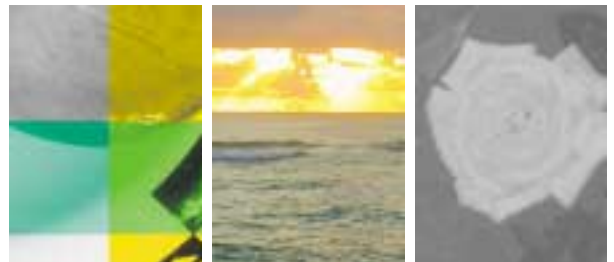
Introduction 23 *Three Pairs of Channels* 25

The Role of Each Channel 27

The Easiest of the Three 29

A Closer Look 32 *An Introduction to the Imaginary* 33

So Hurry Sundown, Be on Your Way 36



3

Vary the Recipe, Vary the Color

Choosing different angles for the AB curves—and making sure that Photoshop is properly configured.

- Introduction 39** *Three Channels, One Image 41*
- Flight Check: The Photoshop Settings 42**
- The Recipe and Its Ramifications 45**
- LAB and the Greens of Nature 47**
- Summarizing the Setup Steps 47**
- The Artificial Tanned Look 49** *A Closer Look 52*
- The Protanope-a-Dope Strategy 52**
- It Can't Be Put into Words 54**
- And What If God Is Color-Blind? 56**



4

It's All About The Center Point

How LAB defines neutrality—a zero is a gray—is the key to its color-enhancement potential

- Introduction 59** *What Should Be Gray? 61*
- The White Point and the Threshold 61**
- Its Fleece Was Green as Snow 63**
- 0°0° Isn't the Holy Grail 65** *A Walk in the Park 66*
- A Horse Is a Horse, of Course, of Course 68**
- A Closer Look 72** *The White Point That's Not White 72*
- A Tour with Eight Stops 74** *Finding the Impossible Color 75*
- The Whole Is More Than the Two Halves 76**
- The Return of the Canyon Conundrum 80**



5

Sharpen the L, Blur the AB

Separate channels for color and contrast give LAB a decisive advantage in blurring. Often it's the best sharpening space as well.

- Introduction 81** *The Second Stage Is Sharpening 82*
- Selecting a Single Channel 84** *Photoshop CS2 Launches a Winner 87*
- A Small Step for a Man 89** *When and How to Blur 89*
- We Have Liftoff 91** *High Radius, Low Amount 91*
- A Closer Look 93** *Making RGB Behave Like LAB—Almost 93*
- Houston, We Have a Problem 95** *A Burst of Gamma Radiation 96*
- 256 Levels per Channel 98** *The Clues That L Sharpening Is Better 99*
- The Blur Is Not Just an Average 100**
- Blur Early, Sharpen Late 101** *Blurring in the Digital Age 105*



6

Entering the Forest: Myths and Dangers

Understanding LAB requires discarding bogus preconceptions—and being aware of real risks.

- Introduction* 107 *More Than Once Upon a Time* 108
A Closer Look 119 *And Why Not Look, If You Please?* 122
When the Impossible Happens 126 *Of Salaries and Pixels* 126
Of Translations and Transfers 128
The Most Useful Statistic 129 *The Odds Are Against It* 129
The Torture Test 130 *The Tale of the Tape* 131
The Plus Sign and the Times Sign 132 *A Bit About Bits* 132
8- and 16-Bit: An Exception 133
Ton Nom Est Dans Mon Coeur 134

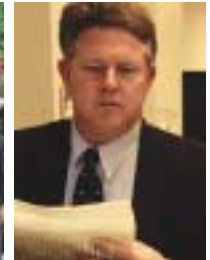


7

Summing Up: LAB and the Workflow

How LAB fits into your workflow depends on both your expertise and how much time you have per image.

- Introduction* 135 *A Picture Is Worth 1,000 Words* 136
When Speed Is All-Important 137 *The Going Gets Tough* 139
Mandatory Steps, Optional Steps 141 *Which One Works Best Where?* 142
The Get-Halfway-There Principle 143
Will There Be a Step Three? 144 *The Channel Structure Bites Back* 146
A Comprehensive Approach 148
By Numbers and by Instinct 151 *When to Go Too Far* 151
Partial Casts 153 *The Minute Waltz at the Masked Ball* 155
An Up-to-the-Minute Use 157 *It Only Takes a Minute* 159

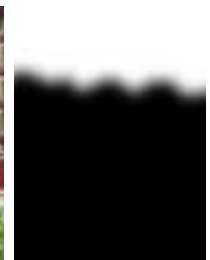
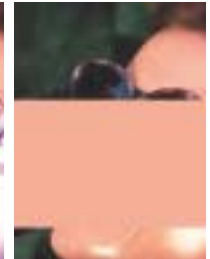


8

The Imaginary Color, The Impossible Retouch

What happens when LAB calls for a color that isn't just out of gamut, but that couldn't possibly exist?

- Introduction* 161 *Enter, Stage Left, the Ghost of Color* 164
The Theater of the Absurd 165
It Would Be Argument for a Week 167
We Shall Have More Anon 170
Methinks It Were an Easy Leap 172
The Better Part of Valour Is Discretion 174
Thou Hast Damnable Iteration 177
A Deal of Skimble-Skamble Stuff 179
And So Ends My Catechism 180



9

The LAB Advantage in Selections and Masking

With the A and B channels, we can create masks that seem to come out of thin air—or selections of thin air.

- Introduction 181**
- Rose Is a Rose Is a Rose Is a Rose* 183**
- Roses White and Roses Red* 184**
- So Fair Art Thou, My Bonny Lass* 186**
- A Rose by Any Other Name* 187**
- Each Morn a Thousand Roses Brings* 190**
- Masks and Blurring* 193**
- But Where Is the Rose of Yesterday?* 194**
- Lighting Through Rose-Colored Glasses* 197**
- The Outlook Is Rosy* 200**



10

The Product Is Red but The Client Wants Green

The most convincing way to make radical color changes—or to match a PMS specification.

- Introduction 201**
- Three Steps to a Color Change* 204**
- Blending Options and Layer Masks* 206**
- From One Channel to the Next* 208**
- Three Sets of Sliders* 210**
- Saving a Blending Options Mask* 212**
- When the Colors Aren't Opposites* 212**
- When Three Layers Are Needed* 215**



11

The Best Retouching Space

In complicated collaging, moiré elimination, adding color to selected areas, restoring older images, and painting, LAB has big advantages.

- Introduction 217**
- Color and Contrast, Again* 219**
- The Rays Are Not Coloured* 221**
- Channels That Don't Have to Line Up* 223**
- Four Generations and Still Feisty* 226**
- The Sponge on Steroids* 230**
- The Best Way to Experiment* 233**
- How to Eliminate Moiré* 234**
- The Bleeding Edge: Black and White to Color* 237**
- The Fabric and the Photographer* 239**

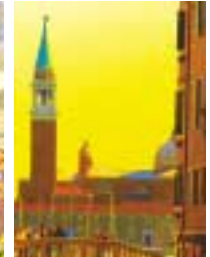


12

Command, Click, Control

Advanced LAB curves can drive objects away from one another without ever selecting them. It only requires a click of the mouse.

- Introduction 243** *Introducing the Man from Mars 243*
Why the Recipe Works 244 *The Invisible Background 246*
And That's No Fish Story 247 *Four Tips for the Command-Clicker 248* *The Search for the Scapegoat 248*
Warm Things Are Doubly Positive 252
When to Use the Method 252
Too Many Choices, Not Enough Time 256
How Horses Look on Mars 257
A Simple Field of Sunflowers 260



13

The Universal Interchange Standard

How LAB is (and how it should be) used to facilitate colorspace transfers, and to match PMS colors.

- Introduction 265** *Of Reds and References 266*
The Ref Needs a Pair of Glasses 267 *The Search for Perceptual Uniformity 269* *Finding an xyY Equivalent 269*
To Each His Dulcinea 271 *Matching Unmatchable Pantone Colors 273* *Maintaining the Distinction 275*
The Knight of the Unambiguous Transfer 277
To Run Where the Brave Dare Not Go 278
Of Children and Colorspaces 280
To Dream the Impossible Dream 282

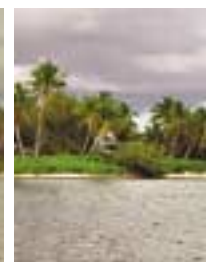
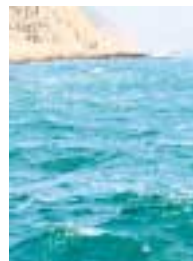


14

Once for Color, Once for Contrast

Some LAB techniques can translate into RGB—provided you separate color and contrast in your mind.

- Introduction 283** *You Ain't Seen Nothin' Yet 284*
Detail, Range, and a Letterform 285
When to Do the Averaging 286
Older Yes, Wiser Maybe 289
Finding the Right RGB Channel 293
The Language of Layers 294
Better Color Through Better Gray 298
A Vote for Fluency 301



15

Blending With the A and B

Smashing channels that contain no detail into the L, which does, seems crazy—but it's extraordinarily effective at creating transitions.

- Introduction* 303 *When Zero Equals Fifty Percent* 304
- The Easy Way to Brighter Color* 307
- The Overlay Sextuplets* 307 *Of Blues and Butterflies* 309
- Fighting Blend-Induced Grain* 312
- The Art of Selective Lightening* 312
- Don't Believe What You See* 313
- Separating Greens Conventionally...* 316
- ...And Unconventionally* 318
- Whites and Blacks Are Both Grays* 320



16

A Face Is Like a Canyon

Introducing a powerful RGB-LAB hybrid, a recipe that dramatically improves the appearance and believability of almost all portraits.

- Introduction* 323 *The Recipe* 324 *Building Contrast with the Green* 324 *Making the Jump to LAB* 326
- The Question of Sharpening* 328
- Three Faces, One Recipe* 330
- But Here Is the Best Part* 335 *You Have a Head Start* 339
- If You Are Among the Very Young at Heart* 342
- The Tilt Toward Yellow* 343 *First, Analyze the Image* 343
- Second, Set the Contrast* 346 *Third, Add the Color* 348
- Fourth, Save and Close* 349



Notes & Credits 351

Index 361