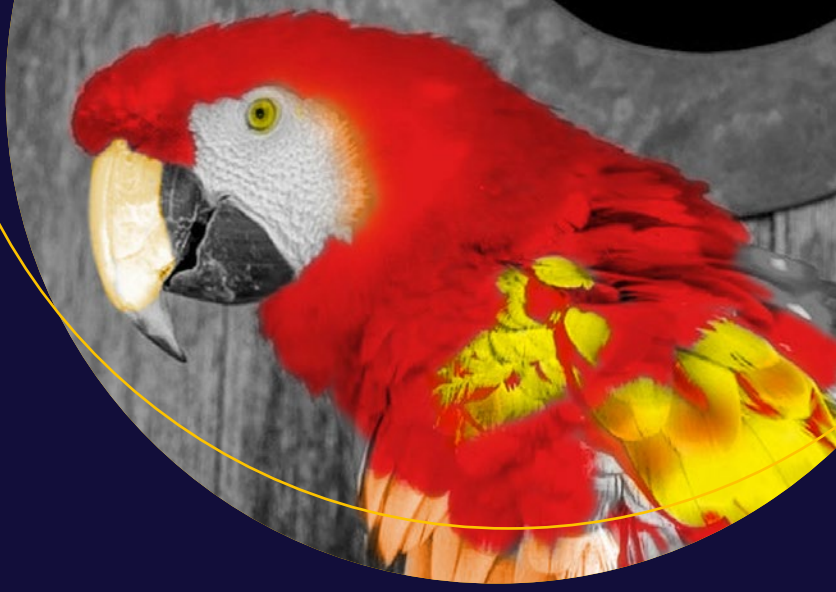

Pro Photo Colorizing with GIMP

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Apress®

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Printed on acid-free paper

This book is dedicated to my lovely wife, Sally,
and my wonderful daughter, Myra.
They demonstrated a great deal of patience with me
for isolating myself for many weeks as I worked on this book.

Contents at a Glance

Contents

About the Author

Phillip Whitt is a professional digital retouch and restoration artist, graphic designer, writer, and author. His love for everything related to photography began when he was ten years old. His favorite aunt gave him her old Kodak Brownie camera, and the joy he felt upon seeing his first developed photographs sparked a new hobby. His foray into digital image editing began in the 1990s with the purchase of his first flatbed scanner, which came bundled with a basic image-editing program. Fixing a few family photographs soon led to a new passion and profession which he continues to enjoy to this day.

Mr. Whitt has digitally edited countless photos and has served a number of professional clients over the years, such as photographers, photo labs, and camera outlets.

About the Technical Reviewer

Garry Patchett has worked in IT and engineering for more than twenty years designing products, creating software, and administering and documenting systems. With a master's degree in project management, he is a dedicated "systems nerd" whose interests vary from the technological to the philosophical. Garry is currently working freelance and is involved in various open-source projects.

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I'd first like to thank Ben Renow-Clarke for the opportunity to create this work. I'd also like to thank Nancy Chen for her invaluable assistance during the process of writing this book—she's a professional of the highest degree.

I'd also like to thank Garry Patchett for his professional and expert guidance as technical reviewer. Mr. Patchett is highly skilled and very thorough in his work, and this book is the better for it.

Introduction

The pioneering of photography in the 1800s was a technological leap for that time. For the first time it was possible to freeze moments and capture imagery the way it actually appeared—at least for the most part. As photography grew more commonplace, the cameras of the time became capable of capturing images with remarkable clarity and detail. I'm often amazed at how sharp the detail is in photographs from that time period.

The missing element in those early days of photography was, of course, color. Most photographs in those days were black and white (called *grayscale* in the world of digital imaging). Adding color by toning (such as sepia) became more common, but the image was still monochromatic, meaning it was comprised of one color.

While not in widespread use, there were several techniques developed that did indeed produce color images of varying quality shortly after the advent of photography. In fact, one of the first color photographs was created in the mid-1800s.

In the early 1900s, a Russian chemist and photographer named Sergey Prokudin-Gorsky produced a number of photographic images in stunning color. He used a method of photographing the subject through red, green, and blue color filters onto glass negative plates. The three color separations were then projected through color filters, creating a color composite—a photographic image in living color. To see samples of Sergey Prokudin-Gorsky's work, just log on to this page at the Library of Congress website: `http://www.loc.gov/pictures/collection/prok/`.

It would still be some time before color photography became widely available. Before it did, a common method of adding color to photographs was by applying tinted oils (Figure I-1). Although not very common today, hand tinting photographs is still practiced and offered as a specialty service (a company called Marshall still manufactures photo-colorizing oils specifically for hand tinting).

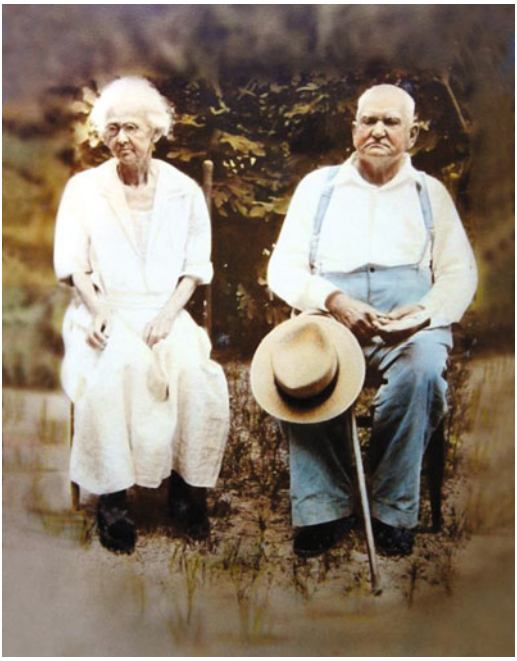

Figure I-1. *A hand-tinted photograph from the late 1800s*

Who This Book Is For

This book is aimed primarily at anyone interested in digital photo colorization—mainly at those who may be new to image editing but have an interest in bringing black and white photos into the world of color. You may be a genealogist, amateur or professional photographer, or retouch artist. You could also be a grandmother who's been appointed as the keeper of the family photos and would like to add color to those old black and white photos of your family from the early to mid-twentieth century.

This book teaches the reader a number of colorizing techniques using a software program called GIMP, which stands for *GNU Image Manipulation Program.* It is a free and open-source alternative to the Adobe flagship program. Although Photoshop is still at the top of the heap, GIMP is nonetheless a very powerful alternative program capable of advanced editing.

The fact that GIMP is free and open-source software means it falls under the terms of the *GNU General Public License.* This means GIMP is free to download, use, make copies of and share with others, and (for those with coding skills) modify. You can acquire a copy of the GNU General Public License here: https://www.gimp.org/about/COPYING.

Chapter 1 provides a basic overview of GIMP for readers who may have dabbled in image editing, but for those who are completely new to image editing, a downloadable Supplemental Beginner's Guide is available in PDF form which can be obtained from the Source Code/Downloads tab from this Apress page: http://www.apress.com/9781484219485?gtmf=s. It provides an introduction to many of the tools and dialogs that will be used throughout the book. I also recommend *GIMP for Absolute Beginners* by Jan Smith, with Roman Joost (Apress, 2012), as an excellent companion book.

Why Colorize Black and White Images?

There are many people who believe black and white images should remain just as they are. In their view, colorizing these images somehow violates the purity of the photograph. In my experience as a photo restoration artist, I frequently encounter people of this opinion, which I certainly respect. I believe it's really a matter of preference.

On the flip side, I also have numerous customers who request the colorization of black and white family photos. The images usually have some special significance that the addition of color helps make complete. For these people, adding color has a way of making the image seem a little more real and less like it's in the distant past (Figure I-2). For my older customers, it's often a photo taken during childhood and they want to recreate the memory as completely as possible.

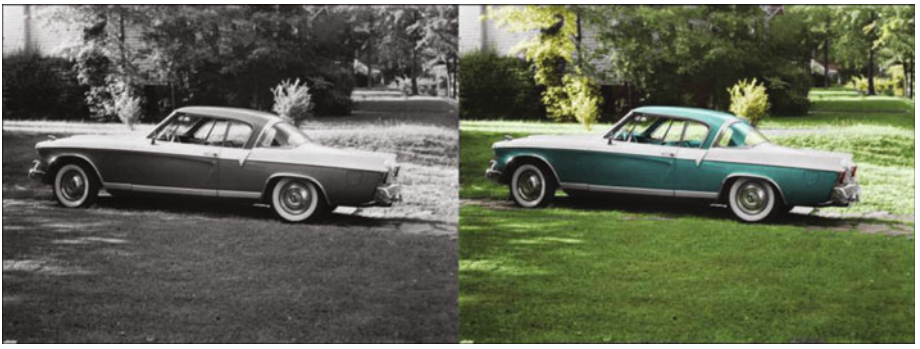

Figure I-2. *Colorized images can seem less like they are from the distant past*

When digital imaging became so widespread in the not too distant past, altering photos reached a new level. Damaged photos could now be seamlessly restored to their former glory. Images could be reworked to remove people or objects. Adding color without the messiness of tinted oils was now possible. For the photographer who offers retouching and restoration services, the ability to colorize photos can be a useful skill to possess.

Choosing Colors

When colorizing a black and white image, how does one know what colors to use? When a client hires me to colorize an old monochrome image of a family member, they can usually indicate the hair and eye colors, and often the color of the clothing worn.

In the past, people usually dressed up to have portraits taken. It's not unusual for elderly clients who are mothers (and sometimes fathers) of adult children to know exactly what color a certain dress was or the colors of a little boy's outfit. The more details that can be provided, the more accurate a colorization project will be.

Some types of clothing (such as military or police uniforms) can be researched on the Internet or at the library. In those cases, you'll usually find a suitable reference to draw upon. Some types of clothing won't be quite as easy to figure out. However, it is possible to use colors that are perfectly suitable, but not necessarily the actual original colors.

The man in Figure I-3 is my late father-in-law (you'll colorize this image in Chapter 6). The picture was taken in the early 1950s, and as was typical in those days, most of the family photos were in black and white.

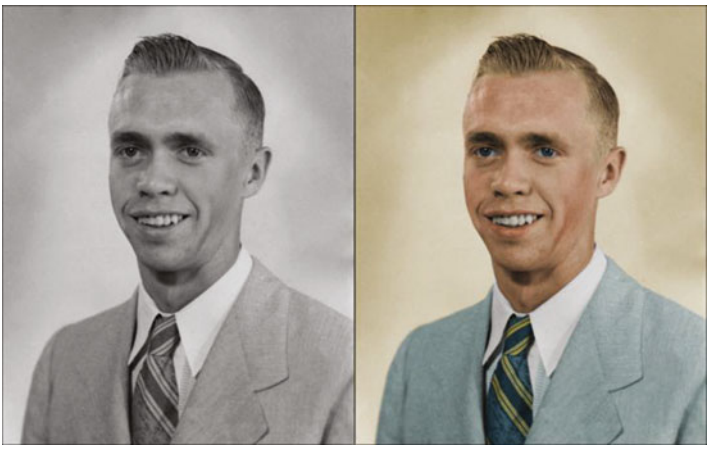

Figure I-3. *The suit and tie colorized with colors that were common during the early 1950s*

After doing some research, I actually found a listing for a suit and tie from the same time period listed on eBay with very similar colors to the ones in this example. Even though the colors I chose may not have been the actual ones, at least they were used in men's suits at the time.

Adobe Photoshop expert and colorist Dana Keller (whose work is second to none, in my opinion) was kind enough to lend this advice on achieving historical accuracy when colorizing photographs:

> *"In order to preserve as much authenticity as possible, researching colors is a must. When researching the colors of, for example, military uniforms or old advertising or period decor, information can often be found online or in various historical resources. Libraries are a great source for researching these topics. But since it's impossible to research everything, colorizing then turns to some educated guesswork.*
>
> *First, gray values hint at what the possible colors could be. Then, with some context clues and working historical knowledge of the photograph content, you can begin to build a realistic portrayal of what the scene could have looked like to the photographer at that moment. The key word there is could. There will always be a significant margin for inaccuracy and some 'artistic license' in colorization. But researching*

(if at all possible) does go a long way in helping to achieve a more believable image. Thankfully, the availability of color photographs began to increase significantly in the '40s and '50s, so there are a great number of color references that are available to assist in accurately colorizing mid-century photos."

To see Mr. Keller's work, visit his website at http://www.danarkeller.com/.

Developing Your Own Style of Working

The steps provided for each tutorial are presented in the way I normally work. Essentially, the parameters are laid out for you (such as layer opacities, color numeric inputs, etc.). You'll notice at the end of each tutorial that there is a before and after example of the photo. If you follow the steps closely, you should achieve similar results. It's almost like painting by numbers, but a bit more complex.

However, as you gain experience and proficiency (and work on projects outside of this book), you'll eventually develop your own ways of doing things. There are often multiple ways of approaching a project that achieve similar results.

In addition, not everyone has the same eye for color. Unless they are following specific instructions, five different people colorizing the same image will likely end up with five different, but excellent, results.

Copy with Caution

If you are learning the art of digital photo restoration for professional purposes, you'll have to be careful when duplicating and editing some images to avoid committing copyright infringement. Because I'm not an attorney, I can't really offer this as specific legal advice; it is more a general cautionary guide for you to keep in mind. *You should consult an attorney who specializes in intellectual property law for legal specifics.*

On occasion, a customer will request retouching or modifying of a professionally shot portrait. Legally, the photographer who took the picture owns the copyright to the image (unless other arrangements were agreed upon beforehand). When possible, have the customer obtain written permission from the photographer or studio that owns the copyright before proceeding with any work. Naturally, some portraits will be decades old, and the photographer will have passed on or closed his/her business, or there simply may not be any way of knowing who the photographer is. In those cases, it's probably a moot issue.

It's good practice to have the customer sign a waiver (your attorney can help you draft one) releasing you from any copyright infringement liability. However, if the picture is obviously the work of a professional (especially a local photographer), obtaining permission to edit the image is very important. Photographers can be very protective of their work (trust me, I know), and you can't really blame them. If it happened to get back to him or her that you were editing his or her work, a lawsuit might follow. (I personally know of a photo lab owner who was almost sued over just such an incident.)

Many people believe that because they paid for the photography service and prints, they own the copyright to those images. It can sometimes be difficult to convey the concept that the photographer (or studio that employs him or her) owns the copyright. However, it's important that you do. Customers won't always understand why they need to obtain permission or sign a waiver, but you must legally protect yourself. It's also just professional courtesy to ask for permission to edit someone else's work.

Be sure to remember these important points:

- When possible, have the customer sign a waiver releasing you from any potential copyright infringement. Most of the images you work with will be family snapshots or an old portrait that was the work of a professional. It may be impossible to identify the photographer.
- When it's obvious that a photo is the work of a professional, obtain permission from the copyright owner to edit the image, if at all possible. There is usually an embossed signature at the bottom-right corner of a photo and a "Do Not Copy" warning on the back.
- *Consult an attorney when you need more-specific legal advice.* It pays to be careful.

Mac Users

The tutorials in this book use several Windows/Linux keyboard shortcuts. If you are a Mac user, the Mac equivalents are shown in Table I-1.

Table I-1. *Mac/Windows Keyboard Shortcut Equivalents*

Editing		
Function	**Mac OS**	**Windows**
Cut to clipboard	Command + X	Control + X
Copy to clipboard	Command + C	Control + C
Paste from clipboard	Command + V	Control + V
Undo	Command + Z	Control + Z
Contextual Menus	Control + Click	Right-click

Colorizing is a fun and rewarding activity. Now, if you are ready to begin, proceed to Chapter 1 to learn the basics of GIMP.

PART 1

Getting Familiar with GIMP, Tonal Adjustments, and Basic Colorizing Techniques

CHAPTER 1

An Overview of GIMP 2.8

In this chapter, we'll cover the following:

- Downloading and installing GIMP 2.8
- The GIMP interface
- The menu bar
- The image navigation bar
- The toolbox and important tool functions
- Working with layers

GIMP is a very powerful image editor. If you are an absolute beginner using this program, this chapter will guide you in how to download GIMP. It will also provide a look at most of the basic tools and functions of the program. You'll put most of these tools and functions into action when you follow the exercises in this book (the tutorials will show you how).

Of course, some working knowledge of GIMP or a similar editing program is always preferable. As this chapter is just an overview, the *GIMP User Manual* will provide much more detailed information and can be accessed from the official GIMP website at `www.gimp.org`.

If you'd like to go beyond colorizing images and master all of the general aspects of GIMP, I recommend the book *GIMP for Absolute Beginners* by Jan Smith with Roman Jóost and published by Apress.

For those interested in learning about digital retouching and restoration using GIMP, check out my book *Beginning Photo Retouching and Restoration Using GIMP* (also published by Apress).

Electronic supplementary material The online version of this chapter (doi:10.1007/978-1-4842-1949-2_1) contains supplementary material, which is available to authorized users.

P. Whitt, *Pro Photo Colorizing with GIMP*, DOI 10.1007/978-1-4842-1949-2_1

Downloading and Installing GIMP 2.8

If you don't already have GIMP installed on your computer, the first thing to do is go to the official GIMP website at `www.gimp.org`. This is a safe source from which to acquire GIMP; there are numerous other sources, but they might be unwanted advertisements or malware.

Next, just follow the steps that apply to your computer's operating system, as outlined next. Remember: GIMP is free—no need to have a credit card ready!

Once you are on the GIMP website, you'll see the Download button at the top of the home page (Figure 1-1). The GIMP website will automatically detect your computer's operating system (unless your web browser has script-blocking enabled). Click the Download button, and you'll be taken to the appropriate download link(s).

Figure 1-1. *The Download button on the GIMP home page*

GIMP for Windows

The following steps will assist you in installing GIMP 2.8 on Windows. These steps were performed on Windows 7 (the same steps will apply for Windows 8 or 10).

1. Once you are on the download page for Windows, click the Download GIMP 2.8.16 link (Figure 1-2).

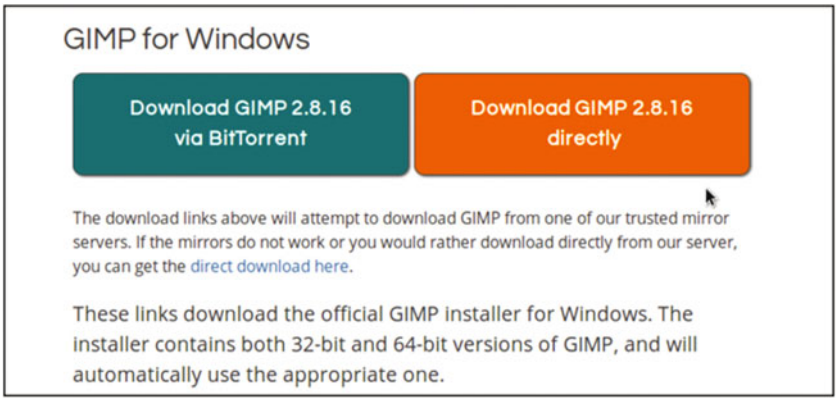

Figure 1-2. *The download page for Windows*

2. After the download completes, the GIMP installer can be found in the Downloads folder or in the place you normally designate for downloads. Double-click the GIMP installer, and the Open File-Security Warning dialog box (Figure 1-3) will open. Since the official website is a trusted source for acquiring GIMP, you can safely continue. Click the Run button, and GIMP will be installed on your system. The installation process might take several minutes.

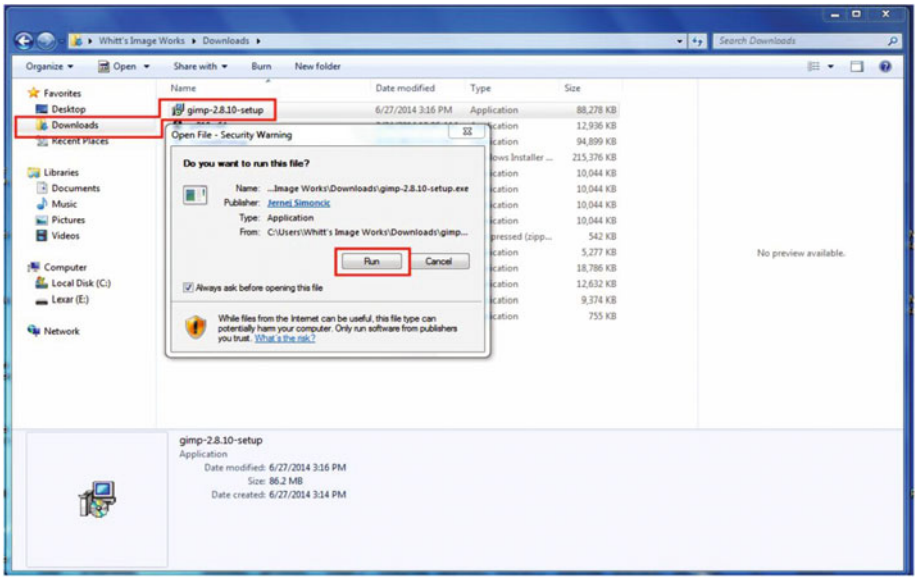

Figure 1-3. *Installing GIMP on Windows 7*

GIMP for Linux and Unix-like Systems

If your computer's operating system is a Linux distribution, then it's likely GIMP is already installed.

An easy way to acquire GIMP for many of the popular Linux distributions (such as Ubuntu, Mint, Zorin, and so forth) is to download and install it from the Software Center (Figure 1-4).

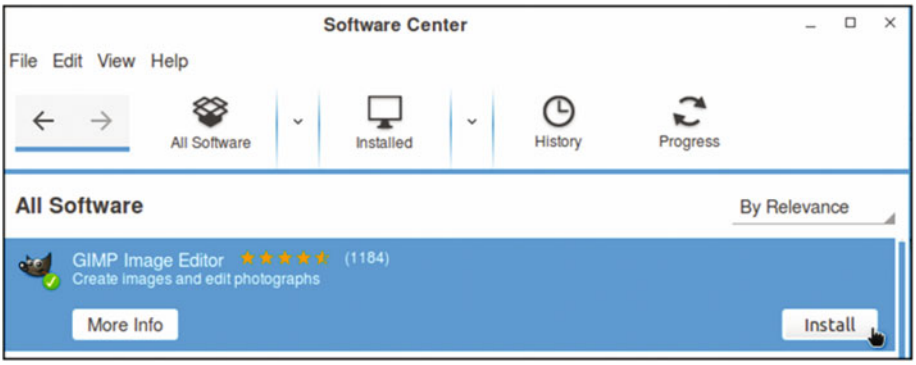

Figure 1-4. *Many Linux distributions make acquiring and installing GIMP easy from the Software Center*

GIMP for Mac OS X

This page (Figure 1-5) is where you'll find the download links for your Macintosh. You can download the GIMP installer and then open the downloaded DMG file. Drag the `GIMP.app` file to the Applications folder (older versions of GIMP required X11 to be installed).

Figure 1-5. *The GIMP download links for Mac OS X*

■ **Note** A great GIMP-related resource for the technically inclined Mac user is Partha's Place, which provides GIMP builds with a number of plug-ins already added. To visit the site, log on to www.partha.com. Generally speaking, however, it's best to stick with stable versions of GIMP and avoid beta versions.

Disabling Gatekeeper in Mac OS X 10.8

Newer versions of Mac OSX have a featured called Gatekeeper. It prevents the installation and running of non-Apple-registered software.

To temporarily disable Gatekeeper, follow these steps[1]:

1. Navigate to System Preferences from the Apple menu or from the Dock.
2. Click on the Security & Privacy preference pane under the Personal header.
3. In the Security & Privacy pane, click on the Lock icon on the bottom left.
4. Enter your Mac's username and password and click the Unlock button.
5. Click the radio button next to "Anywhere."
6. To re-enable Gatekeeper, after updating any necessary software, follow the preceding instructions until step 5 and click the radio button next to "Mac App Store and identified developers." Then close the System Preferences window.

Launching GIMP

After GIMP is installed on your computer, locate the program launcher. The launcher icon usually displays the image of Wilbur, the GIMP mascot (Figure 1-6). However, some Linux distributions may display a different, generic icon (such as a paint palette).

Figure 1-6. *The GIMP program launcher (usually) displays an image of Wilbur*

[1]University of Chicago IT Services Documentation (https://answers.uchicago.edu/page.php?id=25481)

Click the launcher, and the splash screen (Figure 1-7) emerges. The first launch will probably be a bit slow while GIMP acquires the system's fonts and queries plug-ins.

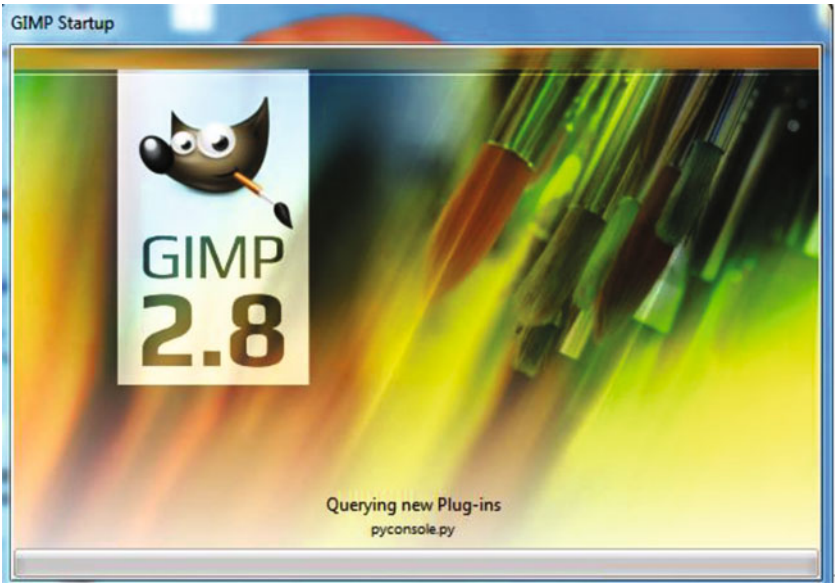

Figure 1-7. *The first GIMP launch might be a bit slow*

The GIMP Interface

This is where it all happens–the digital darkroom where you'll learn how to colorize your images (or those of your clients). The interface will differ slightly in appearance from one platform to another, but the operations are virtually the same across the board. I do most of my work on a Linux desktop computer (Zorin OS 10), so the majority of the screenshots throughout this book are taken from the Linux version of GIMP.

The interface is displayed in a multi-window mode upon its first launch (Figure 1-8). Each panel can be moved around independently.

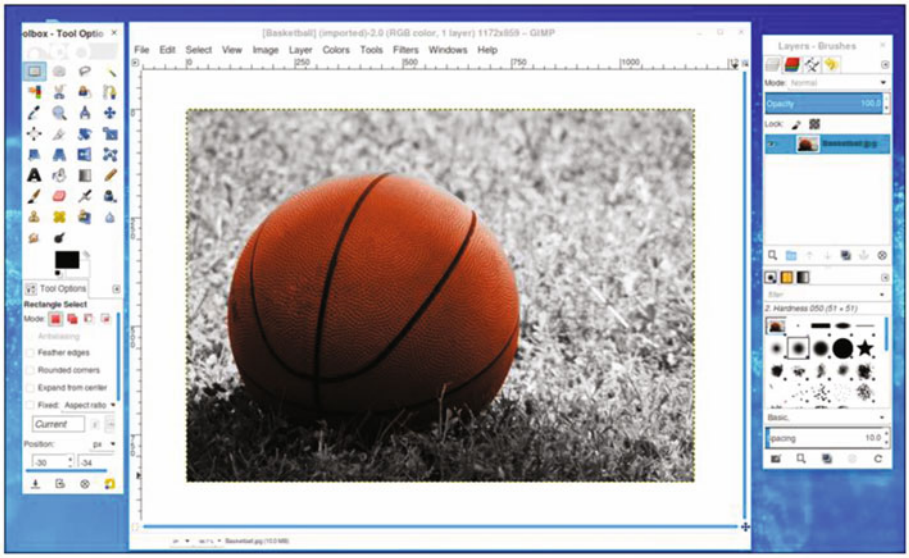

Figure 1-8. *The GIMP interface as it appears in multi-window mode*

Some GIMP users prefer a unified workspace. A new feature introduced in GIMP 2.8 is the single-window mode. To change the interface from multiple floating panels to the single window, go to the Image menu (above the image window) and select Windows ➤ Single-Window Mode. Figure 1-9 is an example of how GIMP looks in single-window mode. The workspace, toolbox, and layers palette are all unified. It's really a matter of preference–use the mode you are most comfortable with.

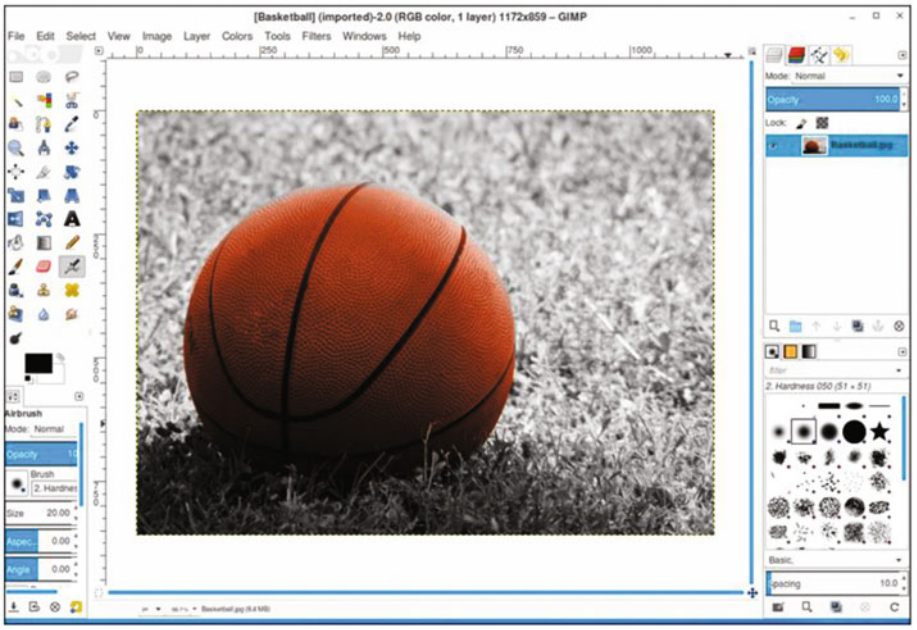

Figure 1-9. *The GIMP interface as it appears in single-window mode*

The Menu Bar

The menu bar is set atop the GIMP image window on Windows and Linux systems (Figure 1-10). It can be thought of as "Command Headquarters" from where virtually every function can be accessed. On Mac OSX, the menu is atop the monitor's screen.

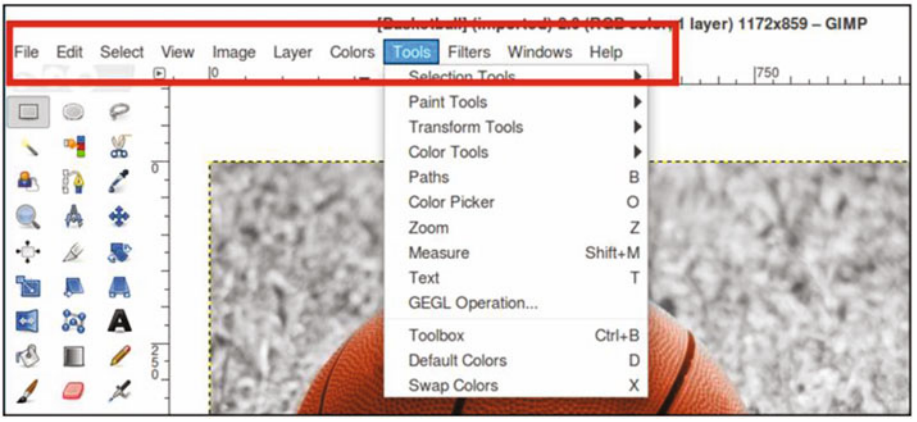

Figure 1-10. *The menu bar allows access to almost every tool and function in GIMP*

The following is a quick run-through of some (but not all) of the functions within each option:

File: Opens existing files, creates new files, saves, and exports

Edit: Undoes and redoes, copies, pastes, accesses preferences (on Mac OSX, preferences is found in the GIMP menu)

Select: Provides various options for choosing and modifying selections

View: Provides viewing options for images, layers, navigation, guides

Image: Provides options for adjusting image orientation, size, printing images, and canvas settings

Layer: Creates new layers, duplicates existing layers, works with layer properties

Colors: Accesses the color adjustment dialogs, such as Color Balance, Levels, Curves, and Hue/Saturation

Tools: Accesses the image-editing and color tools

Filters: Accesses the filters, such as Blur or Sharpen, as well as artistic and specialty filters

Windows: Accesses the recently closed docks, hiding docks, etc.

Help: Accesses the GIMP User Manual (if installed on your computer) and also links to the online GIMP User Manual

The Image Navigation Bar

This is a useful new feature for GIMP 2.8. The image navigation bar (which only works in single-window mode) allows you to easily browse through all of the images that are open in GIMP by viewing the thumbnails just above the image workspace (Figure 1-11).

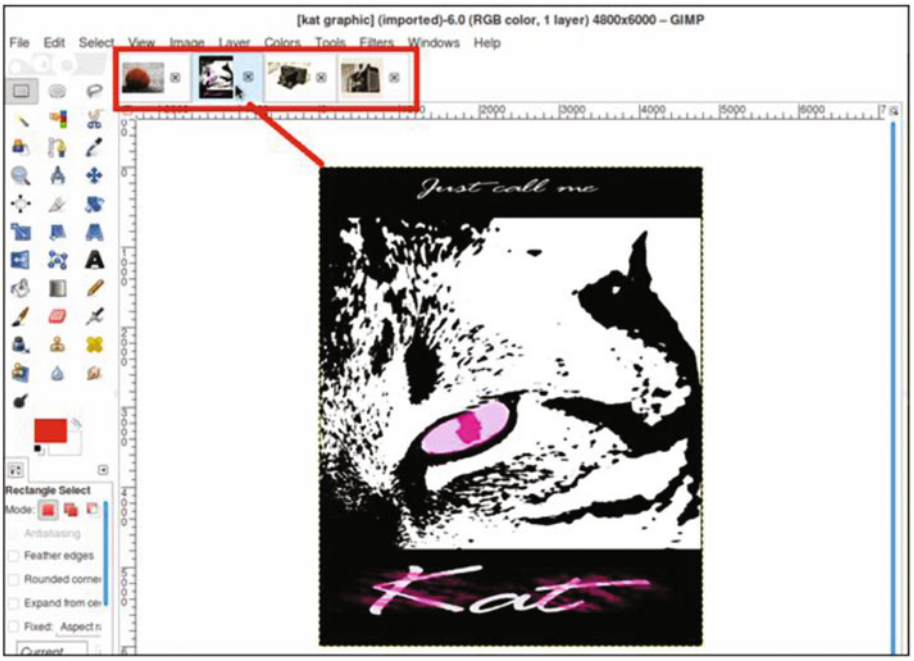

Figure 1-11. *The image navigation bar*

The Toolbox and Important Tool Functions

The toolbox groups many of the functions you'll use on a routine basis. To identify each tool, hold the cursor over the icon. A brief description of its function and the keyboard shortcut will pop up in a small callout. Below the toolbox is the Tool Options dialog. In Figure 1-12, the Healing tool is active, so options such as brush size, hardness, dynamics, and so forth can be changed to suit the specific task at hand.

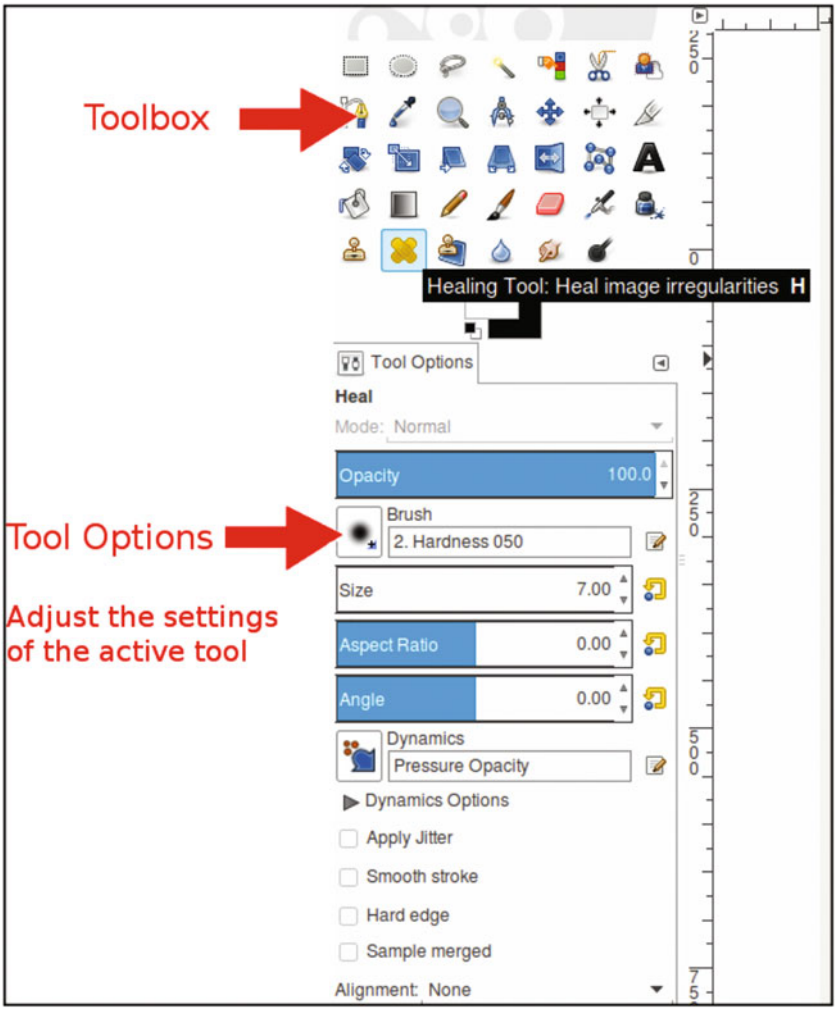

Figure 1-12. *The toolbox and Tool Options dialog for active tools*

The Selection Tools

GIMP offers a variety of selection tools that will enable you to isolate certain areas of the image you're editing. This confines the changes you want to make to the pixels within the selection boundary, leaving the rest of the image unaltered.

Table 1-1. *The Selection Tools' Shortcuts and Functions*

Icon	Name	Shortcut	Tool Function
	Rectangle	R	Selects rectangular or square areas
	Ellipse	E	Selects elliptical or circular areas
	Free Select	F	Draws freeform and polygonal selections
	Fuzzy Select	U	Selects continuous areas of color
	Select by Color	Shift + O	Selects areas of similar color
	Intelligent Scissors	I	Selects shapes using intelligent edge fitting
	Foreground Select	*(none)*	Selects an area with foreground objects

Two commonly used selection tools are the Free Select tool and the Fuzzy Select tool (Figure 1-13). With the Free Select tool, selections can be drawn around irregular shapes.

Figure 1-13. *An example of a free selection and a selection by color range*

When a selection is made, you'll notice a border of "marching ants" around the area. Holding the Shift key allows multiple selections to be made while using these tools. The selection's border can be hidden by navigating to the menu bar and choosing View ➤ Show Selection (Figure 1-14).

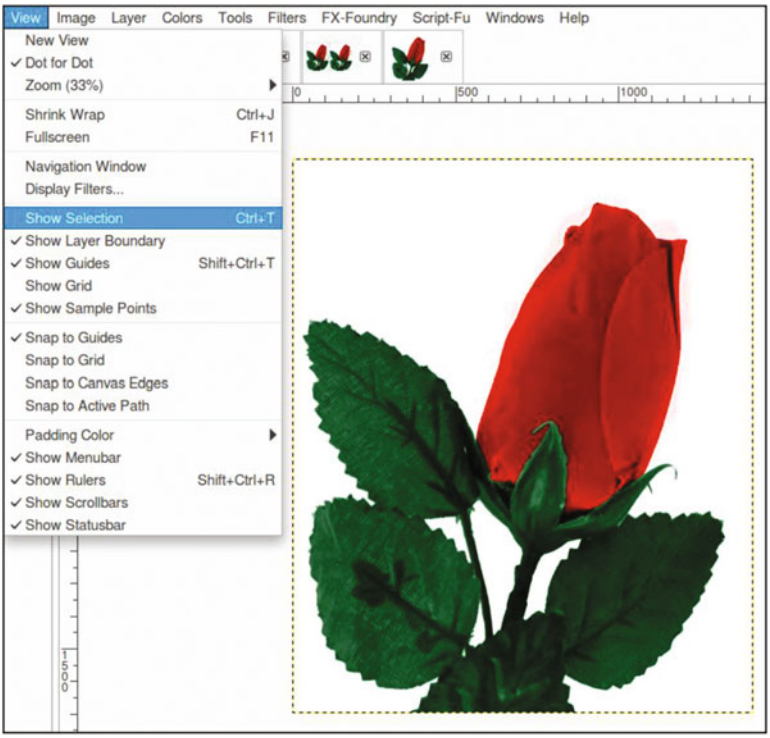

Figure 1-14. *The selection's border, or "marching ants," can be hidden*

To learn more about the selection tools, look in the Chapter 1 Practice Images folder. There are exercises that will give you some firsthand practice using these tools.

The Brush Tools

If you plan to colorize a black and white image that has some type of damage, it will be necessary to repair it first (which will be covered in a later chapter). The brush tools (brushes) in GIMP allow you to paint, repair flaws, and apply local exposure corrections (such as lightening or darkening specific areas).

The main brush tools you'll be using for colorizing the tutorial images in this book are the Bucket Fill, the Paintbrush, and the Airbrush. To a lesser extent, you'll use some of the other tools, such as the Eraser and the Dodge/Burn tool. Table 1-2 provides a look at their shortcuts and functions.

Table 1-2. *The Brush Tools' Shortcuts and Functions*

Icon	Name	Shortcut	Tool Function
	Bucket Fill	Shift + B	Fills an area with a color or a pattern
	Blend	L	Fills an area with a gradient
	Pencil	N	Draws hard-edged lines
	Paintbrush	P	Paints smooth strokes using a brush nib
	Eraser	Shift + E	Removes pixels from a layer
	Airbrush	A	Paints using variable pressure, similar to a paint spray gun
	Ink	K	Calligraphy-style painting
	Clone	C	Copies pixels from one part of an image to another
	Healing	H	Heals image irregularities by blending in surrounding texture and tone
	Perspective Clone	*(none)*	Clones from an image source after applying perspective transformation
	Blur/Sharpen	Shift + U	Selective blurring or sharpening using a brush
	Smudge	S	Selective smudging using a brush
	Dodge/Burn	Shift + D	Selective lightening or darkening using a brush

Out of all of the brushes used for fixing flaws, the “dynamic duo” of the set would be the Clone tool and the Healing tool. These are the two you’ll most often use to correct imperfections and repair damage on the images you edit (Figure 1-15) .

Figure 1-15. *Repairing damage with the Clone tool and the Healing tool*

The Clone tool works by sampling an area from one part of an image and pasting those pixels on a target area on another part. The Healing tool is a type of “smart clone” that takes the surrounding texture and tone of the sampled area into account and seamlessly blends the pixels in for a flawless repair. Generally, the Clone tool is better suited to repairing larger cracks and creases, and the Healing tool is usually best at removing facial blemishes in portrait retouching (although it can be good at repairing smaller cracks and creases).

The lessons in this book don’t require the use of either one of these tools. However, they are extremely useful and it’s likely you’ll use them in the future. To learn more about them, refer to the GIMP User Manual.

The Transform Tools

The transform tools allow you to alter the size, position, orientation, and perspective of the image and individual layers or selected areas. These features are extremely useful for straightening crooked images (Figure 1-16), correcting lens distortion, and more.

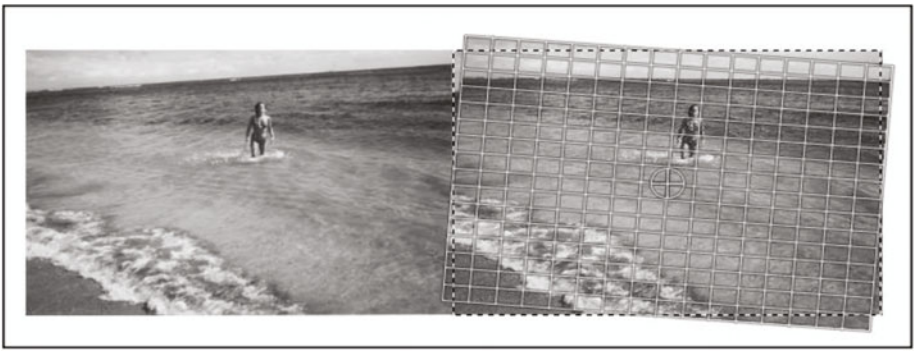

Figure 1-16. *The Rotate tool helps to correct crooked images*

It's not unusual for clients to request various alterations prior to colorizing an image, so knowing how to use these tools can be helpful. Refer to Table 1-3 to become familiar with the name, shortcut, and function of each tool.

Table 1-3. *The Transform Tools' Shortcuts and Functions*

Icon	Name	Shortcut	Tool Function
	Move	M	Moves layers and selections
	Align	Q	Aligns or arranges layers and other objects
	Crop	Shift + C	Removes edge areas from the image or layer
	Rotate	Shift + R	Rotates the active layer, selection, or path
	Scale	Shift + T	Scales the active layer, selection, or path
	Shear	Shift + S	Shears the active layer, selection, or path
	Perspective	Shift + P	Changes the perspective of the active layer, selection, or path
	Flip	Shift + F	Reverses layers, selections, or paths vertically or horizontally
	Cage Transform	Shift + G	Deforms a selection with a cage

Other Tools

The remaining tools are the Path tool, Color Picker, Zoom tool, Measure tool, and the Text tool. Power-GIMP users employ all the tools in the toolbox at one time or another, and the exercises in this book will use many of them. Although there are a number of tools you won't use in the tutorials, it's still a good idea to become familiar with them if you are new to GIMP.

Refer to Table 1-4 to become familiar with the name, shortcut, and function of each tool.

Table 1-4. *The Other Tools' Shortcuts and Functions*

Icon	Name	Shortcut	Tool Function
	Path	B	Creates and modifies paths
	Color Picker	O	Selects colors from image pixels
	Zoom	Z	Adjusts the magnification level of the image you are viewing
	Measure	Shift + M	Shows distances and angles
	Text	T	Creates or edits text layers

The Color Picker Tool

The Color Picker tool can be handy when colorizing images. One way it helps is to sample colors from reference color photos containing colors similar those that you want to use in your colorization project. It can be used to determine what percentages of red, green, and blue light make up the color you are sampling. In Figure 1-17, we can see that the sampled area contains 54% red, 1% green, and 2% blue.

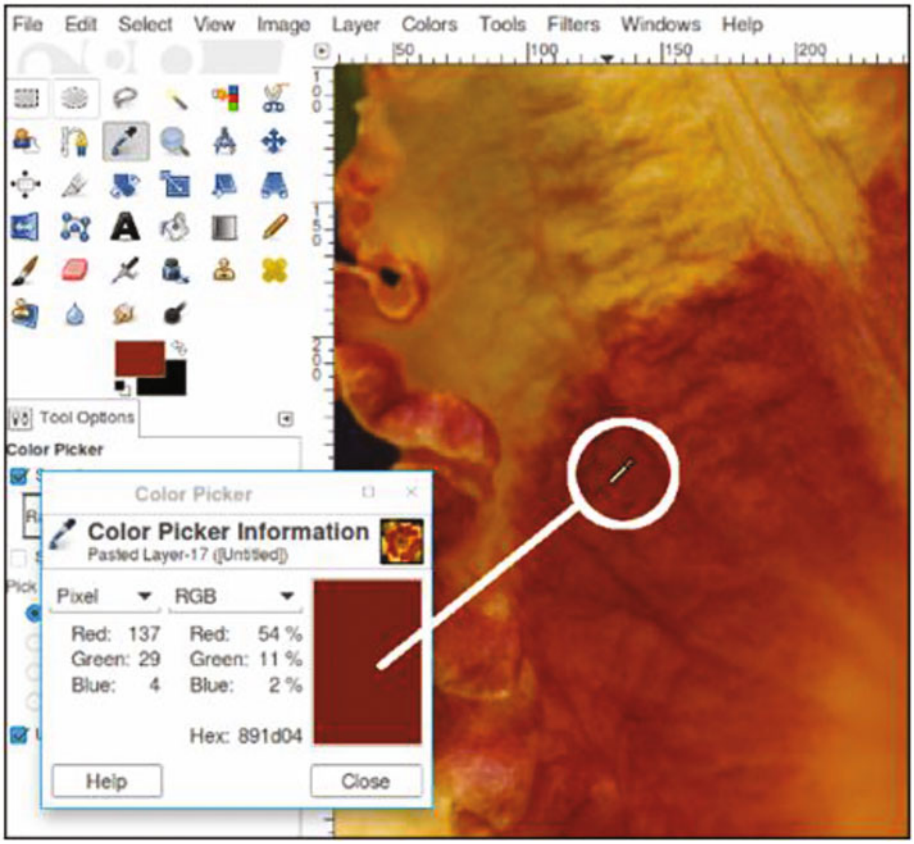

Figure 1-17. *The Color Picker is a useful tool for colorizing images*

Because monitor displays vary from one to another, the Color Picker tool is helpful in providing an accurate means of measuring colors. To learn more about this dialog, look in the Chapter 1 Practice Images folder. There is an exercise that will give you some firsthand practice with this dialog.

■ **Note** The Color Picker can sample individual pixels or a range of pixels. It also displays readouts in RGB (Red, Green, Blue), HSV (Hue, Saturation, Value), or CMYK (Cyan, Magenta, Yellow, Black).

The Change Foreground Color Dialog

This feature is where you pick the colors for your colorization projects. You can sample a color as shown in Figure 1-18, or move the cursor within the color areas to select the values, or input them numerically. To learn more about this dialog, look in the Chapter 1 Practice Images folder. There is an exercise that will give you some firsthand practice with this dialog.

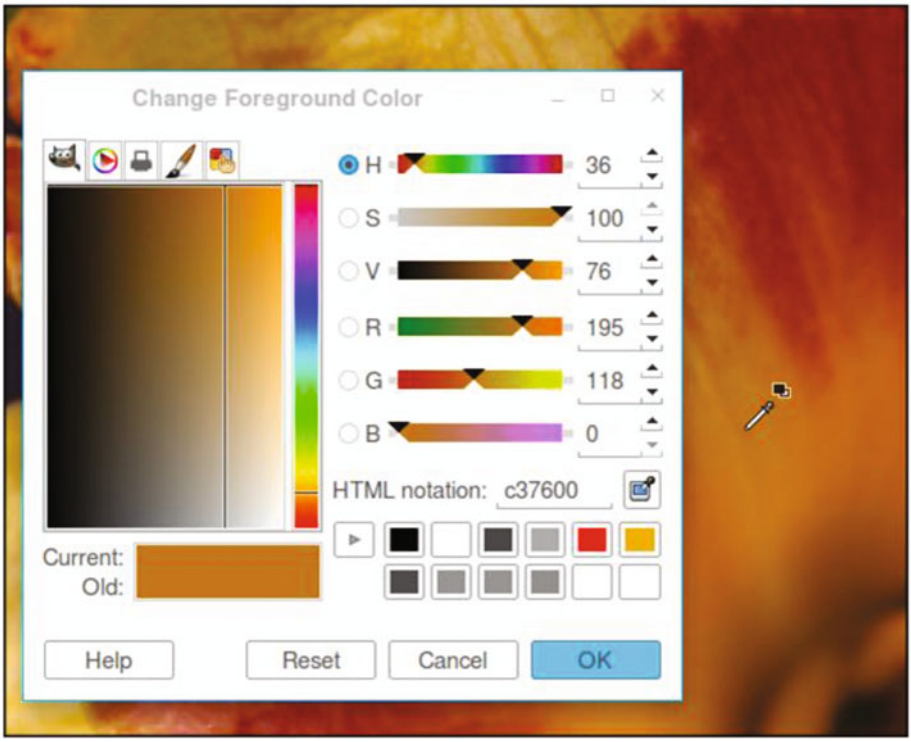

Figure 1-18. *The Change Foreground Color dialog is where you'll pick colors for your colorization projects*

Working with Layers

Layers can be thought of as digital sheets of clear acetate, each one with a graphical element, stacked on top of one another. Layers are managed in the layers palette (Figure 1-19). Upon launching GIMP, you'll normally find the layers palette on the right side of the workspace. Sometimes it can be closed inadvertently and be difficult to find again. When that happens, you can find it by navigating to the menu bar and clicking Windows ➤ Dockable Dialogs ➤ Layers.

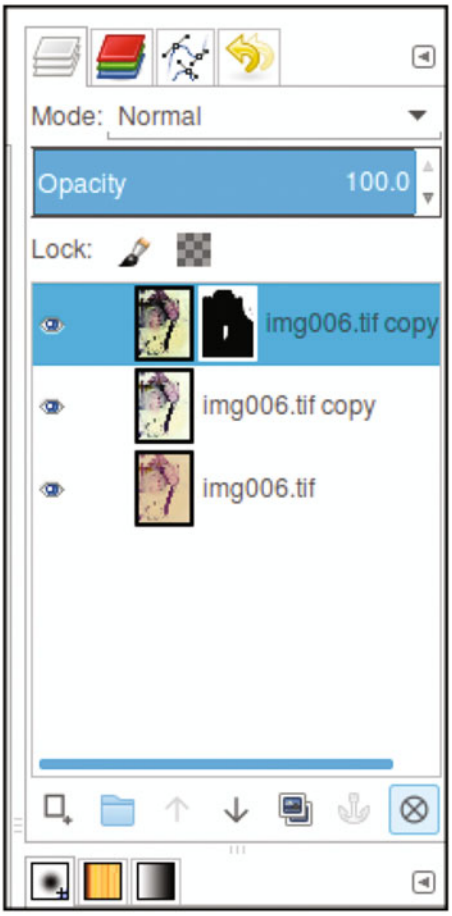

Figure 1-19. *The layers palette*

Layers allow editing to be done in a way that doesn't directly affect the base image (represented as the bottom-most layer in the layers palette). In the example in Figure 1-20, to colorize the basketball a new layer was created and named *Basketball Orange* (it's always a good idea to name each layer to keep track of them).

Figure 1-20. *This illustrates how a layer is like a digital sheet of clear acetate on which color is applied without directly affecting the base image*

The orange color is applied the new layer without affecting the original image.

Layers are one of the most important aspects of photo editing. Sometimes it will be necessary to make revisions to your work, and having a layered version will make this much easier. Edits can be made to a specific layer without affecting the rest of the image.

In Figure 1-21, the actual layer is shown in the GIMP layers palette. As can be seen, the orange being applied to colorize the basketball does not directly affect the base image.

Figure 1-21. *Color added to a separate layer*

■ **Note** You might end up having 10, 15, or more layers in your colorization projects depending on the degree of work involved. It's good practice to name the layers as you create them. If you have a project with many layers, it will make it much easier to find a particular layer should you need to edit it.

Layer Blending Modes

Layers have a variety of *blending modes,* which interact with the underlying layer in specific ways. For the purposes of this book, the two we'll be concerned with mostly (but not exclusively) are *Overlay* and *Color.* These allow for the application of color in a translucent way–similar to applying water color to a drawing (Figure 1-22). These two blending modes add color without covering the drawn-in details. The Overlay mode generally applies a subtle color, while the Color mode applies it more intensely.

Figure 1-22. *The Overlay and Color blending modes allow for the application of translucent colors*

Layer Groups

Layer groups are new to GIMP 2.8 and are very helpful for organizing large numbers of layers. This will help make your work go smoother when you work with complex images composed of a large number of layers.

The Layer Mask

The *layer mask* is a feature that allows you to control the transparency of the pixels in an active layer. Essentially, you can make pixels opaque, semi-transparent, or transparent by applying white, various shades of gray, or black to the layer mask.

You'll be using the layer mask for most of the tutorials in this book–it allows for a great deal of precision when colorizing images.

The layer mask can be set to either reveal or hide color. In Figure 1-23, the active layer (which will be used to add a single area of color to the image of the camera) is changed to the Color blending mode and then filled with a yellow-gold color. By adding a layer mask and using the "Initialize to Black" option, the yellow-gold filled layer becomes transparent. Using the Brush tool and painting in the layer mask with white reveals the color (don't worry if it's not quite clear now; it will begin to make sense when you work on the tutorials).

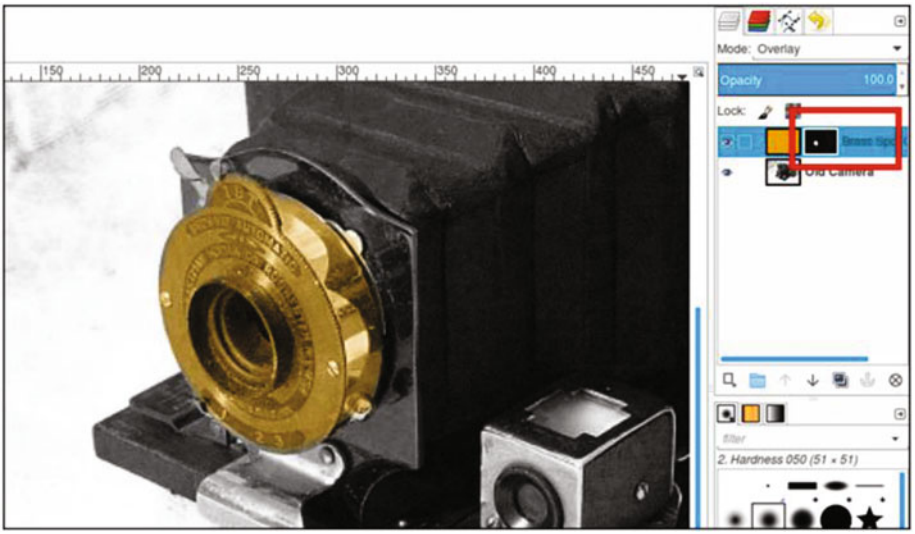

Figure 1-23. *The layer mask initialized to black reveals pixels when painted with white*

■ **Note** This chapter has introduced you to a number of the features and tools you'll use in GIMP. For more-detailed descriptions, access the GIMP User Manual by going to `http://docs.gimp.org/2.8/en/`.

Summary

We looked at how to download and install GIMP 2.8 on your computer and had a cursory overview of the software. As mentioned earlier, the overview will help you to get acquainted with GIMP, but you also have access to the GIMP User Manual, which covers everything about this program in depth.

After completing Chapter 1 (and for those who are new to GIMP), the best way to get acquainted with this program is by trying out the simple exercises provided in the Chapter 1 Practice Images folder. After you are comfortable with what you've learned in Chapter 1, feel free to move on the next chapter, "An Introduction to Making Tonal Corrections."

CHAPTER 2

An Introduction to Tonal Adjustments

In this chapter, we'll cover the following:

- A tonally correct image
- Using the histogram to assess tonality
- Tracking tonality using the Color Picker tool
- Using sample points
- Tonal corrections using levels
- Tonal corrections using curves

As a professional photo restoration artist, colorization is an oft-requested service. However, the images are almost always in need of some tonal adjustments to acquire the best overall contrast.

Since colorization is essentially applying translucent hues over various parts of the image, it's important that the image has been tonally optimized to look its best and the most lifelike. This chapter will guide you in making basic tonal adjustments to optimize images before colorizing.

For those new to image editing, this chapter will introduce two methods of correcting dull and flat images: the Levels dialog and the Curves dialog.

A Tonally Correct Image

Black and white images (known as *grayscale* in the world of digital image editing) are composed of various shades of gray. These grays make up the tonal value of the image, which means lightness, darkness, and middle ranges. The tonal value is independent of chroma (color), but having the correct tonal values makes a colorized image look more realistic. Figure 2-1 shows a dull, flat image compared to one that is tonally correct.

P. Whitt, *Pro Photo Colorizing with GIMP*, DOI 10.1007/978-1-4842-1949-2_2

Figure 2-1. *A comparison of an image that's tonally flat and the same image with good contrast*

Using the Histogram to Assess Tonality

A *histogram* is a graphical representation of the pixel brightness values in an image, ranging from 0 (pure black) to 255 (pure white). Factors such as image tonality and exposure determine the shape of the histogram. Tonal correction tools such as the Levels and Curves dialogs display a histogram in the window. You can also access the histogram window by itself (Colors Menu ➤ Info ➤ Histogram).

In the screenshot of the histogram in Figure 2-2, the darkest range of image data is on the left, the mid-range values are in the center, and the lightest values are on the right.

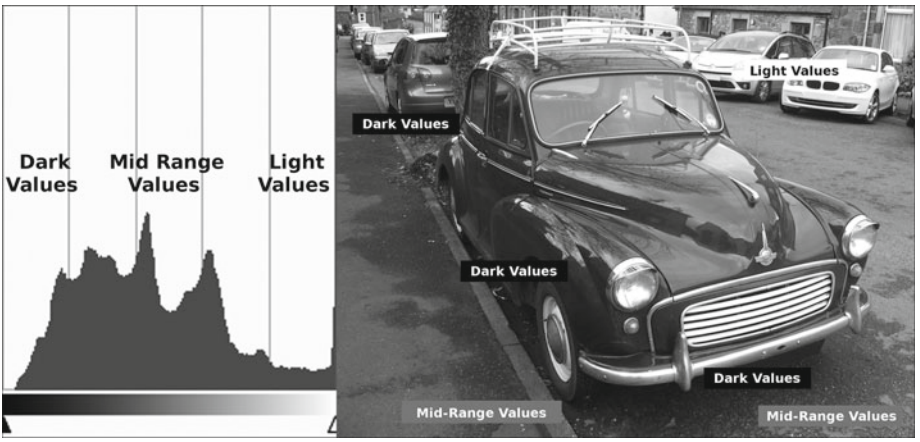

Figure 2-2. *A histogram represents pixel lightness values in image data*

One can usually just look at an image and tell whether it's too bright, too dark, and so on. However, viewing the histogram is an accurate "map" of how the tonal value is distributed within the image. The shape of a histogram will reveal much about the tonal quality of an image. In the previous screenshot, the darkest and mid-range values form the tallest peaks, then slope downward as the values transition to lighter values (which there are fewer of).

The following examples demonstrate how the image tone distributes the data in a histogram, and where the image data is lacking.

- **Overexposed (too bright)**: Most of the image data is in the mid-range or light areas of the histogram (Figure 2-3).

Figure 2-3. *Most of the data is in the lightest range*

- **Underexposed (too dark)**: Most of the image data is in the mid-range or dark areas of the histogram (Figure 2-4).

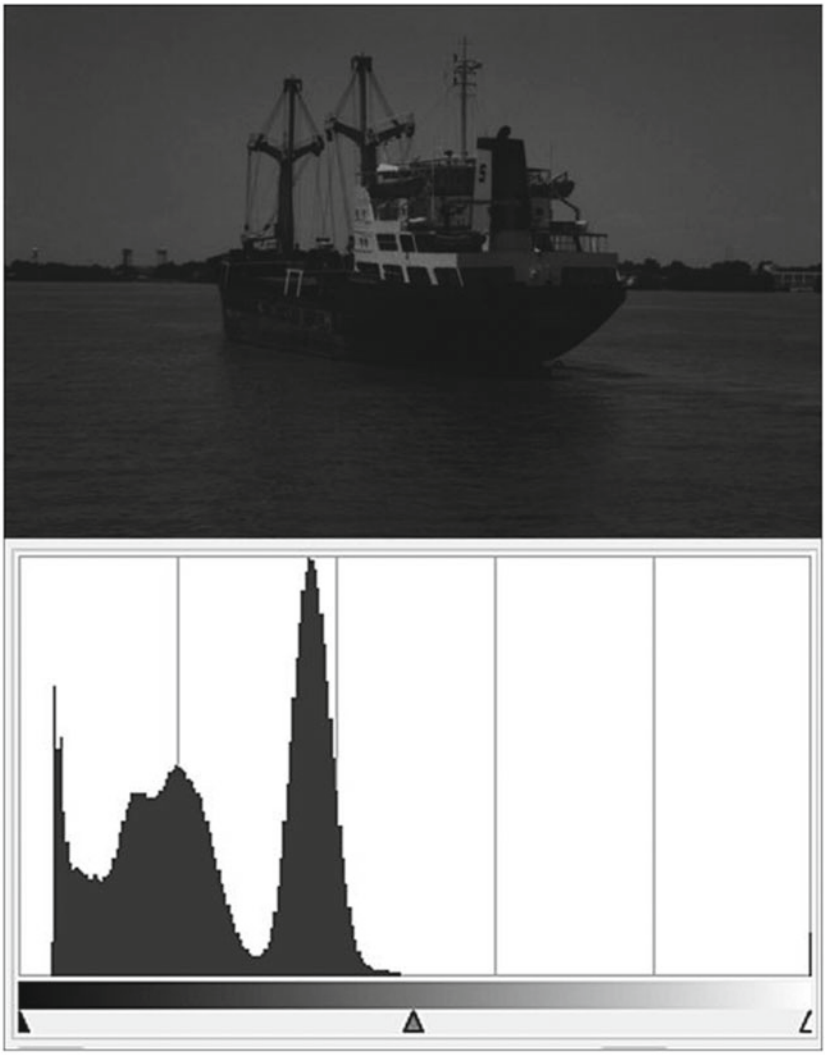

Figure 2-4. *Most of the data is in the darkest range*

- **Low contrast (dull tone)**: More of the image data is in the mid-range, with none in the darkest or lightest ranges (Figure 2-5).

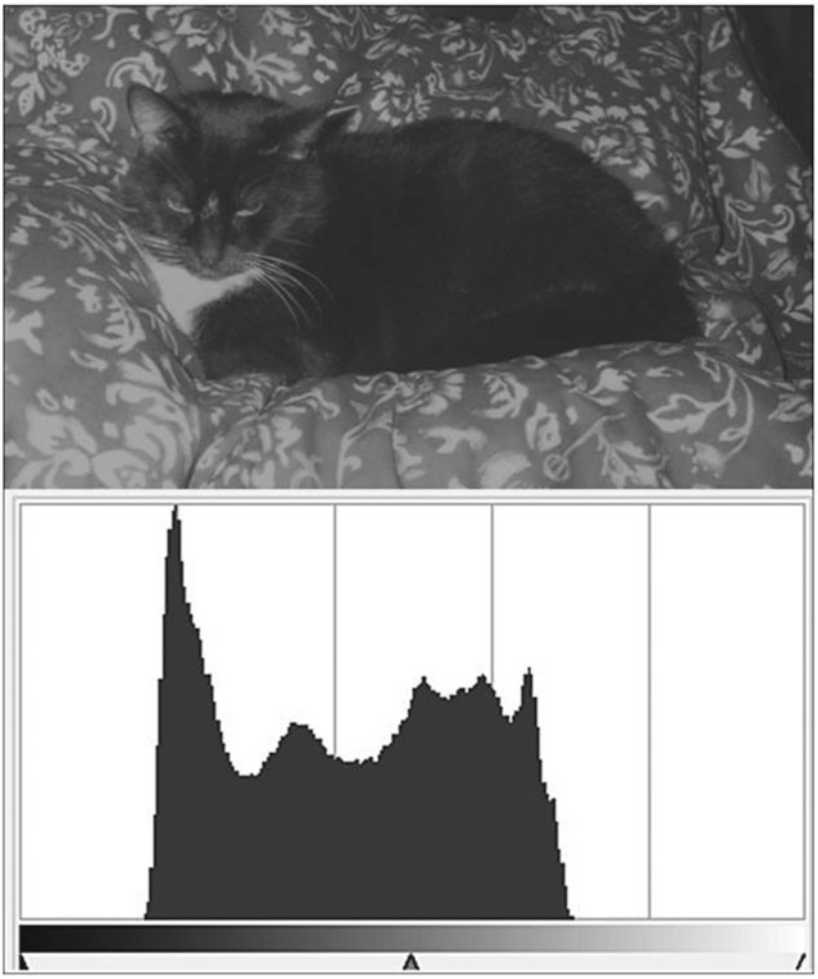

Figure 2-5. *Most of the data is in the mid-range area*

- **Balanced Tonality**: The image data is spread across the full length of the histogram (Figure 2-6).

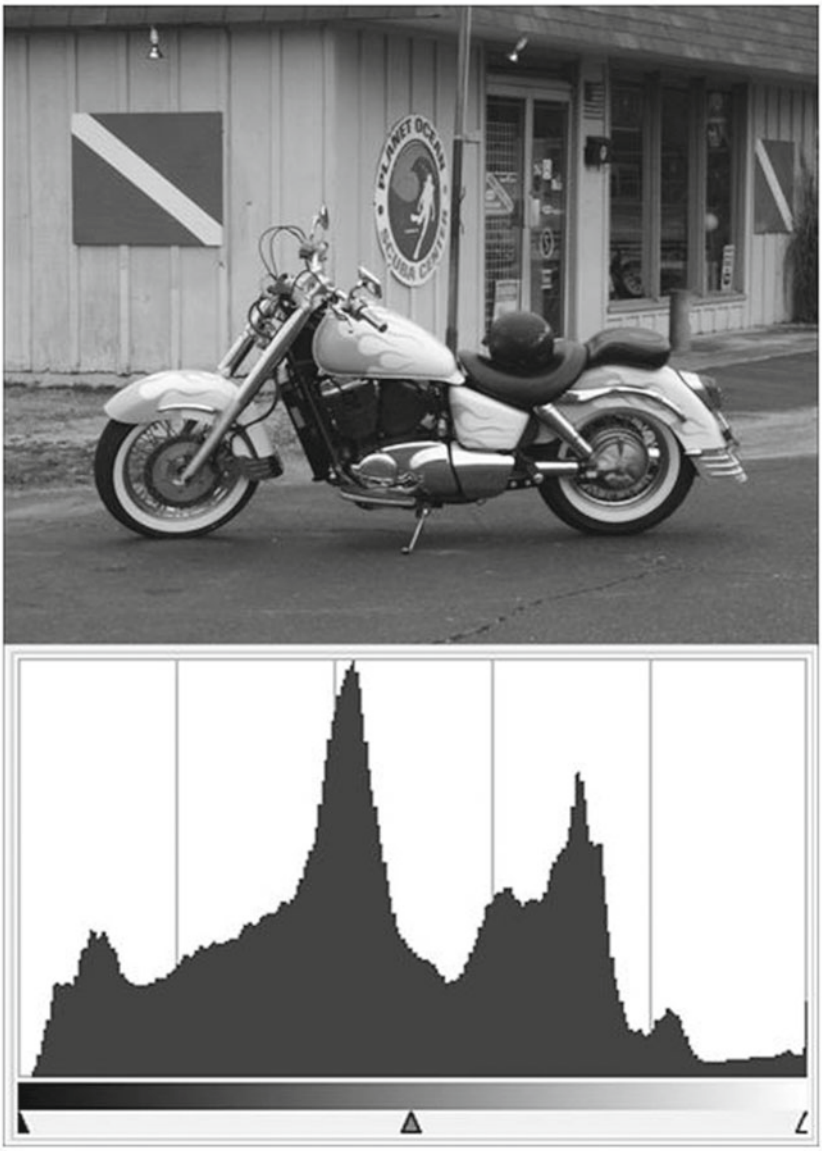

Figure 2-6. *Most of the data is spread throughout the histogram*

Using the Color Picker Tool to Track Tonality

As we touched on briefly in Chapter 1, the Color Picker tool is used to sample areas of your image to determine color values and tonal values. You'll use this tool often to take color samples from reference images and to check the images you are colorizing. It can be

handy for measuring gray values as well. In the black and white (grayscale, to be accurate) image shown in Figure 2-7, several areas have been sampled to determine the gray value (denoted as percentages) in various areas.

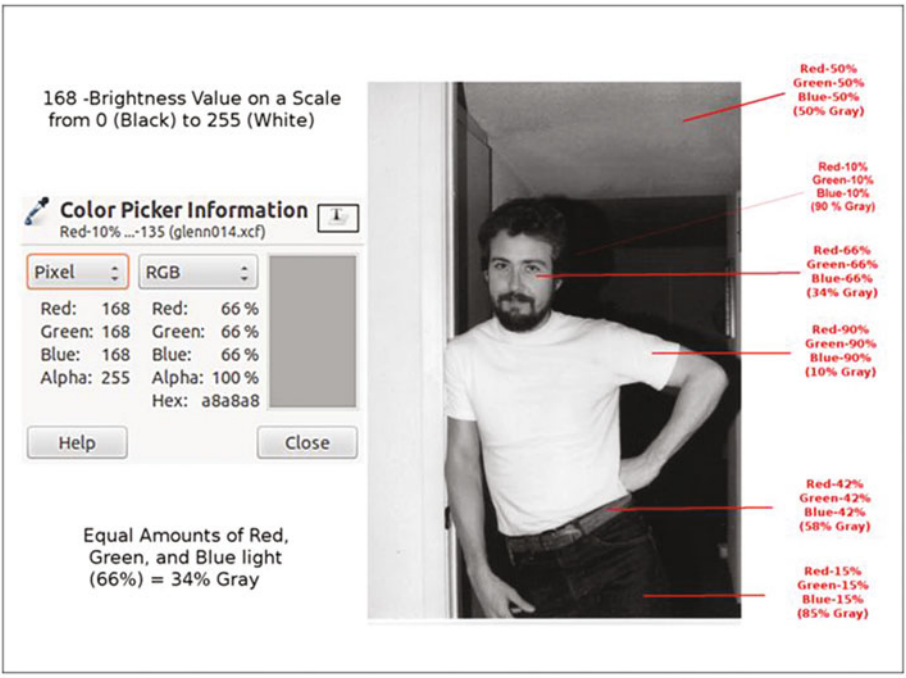

Figure 2-7. *Using the Color Picker tool to track tonality*

A grayscale image (as displayed on a monitor) is made up of equal amounts of red, green, and blue light. Using the eyedropper to sample pixels will display the percentages of red, green, and blue light composing any given shade of gray. You can sample a single pixel or an average of a radius of pixels you set the parameters for.

By default, the Color Picker, or Eyedropper, tool samples color data in RGB values (which will be used throughout this book). It can also display CMYK and HSV values.

Using Sample Points

Sample points are markers that can be placed on various parts of an image to help monitor specific areas as you edit. The data displayed will change in real time as you work. Sample points can be used to keep track of highlights, mid-tones, and shadows throughout the image (Figure 2-8). Although four are shown, it's possible to create as many sample points as are needed. For the purpose of making a tonal correction, I generally place them in the darkest, mid-range, and lightest areas where I don't want the correction to change the tone too drastically.

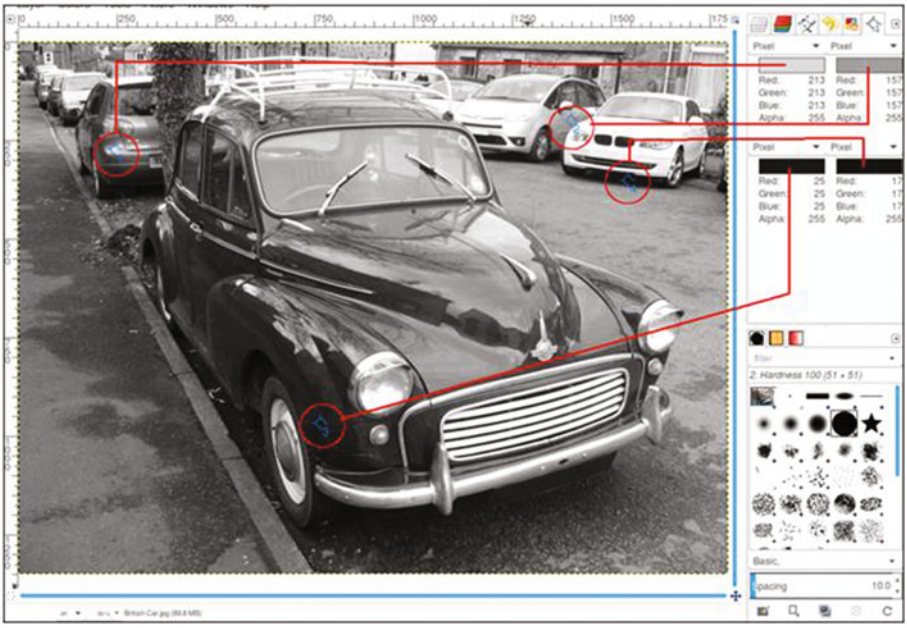

Figure 2-8. *Using the Sample Points to track tonality*

The Sample Points dialog can be accessed from the image menu (Windows ➤ Dockable Dialogs ➤ Sample Points). To create a sample point, press Control and click on one of the rulers in the image window, then drag with the mouse. Two perpendicular guides will appear. When you release the mouse button, the sample point will be placed where the two guides intersect (Figure 2-9). To move a sample point, click on it and drag it to where you'd like to place it. To remove a sample point, click on it and drag it off of the image workspace.

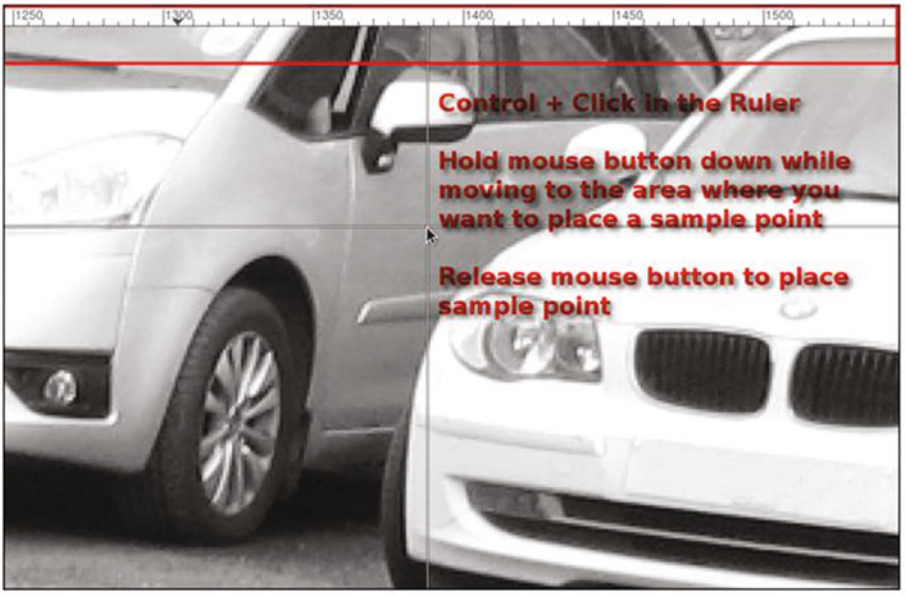

Figure 2-9. *Sample Points are dragged from the Ruler*

■ **Note** It's important to note that the brightest areas (highlights) and the darkest areas (shadows) in an image rarely contain pure white or black (the darkest shadows ideally should be around 90–95% gray, and the brightest highlights around 5–10% gray). By monitoring sample points placed in these areas, you can avoid making shadows too dark and highlights too bright when making tonal adjustments.

Tonal Correction Using Levels

The Levels dialog box (Figure 2-10) allows you to shift the brightest, mid-tone, and darkest pixels in the image you are working with. Essentially, this allows you to make an image lighter or darker, or to change the overall contrast.

The Levels dialog is a complex one, and it might be overwhelming for a beginner. For the purposes of this chapter, only a couple of essential functions will be utilized. This will enable you to do the practice exercise a little later in this chapter and get a basic understanding of how to use levels. We'll use the histogram and the Input Levels function; those features that won't be used (shown grayed out in Figure 2-10) you don't need to be concerned about for now.

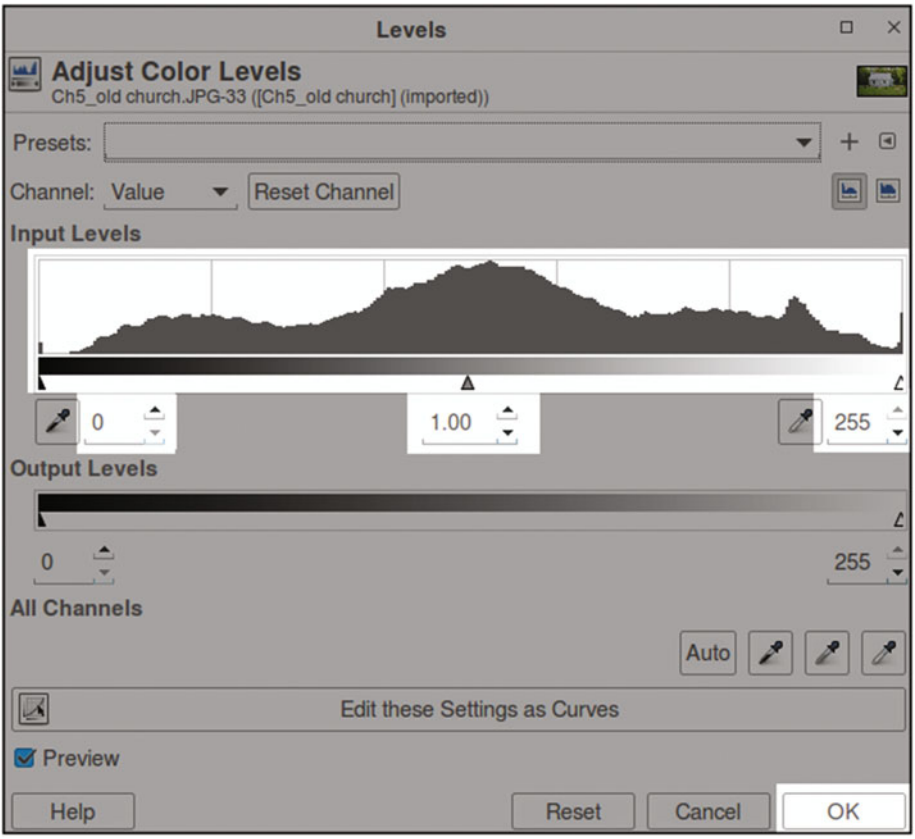

Figure 2-10. *The portion of the Levels dialog that will be used in this chapter is shown in white*

I would, however, suggest investing some time learning about all of the features found in the Levels dialog at some point. The GIMP User Manual provides thorough coverage of this powerful dialog.

Levels Practice Exercise

For those of you who are new to image editing, this exercise will provide some hands-on experience in making a simple tonal correction using the Levels dialog.

For this exercise, follow these steps:

1. Open the practice image `Ch2_Levels Correction.jpg`, found in the Chapter 2 Practice Images folder.

2. It's always a good idea to work on a duplicate layer. To do this, navigate to the menu bar and go to Layers ➤ Duplicate Layer (Figure 2-11).

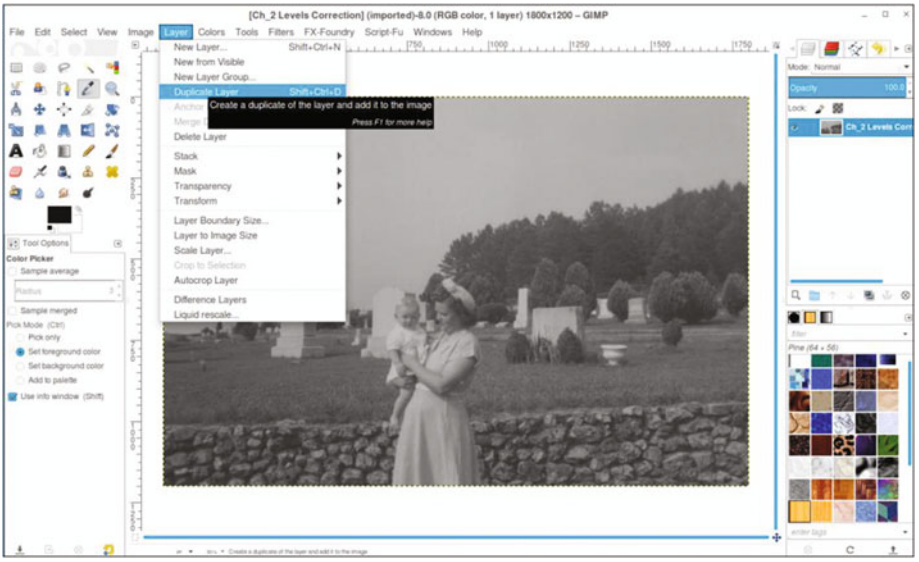

Figure 2-11. *Create a duplicate of the background layer on which to make the tonal correction*

3. Open the Levels dialog (Colors Menu ➤ Levels). Move the black slider toward the center, stopping at the base of the histogram (the numeric value will be around 55). Move the white slider toward the opposite side of the histogram's base (the numeric value will be around 182). Finally, move the gamma slider just slightly to the left to reveal some of the detail in the darkest shadow areas (the numeric value will be around 1.10). After the sliders are moved into position, click OK. As Figure 2-12 shows, the image is improved a great deal.

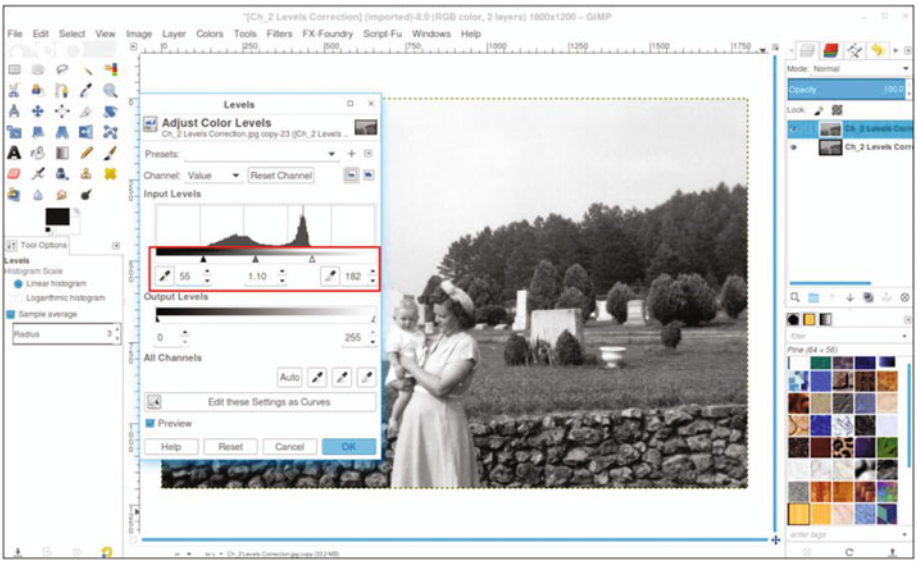

Figure 2-12. *Using the Levels dialog to improve the contrast of this image*

The image has gone from dull and flat to one with much better contrast–darker shadows and brighter highlights (Figure 2-13).

Figure 2-13. *Before and after comparison*

Tonal Correction Using Curves

The Curves dialog box allows you to shift the brightest, mid-tone, and darkest pixels in the image you are working with. As with levels, this allows you to control the tonality of an image.

Like the Levels dialog, it displays a histogram. A key difference in how the Curves dialog works is the ability to make tonal adjustments with greater precision. By attaching anchor points to the adjustment curve, changes can be made to pixels that are within a certain brightness range (Figure 2-14).

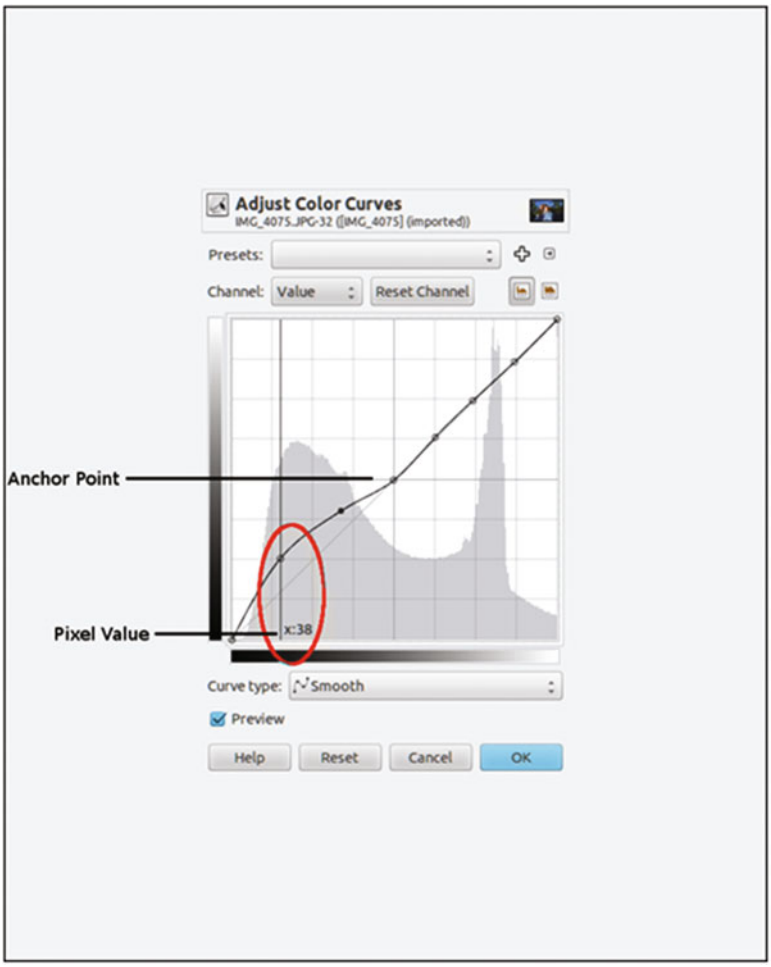

Figure 2-14. *The Curves dialog box*

Curves Practice Exercise

Like with levels, the Curves dialog might be a bit intimidating for beginners. In the exercise that follows, you'll make a slight adjustment to improve the tonal quality of another image.

For this exercise, follow these steps:

1. Open the practice image `Ch2_Curves_Correction.jpg` found in the Chapter 2 Practice Images folder.

2. As before, duplicate the background layer (Layers ➤ Duplicate Layer).

3. Open the Curves dialog (Colors Menu ➤ Curves). Click on the curve adjustment in the center of the grid to place an anchor point (Figure 2-15). To remove an anchor point, click on it and drag it off the dialog box while holding the mouse button down.

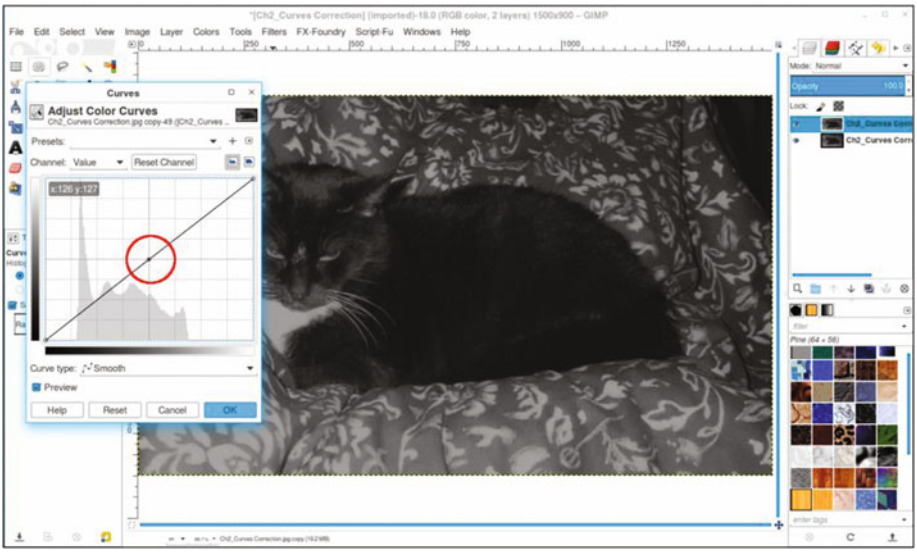

Figure 2-15. *Click in the center of the grid to place an anchor point*

4. Click on the adjustment curve (Figure 2-16) and approximate the "S" shape shown. This action brightens the highlights and darkens the shadows. Note that the new anchor points are placed where the image data begins and ends on either side of the histogram, then click OK.

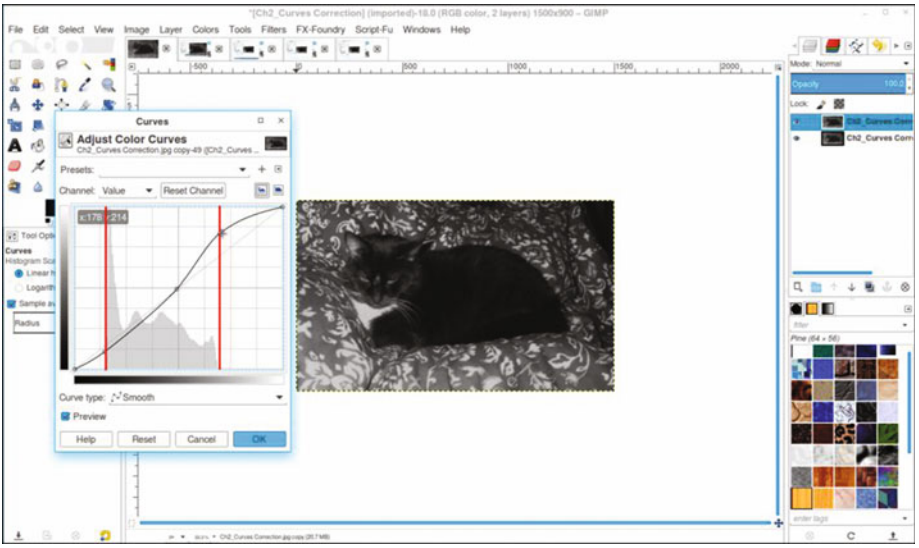

Figure 2-16. *A slight "S" curve improves the contrast in this image*

■ **Note** Apply the "S" curve with a light touch. Make your adjustments gradually while monitoring the detail of the shadows and highlights.

The "S" curve is commonly used in image editing to correct contrast. With some experimentation, you'll learn to easily improve images with flat contrast (Figure 2-17).

Figure 2-17. *Before and after comparison*

Summary

Because an image having the proper tonality is important prior to colorizing it, you were introduced to several aspects of assessing and correcting image tonality: the histogram, the Eyedropper tool, sample points, levels, and curves.

Two common features used for making tonal corrections are the Levels and Curves dialogs. The two exercises provided in this chapter teach the beginner how to correct tonality in dull, flat images.

In the next chapter, you'll start colorizing several basic objects to get a feel for the colorizing process.

CHAPTER 3

Colorizing Simple Objects

In this chapter, we will cover the following topics:

- Colorizing solid fabric
- Colorizing a metal vase
- Colorizing a rose and stem
- Colorizing wood and brass
- Colorizing candy

This chapter is where the fun begins! You'll get your feet wet by colorizing several simple objects with some easy-to-use techniques. Just follow the step-by-step instructions closely and you'll be on your way to mastering image colorization.

If you haven't downloaded the practice images yet, go ahead and do that now. The link can be obtained from the Source Code/Downloads Tab from the Apress page found here: www.apress.com/9781484219485?gtmf=s in the introduction to this book.

Although saving these practice images after completing the tutorials is optional, it's important to develop the habit of saving your own work as layered XCF files. There will be times you'll need to make revisions in your work, and having access to each layer is much easier than reworking an image that has been flattened (all the layers merged into a single image).

If you are completely new to GIMP and need an in-depth guide on how to save and export files, please refer to the downloadable PDF Supplemental Beginner's Guide found here: www.apress.com/9781484219485?gtmf=s (click the Source Code tab to download).

The lessons that follow in the first two chapters will show you a few processes for colorizing, but the color values are provided for you. In Chapter 5, we'll look closer at how to determine what colors to use in your own projects.

Tutorial 1: Colorizing Solid Fabric

This tutorial is a simple exercise that can be done in just a few clicks of the mouse. It only involves one hue, so you'll use the Colorize feature found in the colors menu (Colors ➤ Colorize).

P. Whitt, *Pro Photo Colorizing with GIMP*, DOI 10.1007/978-1-4842-1949-2_3

■ **Note** The Colorize dialog has three settings: *Hue* (the feature that actually colorizes by adding a color tint. The color is changed by moving the slider.); *Saturation* controls the color intensity—increasing it makes it bolder and decreasing it makes it more muted; *Lightness* controls the brightness level.

To do Tutorial 1, follow these steps:

1. Open the file `Ch_3 Fabric.jpg` found in the Practice Images folder.
2. Duplicate the original layer (Layer ➤ Duplicate Layer).
3. Right-click the duplicate layer and select Edit Layer Attributes. Rename the layer *Fabric Color* (Figure 3-1).

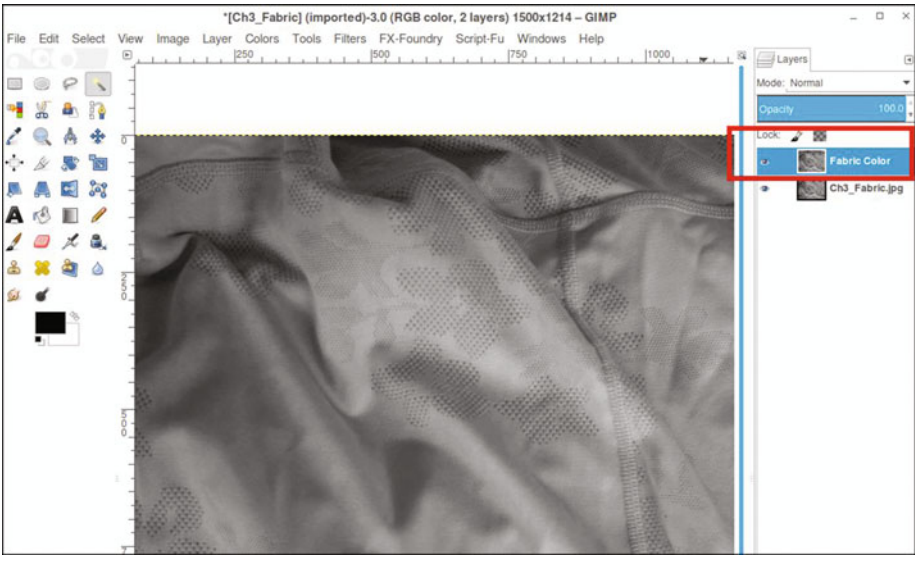

Figure 3-1. *Duplicate the background layer and rename it Fabric Color*

4. Open the Colorize dialog (Colors ➤ Colorize). To achieve the purple hue shown (Figure 3-2), move the Hue slider until the numeric value displays around 270 (for this exercise, it doesn't have to be exact, but you can use the up and down arrows to nudge the numeric value into place). If you want to experiment, move the slider around to see the full range of hues available.

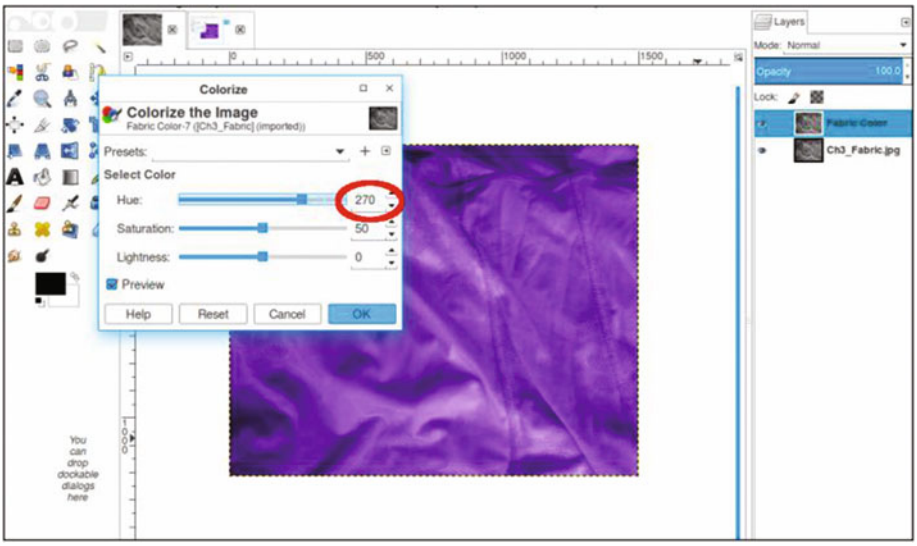

Figure 3-2. *Use the Colorize dialog to give the image a purple hue*

This is a straightforward method of adding color to grayscale images. In this case, the image takes up the entire frame, so the process is quick and easy. Compared to the grayscale version, it looks as though it was photographed as a color image (Figure 3-3). If desired, save the layered image as an XCF file for future reference. For a more in-depth look at saving and exporting files, refer to the downloadable PDF Supplemental Beginner's Guide found here: `www.apress.com/9781484219485?gtmf=s` (click the Source Code tab to download).

Figure 3-3. *Before and after comparison*

Saving this image is optional. If you want to save it for future reference, it would be a good idea to create a folder and keep it there.

Tutorial 2: Colorizing a Metal Vase

One of the great things about a program as powerful as GIMP is that there are often multiple methods of achieving the same result. While the Colorize dialog is a very effective way of colorizing objects, using layers can essentially do the same colorizing job. Lowering the layer's opacity provides a degree of control over the results by making the color less intense when the outcome is too strong.

To do Tutorial 2, follow these steps:

1. Open the file `Ch_3 Antique Brass Vase.jpg` found in the Practice Images folder.
2. Duplicate the original layer (Layer ➤ Duplicate Layer).
3. Right-click the duplicate layer and select Edit Layer Attributes. Rename the layer *Background Copy*, or leave it as is.
4. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency.
5. Name this layer *Brass Color*. Change the blending mode from Normal to Overlay (Figure 3-4; the Mode setting is just above the Opacity setting in the layers palette).

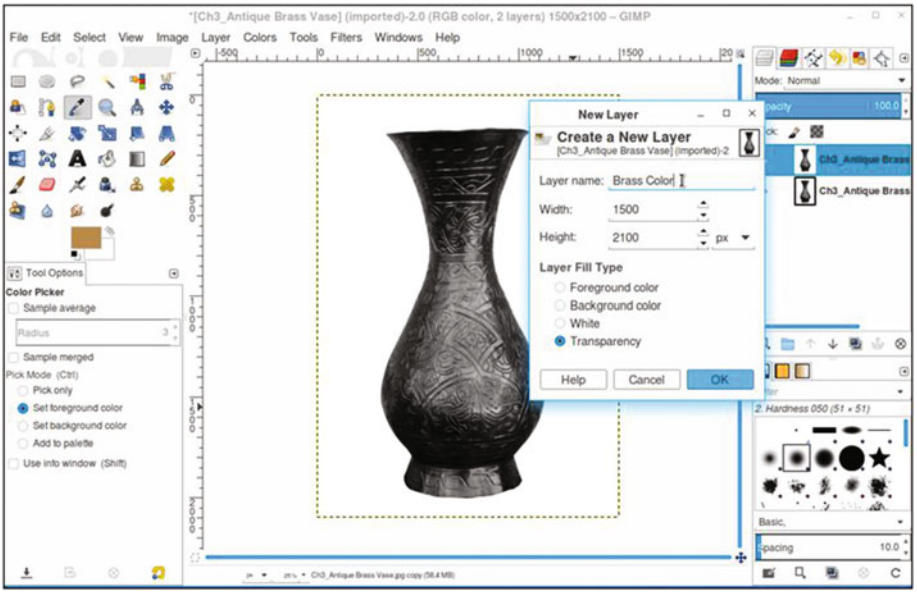

Figure 3-4. *Creating a new layer to add the brass color to the vase*

6. Click on the foreground color swatch (located under the tool icons in the toolbox) to open the Change the Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows–R-225, G-184, B-60–then click OK (Figure 3-5). If you are completely new to GIMP, there is a more in-depth look at this dialog and its background equivalent in the downloadable PDF Supplemental Beginner's Guide found here: `www.apress.com/9781484219485?gtmf=s` (click the Source Code tab to download).

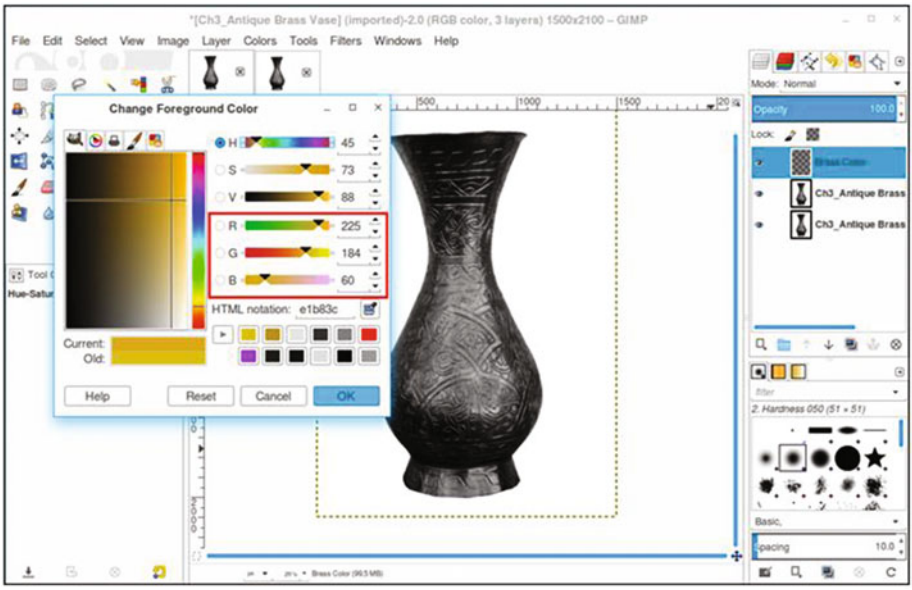

Figure 3-5. *Enter the numeric values indicated to achieve the brass/gold color used in this lesson*

7. Make sure the layer is active, then click in the image using the Bucket Fill tool. The vase will now be colorized with a brass appearance (the color won't be applied to the background because it is pure white). (Figure 3-6).

Figure 3-6. *Before and after comparison*

Tutorial 3: Colorizing a Rose and Stem

In this tutorial, you'll get to work with two colors by working with the image of a rose (albeit, an artificial one).

To do Tutorial 3, follow these steps:

1. Open the file `Ch_3 Rose.jpg` found in the Chapter 3 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer).
3. Right-click the duplicate layer and select Edit Layer Attributes. Rename the layer *Background Copy*, or leave it as is.
4. Create a new layer (Layer ➤ New Layer) and name it *Stem–Leaf Colorize*. Change the blending mode from Normal to Overlay.
5. Click on the foreground color to open the Change Foreground Color dialog. To duplicate the green hue used in this tutorial, input the numeric values as follows: R-0, G-83, B-4 (Figure 3-7). Click OK.

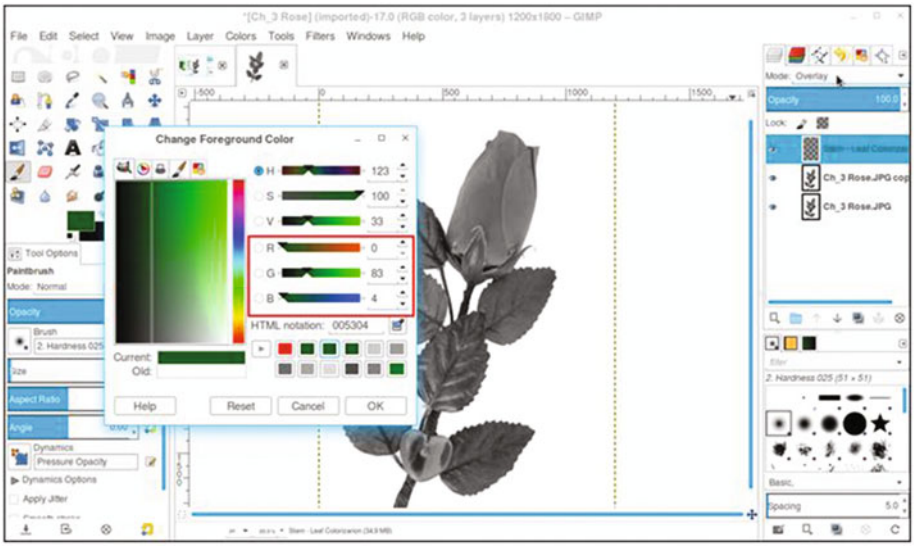

Figure 3-7. *Enter the numeric values indicated to achieve the green color used in this lesson*

6. Use the Bucket Fill tool and click in the image (making sure the layer named *Stem-Leaf Color* is active). The entire rose will now be colorized (Figure 3-8). Don't worry–the rosebud and heart will only be green temporarily.

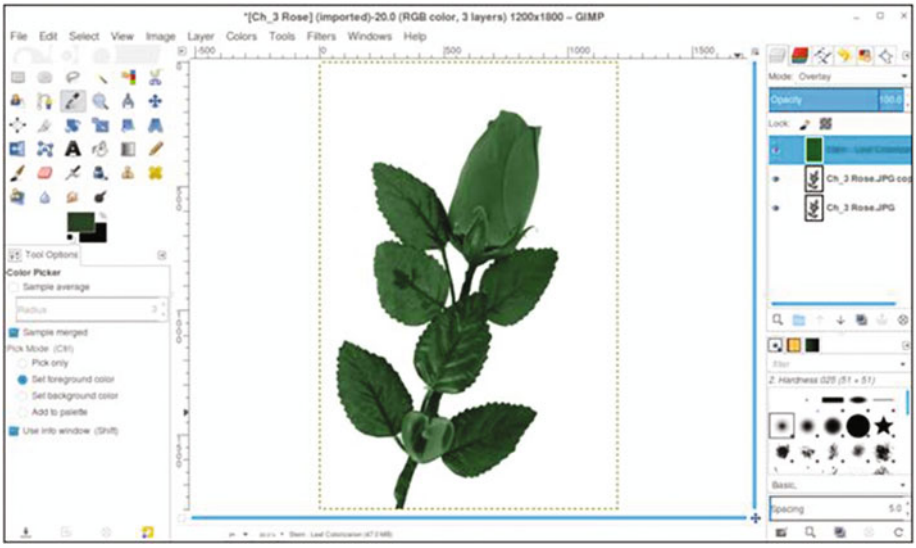

Figure 3-8. *Filling the layer colorizes the rose*

7. Next, create another new layer and name it *Rosebud-Heart Color*. Change the blending mode to Color.

8. Open the Change Foreground Color dialog. Oftentimes, the color you need will be in the color tabs, eliminating the need to input values numerically. Create a pure red hue by clicking the red tab as shown in Figure 3-9.

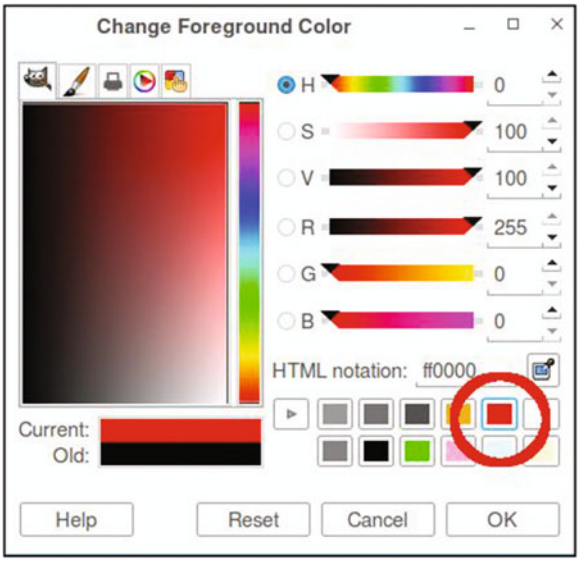

Figure 3-9. *Use the tab to change the foreground color to red*

9. Select the Bucket Fill tool and click in the image (making sure the layer named *Rosebud-Heart Color* is active).

10. The entire rose will now be colorized red. Lower the layer's opacity to around 80–85% to avoid the color's being too intense.

11. Create a layer mask (Layer ➤ Mask ➤ Add Layer Mask). To initialize the layer mask, choose the "Black (full transparency)" radio button, as shown in Figure 3-10.

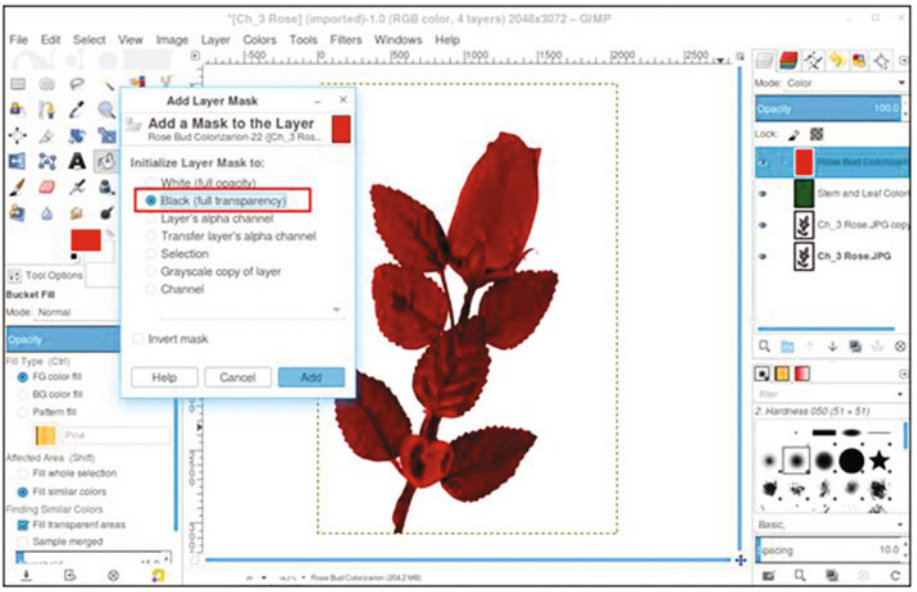

Figure 3-10. *Initializing the layer mask to "Black (full transparency)."*

12. The red colorization will now be hidden by the layer mask. Click in the layer mask to make it active (there will be a thick white border around the icon).

13. To reveal the red in the rosebud and heart, use the Paintbrush tool (P) and a round nib.

14. Select the 2.Hardness 050 setting. Using white as the active color, paint within the image to reveal the red in the rosebud (Figure 3-11). You'll need to make the brush small enough to paint around the leaf. Paint in small stokes so that any mistakes can be more easily undone. Use the Zoom tool to magnify the image so as to see small details.

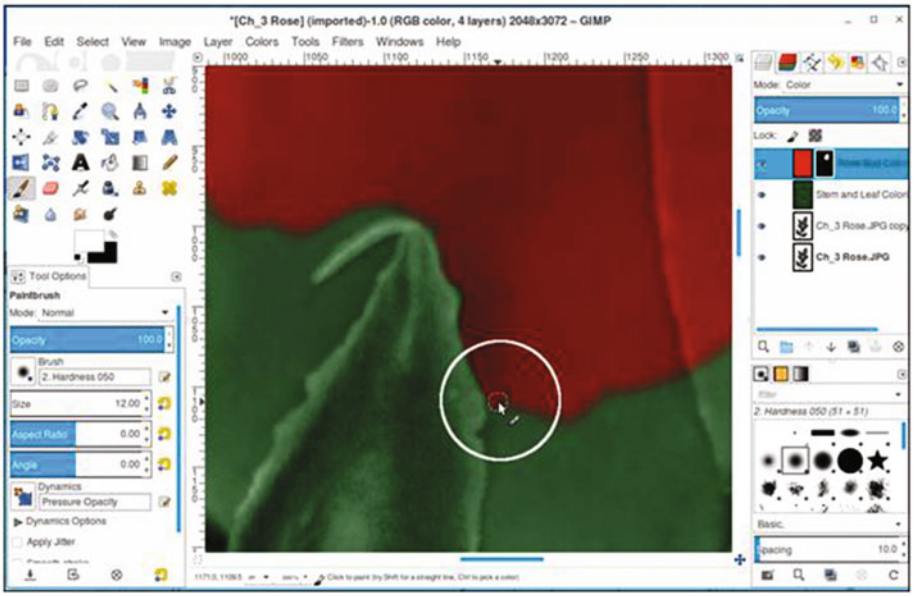

Figure 3-11. *Use the Paintbrush tool to reveal the red in the rosebud*

15. Paint in the heart to reveal the red (Figure 3-12).

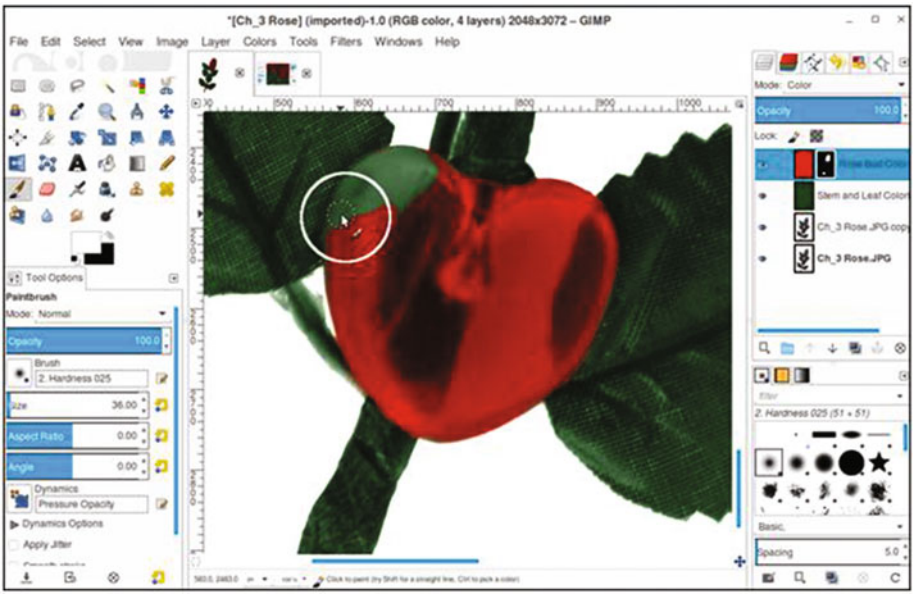

Figure 3-12. *Use the Paintbrush tool to reveal the red in the heart*

When you've finished, you'll have a reasonably realistic-looking colorization of the rose (Figure 3-13). This lesson utilized the layer mask, which you'll use in most of your colorizing projects in this book. It's a very useful feature for colorizing, and I'm sure you'll see how helpful it will be in your own projects. If desired, save the layered image as an XCF file for future reference.

Figure 3-13. *Before and after comparison*

Tutorial 4: Colorizing Wood and Brass

In this tutorial, you'll colorize a decorative brass cabinet pull and the surrounding wood. This lesson requires some intricate brushwork, using the layer mask to add the brass coloring.

To do Tutorial 4, follow these steps:

1. Open the file `Ch3_Wood and Brass.jpg` located in the Chapter 3 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename it *Background Copy*, or leave it as is.
3. Create a new layer (Layer ➤ New Layer) and name it *Wood Color*. Change the blending mode from Normal to Color.
4. Click on the foreground color to open the Change Foreground Color dialog. To duplicate the wood color used in this tutorial, input the numeric values as follows: R-174, G-71, B-11. Click OK.

5. Select the Bucket Fill tool (Shift + B) and click in the image (making sure the layer named *Wood Color* is active). The entire image will now be colorized. To help prevent the color from being too intense, lower the layer's opacity to around 70%.

6. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Name it *Brass Color*. Change the blending mode from Normal to Color.

7. Click on the foreground color to open the Change Foreground Color dialog. To duplicate the brass color used in this tutorial, input the numeric values as follows: R-225, G-184, B-60. Click OK.

8. Select the Bucket Fill tool and click in the image (making sure the layer named *Wood Color* is active). The entire image will now be colorized yellow. Lower the layer's opacity to around 75%. The image will now be filled with a yellow hue.

9. Create a layer mask (Layer ➤ Mask ➤ Add Layer Mask). To initialize the layer mask, choose the "Black (full transparency)" option. This will hide the pixels of the *Brass Color* layer. Click in the layer mask to make it active (it will have a thick white border around the icon).

10. To reveal the brass in the cabinet pull, use the Paintbrush tool (P) and select the 2.Hardness 050 setting. Using white as the active color, zoom in as needed and paint within the image to reveal the brass color. You'll need to make the brush size small in order to paint in and around the pull (Figure 3-14). The white highlights won't pick up any color, so you can brush right over them.

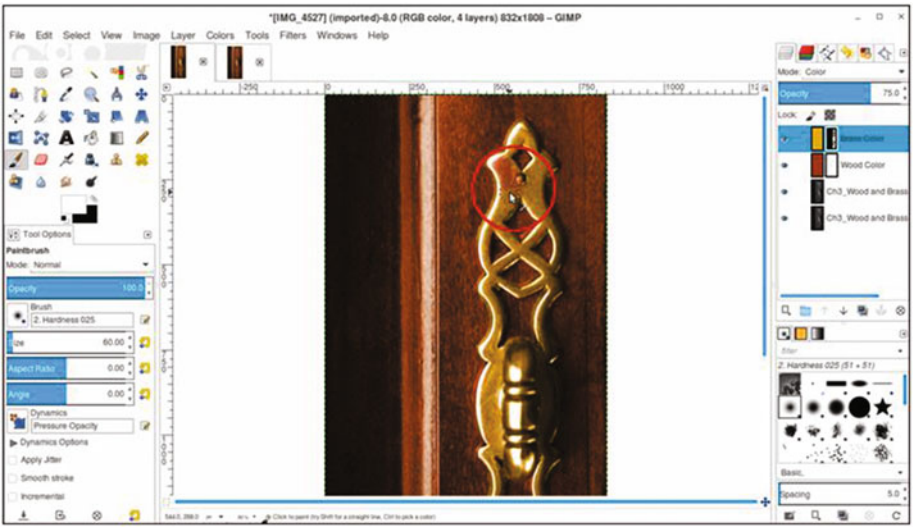

Figure 3-14. *Revealing the brass color in the cabinet pull*

When you've finished, you'll have a reasonably realistic-looking colorization of the cabinet pull and surrounding wood (Figure 3-15). If desired, save the layered file for future reference.

Figure 3-15. *Before and after comparison*

Tutorial 5: Colorizing Candy

In this tutorial, you'll colorize a ceramic tray and an assortment of lollipops of various colors. This tutorial will definitely be more involved than the previous ones.

To do Tutorial 5, follow these steps:

1. Open the file `Ch3_Lollipops.jpg` located in the Chapter 3 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename it *Background Copy*, or leave it as is.
3. Create a new layer (Layer ➤ New Layer) and name it *Tray Color*. Change the blending mode from Normal to Overlay.
4. Click on the foreground color to open the Change Foreground Color dialog. To duplicate the blue color used in this tutorial, input the numeric values as follows: R-0, G-216, B-255. Click OK.
5. Select the Bucket Fill tool and click within the image (making sure the layer named *Tray Color* is active). The entire image will now be colorized blue. Lower the layer's opacity to around 85%.

6. Create a layer mask (Layer ➤ Mask ➤ Add Layer Mask). To initialize the layer mask, choose the "White (full opacity)" option.

7. You'll notice that the lollipop stems have picked up a blue tint, which needs to be removed. Click the layer mask to activate it, and select the Paintbrush tool (P), with black set as the active color.

8. Paint in the stems and the cast shadows to remove the blue colorization. To speed the process up, use a brush sized at 52 (diameter in pixels) and the 2.Hardness 075 setting. Click on one end of a stem and hold the Shift key down while moving the cursor to the other end (Figure 3-16). Click to make the paint stroke. Reduce the brush size and clean up any stray blue that's left.

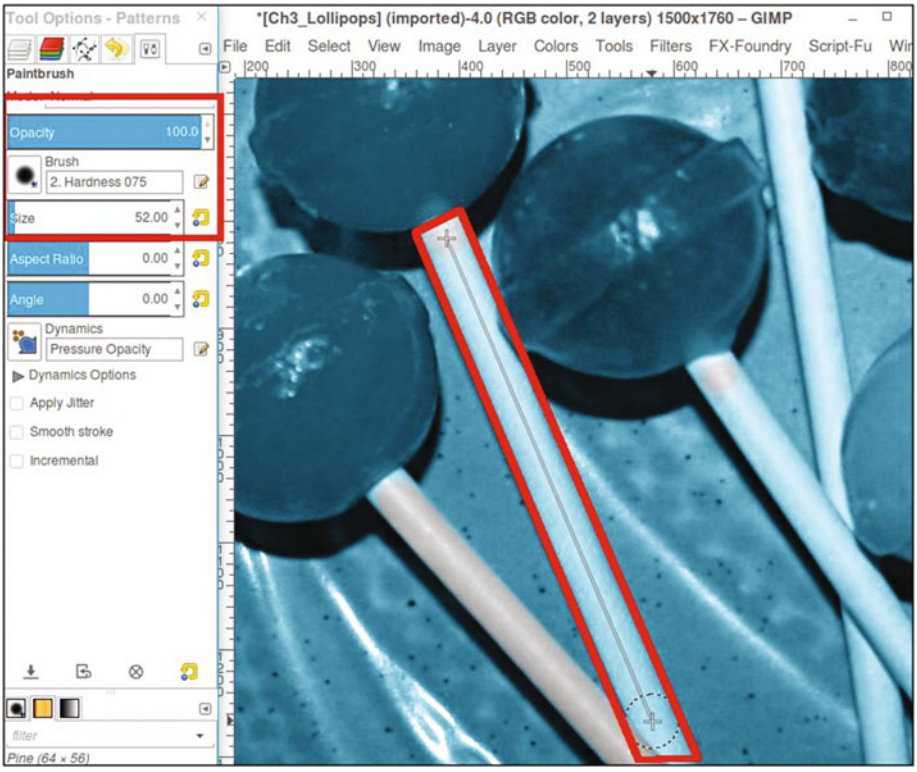

Figure 3-16. *Remove the blue colorization from the stems and shadows*

9. Open the `Ch3_Candy Color Guide.jpg` found in the Chapter 3 Practice Images folder for reference (or just refer to Figure 3-17) to colorize the rest of the tutorial. It provides the numeric input values for the red, green, and blue channels, the layer blending modes to use, and the layer opacities.

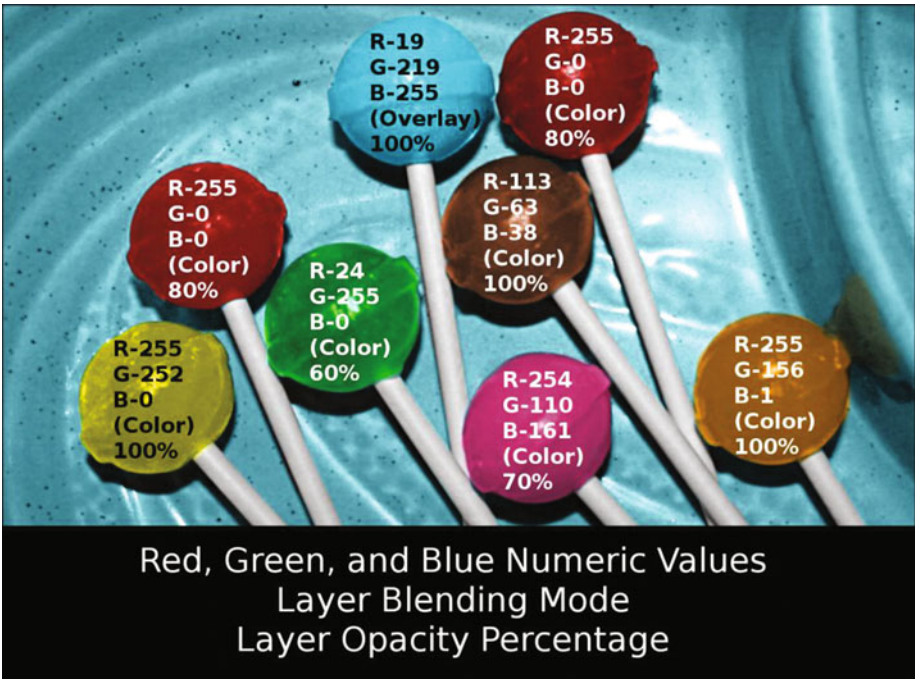

Figure 3-17. *To duplicate the colors I used, refer to this color guide*

■ **Note** This tutorial requires the addition of a layer mask (activated to "Black") to each layer for the candy color. You have some experience creating layers and layer masks from previous lessons, but I've provided a layered file in the native GIMP XCF file format in the Chapter 3 Practice Images folder. If needed, you can open it with GIMP to actually see the layers for reference.

---

10. After you've applied color to the candy, one area to pay attention to is the addition of the color reflection for the right-most lollipop on the tray. Just paint in the layer mask with a light gray (about 20–30%) to add a subtle color splash (Figure 3-18).

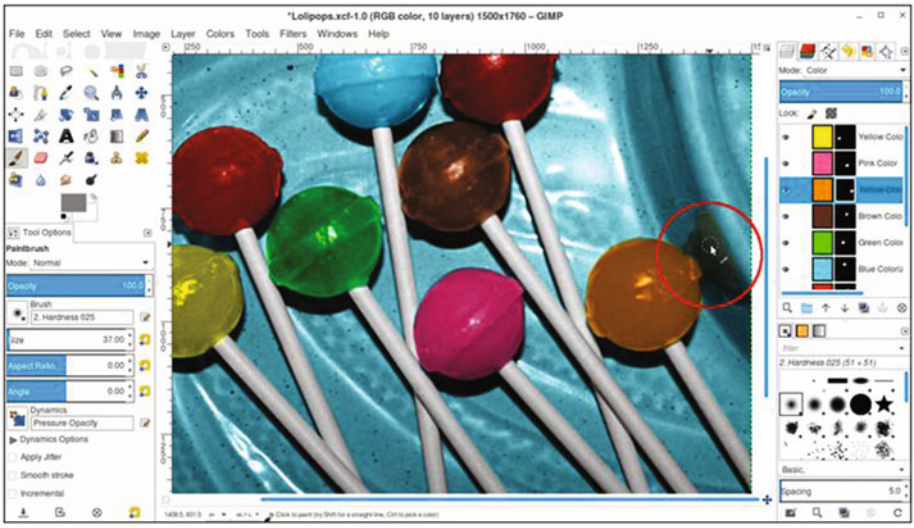

Figure 3-18. *Paint in the layer mask with a light gray to reveal a subtle reflection of color*

After you've finished, you should end up with a realistic-looking tray of candy (Figure 3-19).

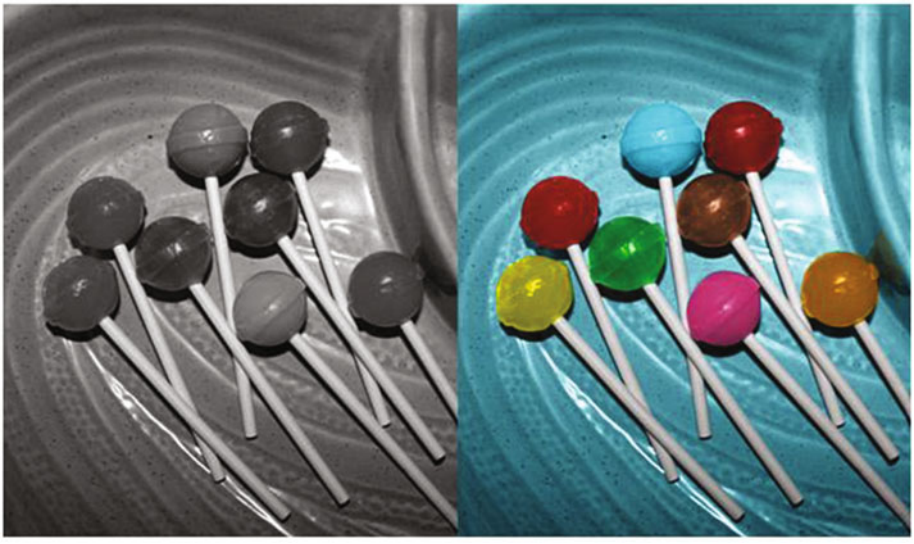

Figure 3-19. *Before and after comparison*

Summary

If you've successfully completed the tutorials in this chapter, then congratulations! You're well on your way to becoming an expert colorization artist. As you undoubtedly noticed, each lesson was just a little harder than the one before.

The usefulness of the layer mask should now be readily apparent–it offers a great deal of precision when colorizing images.

Now, proceed to Chapter 4 to learn how to colorize objects that are a bit more complex.

PART 2

Intermediate and Advanced Color

CHAPTER 4

Colorizing with Greater Complexity

In this chapter, we'll cover the following:

- Colorizing a section of a brick wall
- Colorizing a section of marble
- Colorizing a piece of wall art
- Colorizing foliage
- Colorizing a folded quilt

Drawing from my own experience, most of the colorization projects I receive are old snapshots of people, but there are various objects and scenes in the background that must be colorized as well.

In this chapter, we'll be tackling several colorization projects involving more complex color schemes. While it's impossible to provide every conceivable object that may be in the background of an image, this chapter will provide (at least some) practice for colorizing assorted elements.

Some of the objects in this chapter do commonly appear in outdoor photos–those being brick walls and foliage.

Tutorial 6: Colorizing a Brick Wall

In this lesson, we'll look at applying color to a small section of a brick wall. This one in particular has a slightly distressed, aged look.

To do this tutorial, follow these steps:

1. Open the `Ch_4 Brick Wall.jpg` file found in the Chapter 4 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Duplicate*, or leave it as is.
3. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency.

P. Whitt, *Pro Photo Colorizing with GIMP*, DOI 10.1007/978-1-4842-1949-2_4

4. Rename the new layer *Brick Color 1*. Change the blend mode from Normal to Color, and lower the opacity to about 60%.

5. Add a layer mask (Layer ➤ Mask ➤ Add Layer Mask) initialized to white.

6. Click on the foreground color swatch (located in the toolbox) to open the Change Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows: R-130, G-46, B-20. Click OK.

7. Making sure the layer is active, select the Bucket Fill tool and fill the layer with the foreground color (Figure 4-1).

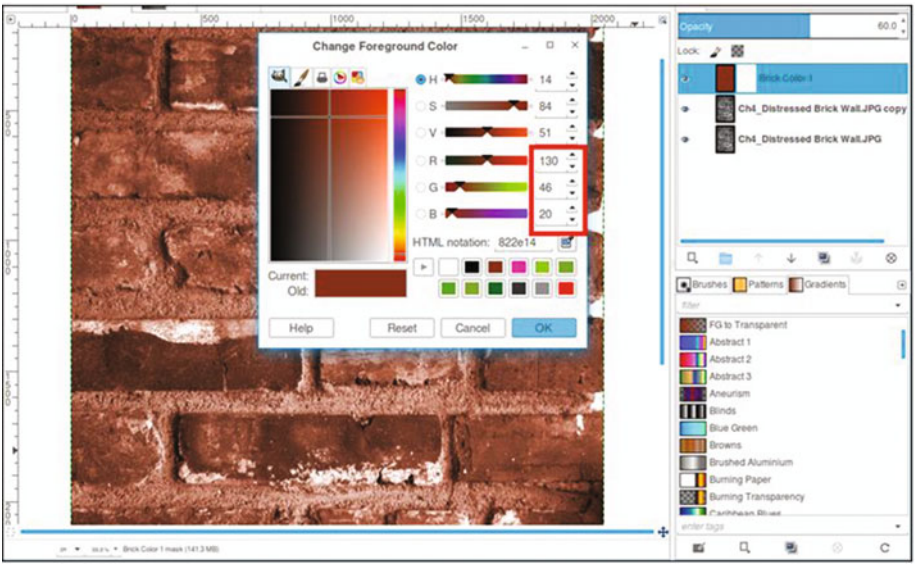

Figure 4-1. *Fill the layer with the foreground color to create the brick colorization*

8. Click the layer mask to make it active. Using a brush with the 2.Hardness 050 setting and black as the active color, paint between the bricks to reveal the gray of the mortar (Figure 4-2). Zoom in and adjust the brush size as needed.

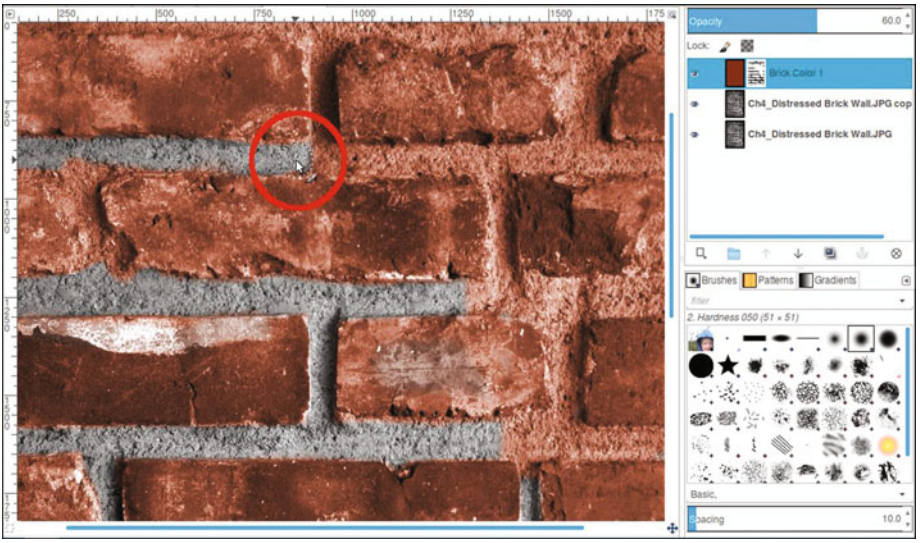

Figure 4-2. *Reveal the gray mortar between the bricks*

9. We'll now add a slightly different hue to some of the bricks. Create another new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Rename the layer *Brick Color 2*.

10. Change the blending mode from Normal to Color and lower the opacity to about 30%.

11. Click on the foreground color swatch (located in the toolbox) to open the Change Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows: R-104, G-23, B-13. Click OK.

12. Using a brush with the 2.Hardness 050 setting, paint in some of the bricks to apply the second brick color (Figure 4-3). This creates a subtle variation in the brick colorization.

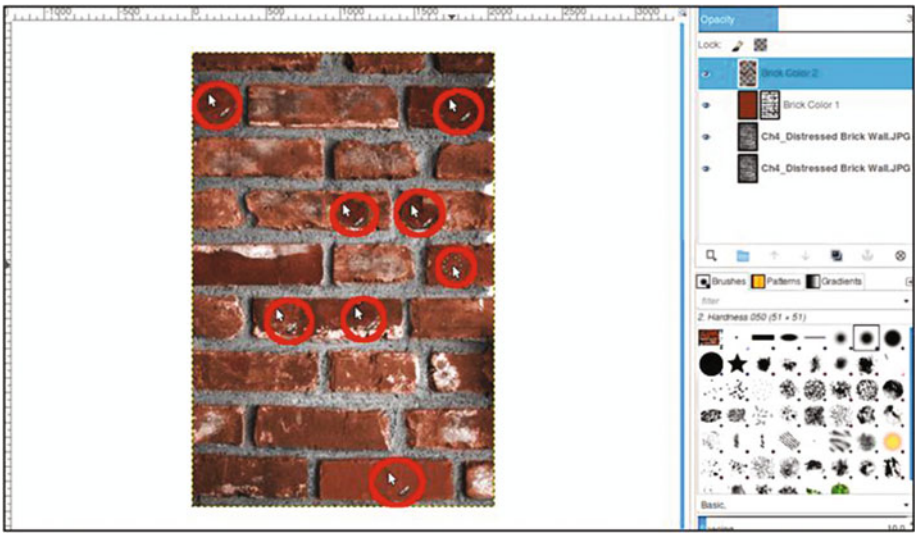

Figure 4-3. *Add a slightly different hue to some of the other bricks*

13. To add a third hue, create yet another layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Rename the layer *Brick Color 3*.

14. Change the blending mode from Normal to Color and lower the opacity to about 50%.

15. Click on the foreground color swatch (located in the toolbox) to open the Change Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows: R-90, G-51, B-51. Click OK.

16. Paint a few random bricks (the hue will result in a subtle variation in color).

Your version should be similar to the one shown in Figure 4-4. It probably won't be an exact reproduction. For example, the second and third brick colors probably won't be in the exact areas shown here. The goal is a realistic look, not a verbatim copy. If desired, save the image as an XCF file for future reference.

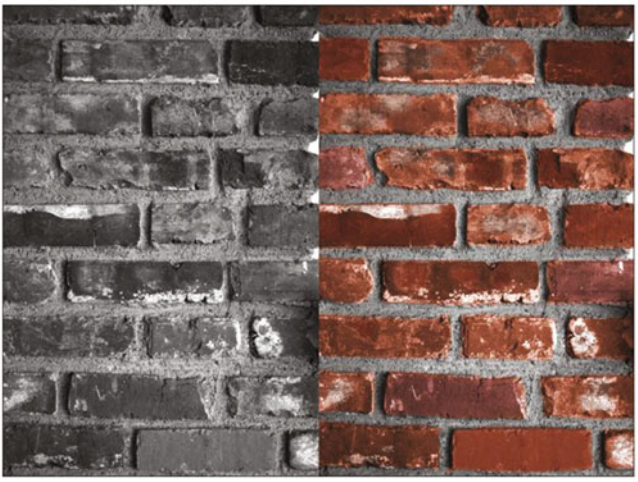

Figure 4-4. *Before and after comparison*

Tutorial 7: Colorizing Marble

I have on occasion colorized old black and white photos of executives (usually from the 1950s) standing in front of marble walls. In this lesson, we'll give a pink colorization to an image of some marble. We'll add a couple of highlight colors to enhance it and make it a little more realistic.

To do this tutorial:

1. Open the `Ch_4 Pink Marble.jpg` file found in the Chapter 4 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Base Color*.
3. We'll need to give the duplicate layer an overall pink color. Open the Colorize dialog (Colors ➤ Colorize). Set the Hue slider to 15 and the Saturation slider to 40 (Figure 4-5), then click OK.

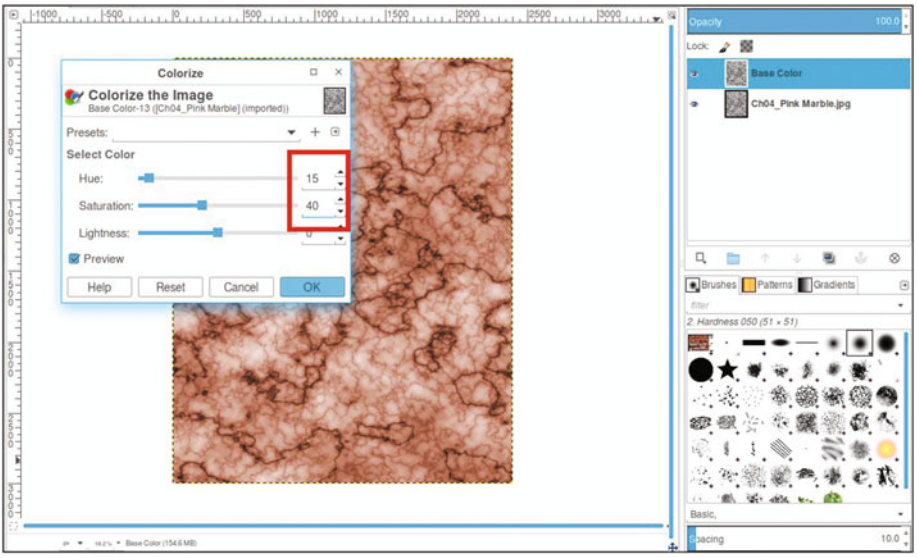

Figure 4-5. *Apply a pink base color using the Colorize dialog*

4. Next, we'll apply some coral highlights. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Rename the new layer *Highlight 1*.

5. Change the layer's blending mode from Normal to Color and lower the layer's opacity to 20%.

6. Click on the foreground color swatch (located in the toolbox) to open the Change Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows: R-255, G-133, B-107. Click OK.

7. Using a large brush (with a diameter of 100 pixels or so) and with the 2.Hardness 075 setting, dab some of the coral highlight color in several random areas using short strokes (Figure 4-6).

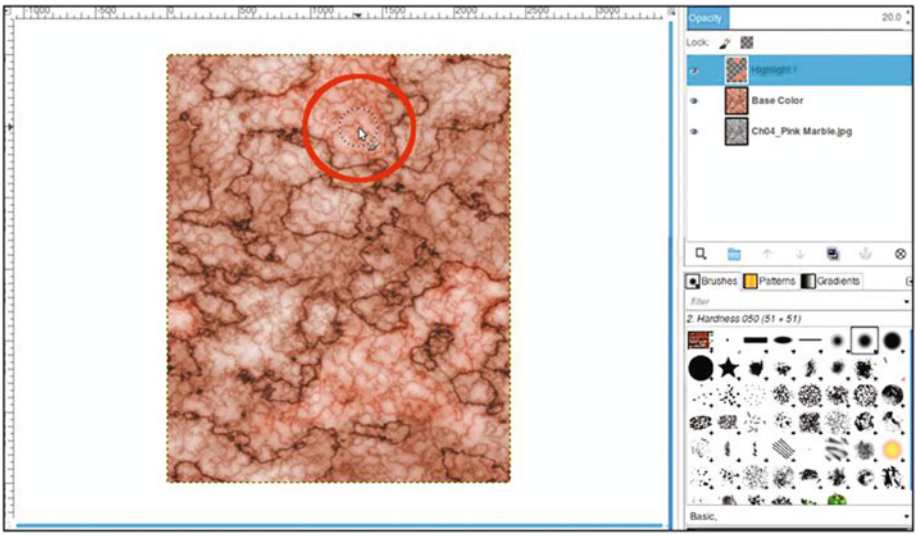

Figure 4-6. *Apply subtle coral highlights*

8. Now, we'll apply some subtle yellowish highlights. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Rename the new layer *Off White*.

9. Change the layer's blending mode from Normal to Color and lower the layer's opacity to 25%.

10. Click on the foreground color swatch (located in the toolbox) to open the Change Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows: R-237, G-222, B-183. Click OK.

11. Using a large brush (with a diameter of 100 pixels or so) and the 2.Hardness 075 setting, dab some of the second highlight color in a few other random areas (Figure 4-7).

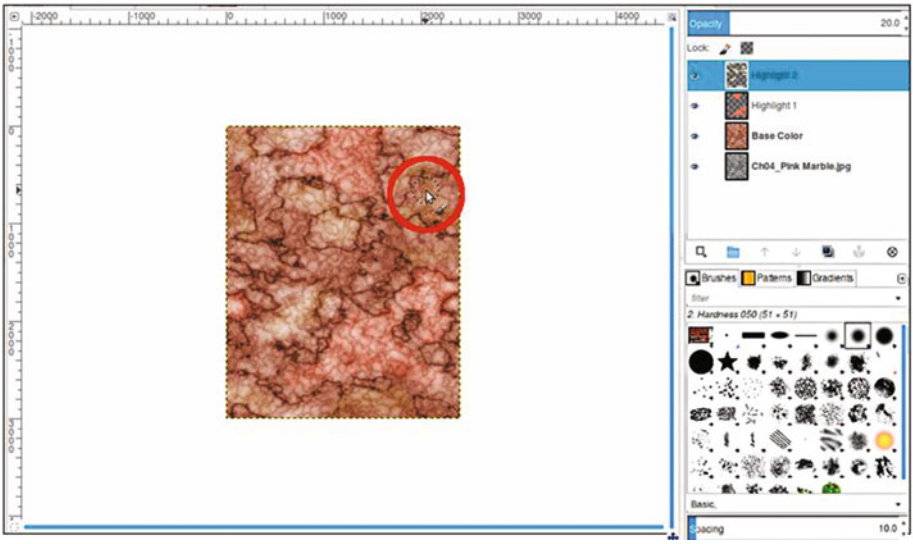

Figure 4-7. *Apply subtle yellow highlights*

The end result should look similar to that shown in Figure 4-8. If desired, save the image as an XCF file for future reference.

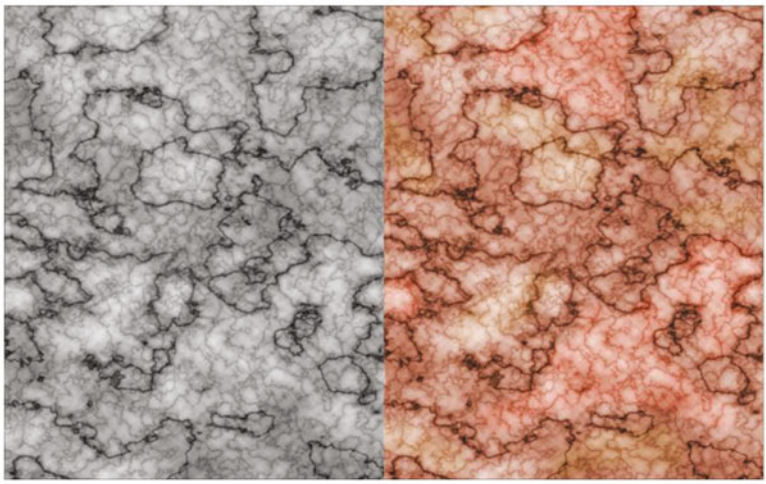

Figure 4-8. *Before and after comparison*

Tutorial 8: Colorizing a Piece of Wall Art

In this lesson, we'll look at applying color to a piece of wall art with a nautical theme.

To do this tutorial, follow these steps:

1. Open the `Ch_4 Wall Art.jpg` file found in the Chapter 4 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Base Color* (or leave as is).
3. We'll need to give it a base color resembling that of burlap, the material the objects are adhered to. Open the Colorize dialog (Colors ➤ Colorize). Adjust the Hue slider to a numeric value of 40 and the Saturation slider to 20, then click OK (Figure 4-9).

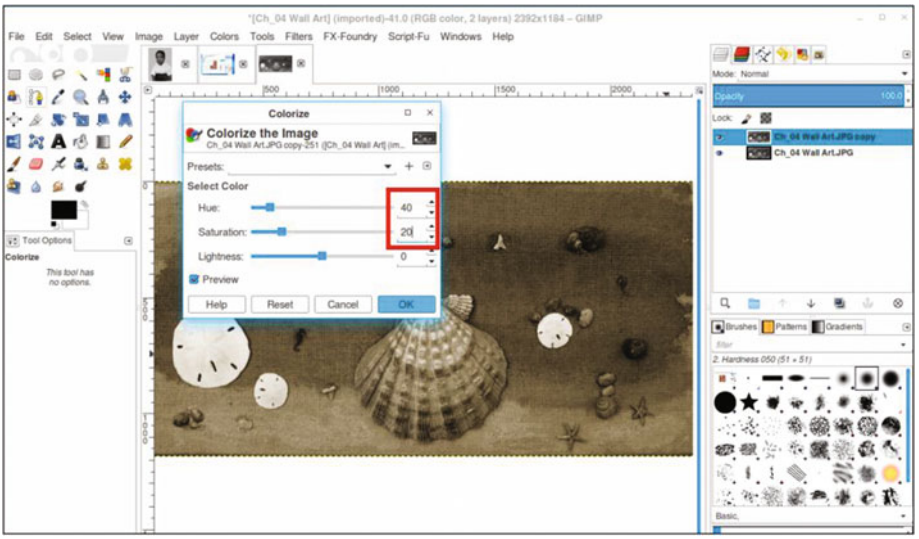

Figure 4-9. *Apply a base color to the duplicate layer*

4. Create a new layer (Layer ➤ New Layer). Rename the new layer *Sea Green Color*, making sure Layer Fill Type is set to Transparency.
5. Change the blend mode from Normal to Color and lower the opacity to 50%
6. Click on the foreground color swatch (located in the toolbox) to open the Change Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows: R-31, G-157, B-99. Click OK (Figure 4-10).

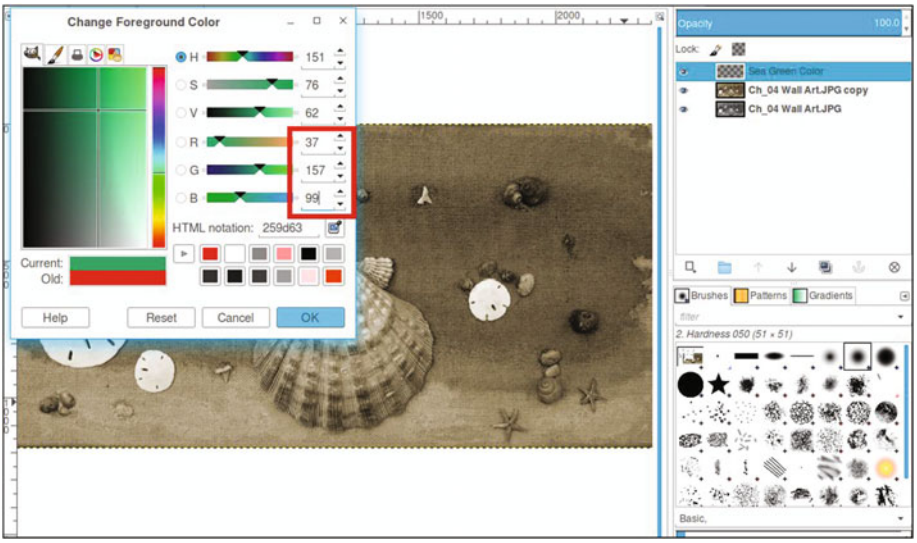

Figure 4-10. *Use the Change Foreground Color dialog to create a sea green color*

7. Using the Bucket Fill tool, fill the layer with the foreground color.

8. Add a layer mask to the new layer named *Sea Green* (Layer ➤ Mask ➤ Add Layer Mask). This time, it will be initialized to black. Click on the layer mask to activate it. If you recall, the black and white aspects of the layer mask are covered in greater detail in Chapter 1. The sea green color will disappear until it's "painted" back in, as you'll see shortly.

■ **Note** It would be a good idea to refer to Figure 4-13 before proceeding to get a good sense of where to place the colors. Refer to it as needed while you're working.

---

9. Use a small brush with the 2.Hardness 050 setting and black as the active color to reveal the sea green color around the various objects mounted on the wall art. Zoom in and resize the brush as needed.

10. Using a brush with the 2.Hardness 075 setting and white as the active color, paint the dark, splotchy areas to reveal the sea green. This is a soft brush setting that is useful for the soft edges of the sea green color.

11. Use 50% gray as the active color and paint in the layer mask to reveal the lighter areas of the sea green color for a paler appearance (Figure 4-11). Use a large brush for large areas, and a small brush for the edges and working around the small objects.

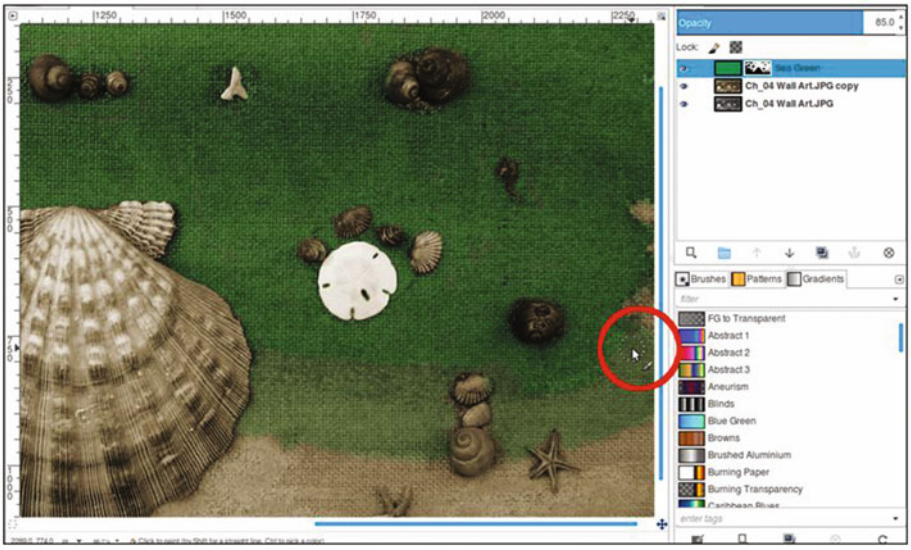

Figure 4-11. *Use gray to reveal a paler sea green color in lighter areas*

12. Next, we'll add a little brownish color to the shells. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Rename the new layer *Brown Color*.

13. Change the blending mode from Normal to Overlay and lower the opacity to 50%.

14. Click on the foreground color swatch (located in the toolbox) to open the Change Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows: R-135, G-65, B-19. Click OK.

15. Use a brush with the 2.Hardness 050 setting to apply some brown coloring to the bands on the large shell, as shown in Figure 4-12.

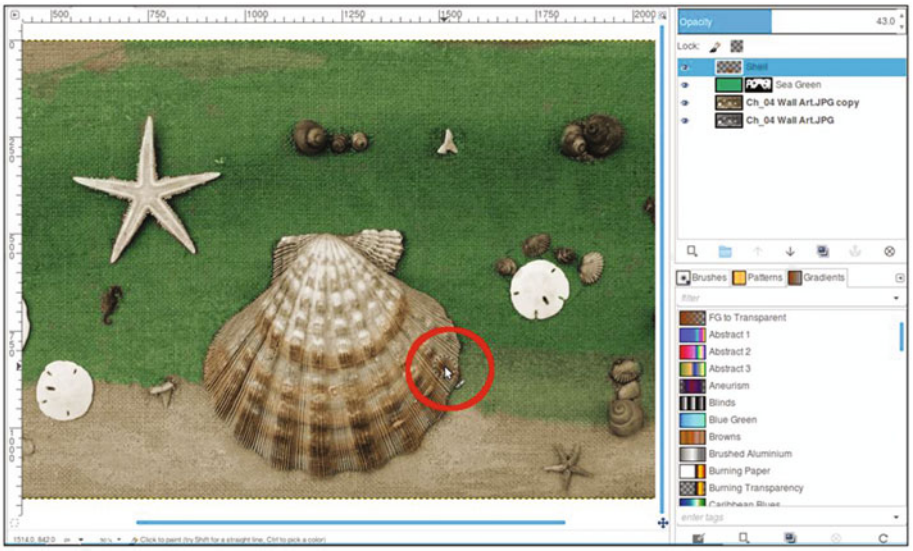

Figure 4-12. *Apply some brown to the bands on the large shell*

16. Paint the other shells and the two small seahorses to apply the brown coloring. The sand dollars can be left as is.

17. The last thing we'll do is to add color to the starfish–the larger on the left and two small ones in the lower right. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Rename the layer *Starfish Color*. Change the layer blend mode to Color, and lower the opacity to 60%.

18. Click on the foreground color swatch (located in the toolbox) to open the Change Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows: R-220, G-178, B-63. Click OK.

19. Use a brush with the 2.Hardness 050 setting to apply some yellow coloring to the starfish.

The end result should look similar to the one shown in Figure 4-13. If desired, save the image as an XCF file for future reference.

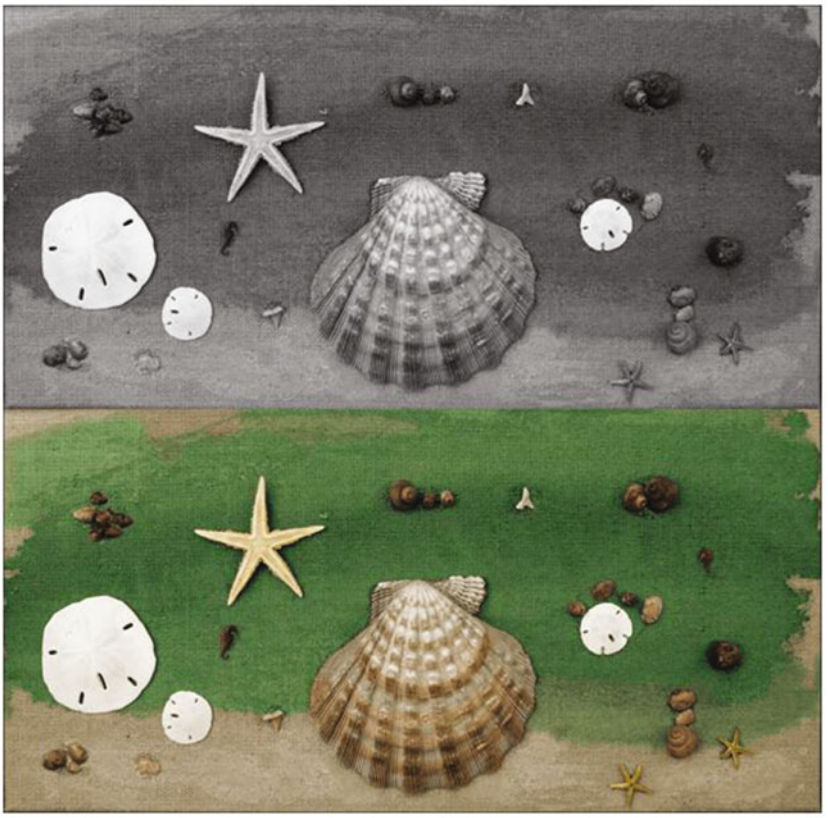

Figure 4-13. *Before and after comparison*

Tutorial 9: Colorizing Foliage

Over the years, I've colorized a fair number of old snapshot photos of people that were taken outdoors with a variety of plant life in the background. While the foliage in such pictures isn't the focal point, it does help to make it look as natural as possible.

■ **Note** If you've ever seen the old colorized black and white episodes of *Gilligan's Island* (not the later episodes that were filmed in color), you'll probably notice that all the jungle plant life is the same shade of green, and looks a bit unnatural. To be fair, these episodes were colorized at a time when the technology was still new.

In this lesson, we'll colorize the foliage to make it look as natural as possible. To do this tutorial, follow these steps:

1. Open the `Ch_4 Foliage.jpg` file found in the Chapter 4 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Base Color*.
3. We'll need to give the duplicate layer an overall green color. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Rename the new layer *Green Base Color*.
4. Change the layer's blending mode from normal to Color and leave the opacity at 100%.
5. Click on the foreground color swatch (located in the toolbox) to open the Change Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows: R-48, G-74, B-36. Click OK.
6. Using the Bucket Fill tool, fill the layer with the green foreground color (Figure 4-14).

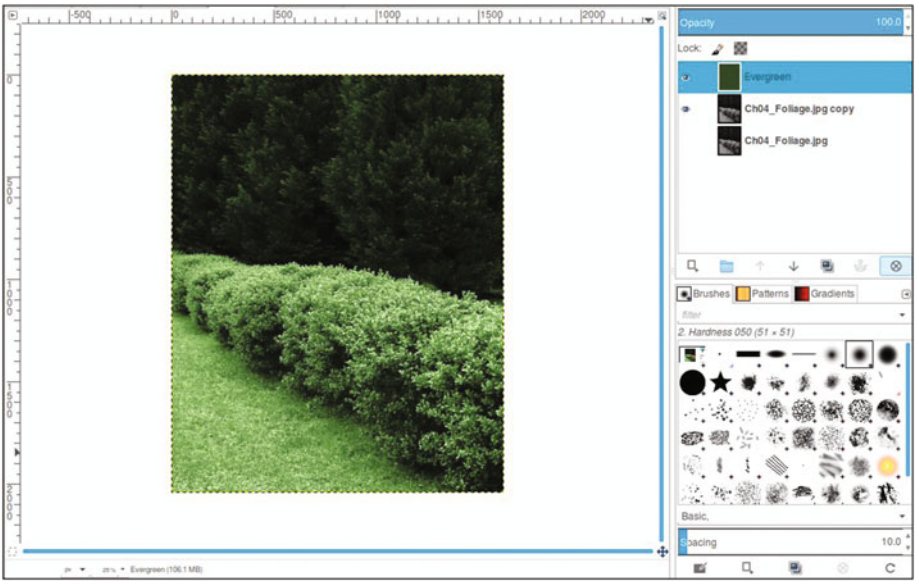

Figure 4-14. *Apply a green base color using the Colorize dialog*

7. The next step is to add a green hue with a bit more yellow to the hedges. Click on the foreground color swatch (located in the toolbox) to open the Change Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows: R-120, G-167, B-20. Click OK.

8. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Rename the new layer *Hedges*.

9. Change the layer's blending mode from Normal to Color and lower the layer's opacity to 50%.

10. Using the Bucket Fill tool, fill the layer with the foreground color.

11. Add a layer mask to the new layer (Layer ➤ Mask ➤ Add Layer Mask). This time, it will be initialized to black. Click on the layer mask to activate it. The green-yellow color disappears until it is painted back in the next step.

12. Using a large brush with the 2.Hardness 075 setting and white as the active color, paint some random bright areas along the hedges (Figure 4-15). Don't give complete coverage; the purpose here is to give the hedges highlights of the green-yellow color.

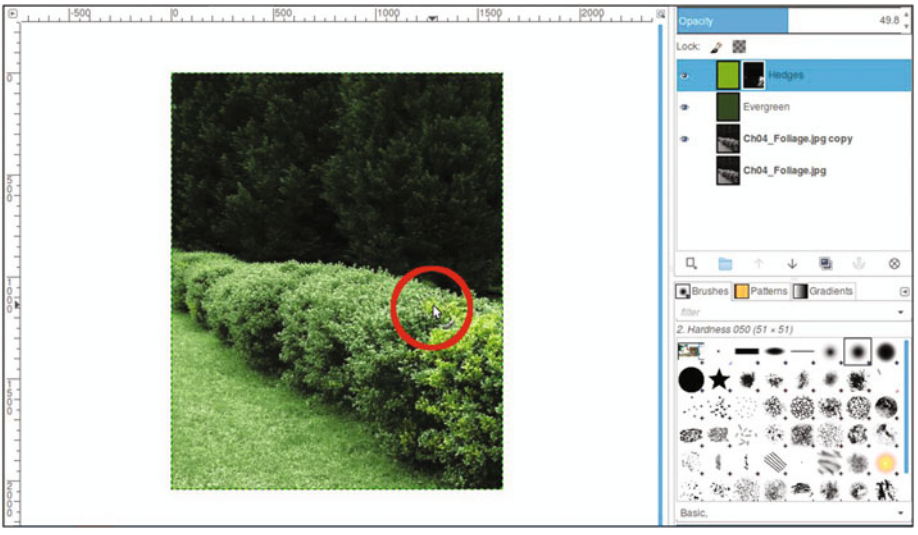

Figure 4-15. *Paint a highlight color in the hedges*

13. Grass usually isn't a consistent green throughout except in lawns receiving the best professional care. To create a bit more realism, we'll add some patches of slight discoloration in various areas. Click on the foreground color swatch (located in the toolbox) to open the Change Foreground Color dialog. To duplicate the exact color used in this tutorial, just enter the numeric values as follows: R-58, G-46, B-38. Click OK.

14. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Rename the new layer *Patchy Spots*.

15. Change the layer's blending mode from Normal to Color and lower the layer's opacity to 35%.

16. Using the Bucket Fill tool, fill the layer with the foreground color.

17. Add a layer mask to the new layer (Layer ➤ Mask ➤ Add Layer Mask). It should be initialized to black. Click on the layer mask to activate it.

18. Using a brush with the 2.Hardness 075 setting and white as the active color, paint several random areas around the grass to give it a few subtle patchy areas.

The end result should bear some resemblance to the example in Figure 4-16. If desired, save the image as an XCF file for future reference.

Figure 4-16. *Before and after comparison*

Tutorial 10: Colorizing a Folded Quilt

This project will be a bit more involved than the previous tutorials in this chapter. The quilt we'll be colorizing has a number of patches in various colors. Steps 1-5 will get you started, and then you'll use the quilt color guide to finish the lesson.

To do this tutorial, follow these steps:

1. Open the `Ch_4 Folded Quilt.jpg` file found in the Chapter 4 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Base Color* (or leave as is).
3. Because this quilt is old, we'll need to give the duplicate layer an aged, off-white look. Open the Colorize Dialog (Colors ➤ Colorize).
4. Adjust the Hue slider to 40 and the Saturation slider to 20 (Figure 4-17), then click OK.

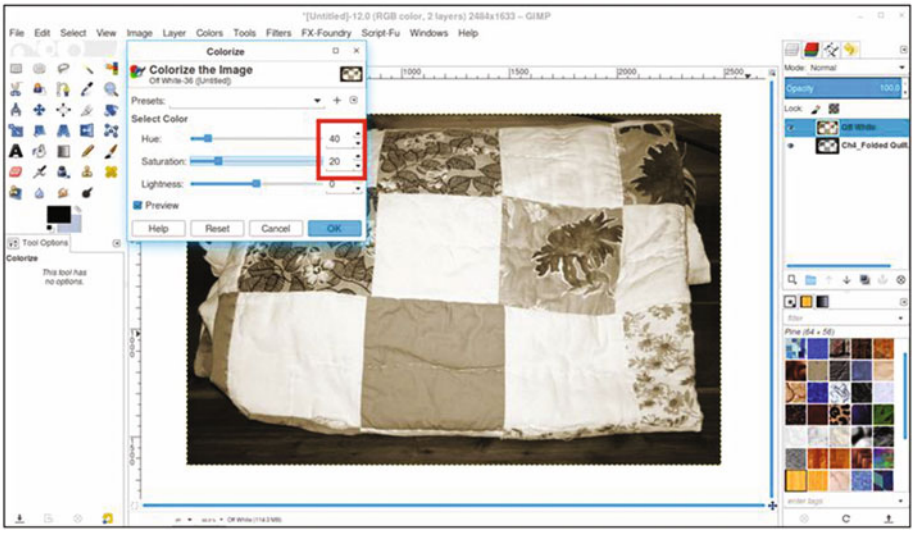

Figure 4-17. *Use the Colorize dialog to give the quilt an off-white, aged look*

5. As was done in Tutorial 5 in the previous chapter (colorizing the candy and dish), refer to the `Quilt Colorizing Guide` found in the Chapter 4 Practice Images folder, or refer to the one in Figure 4-18 for the color numeric inputs, layer blending modes, and layer opacities. A layered XCF version of this colorized project is also available in the Chapter 4 Practice Images folder.

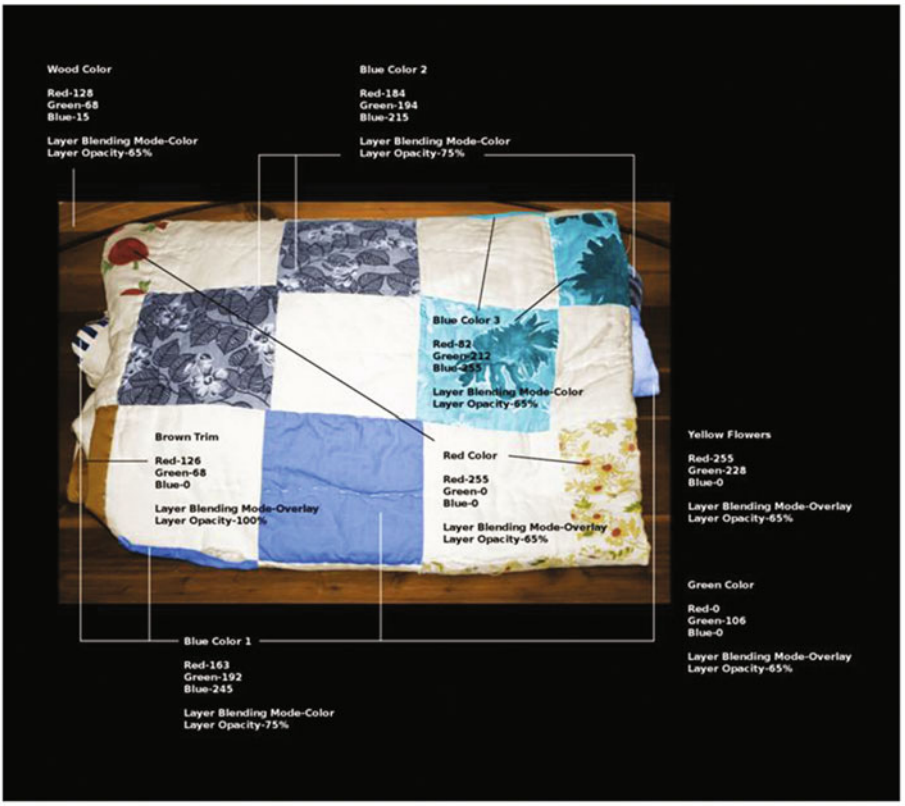

Figure 4-18. *The quilt color guide*

■ **Note** In this tutorial, you'll be creating layers and layer masks, as well as using the Paint Brush tool to paint the colors in various areas. Hopefully, you've had enough practice by now to do this successfully without complete step-by-step instructions. However, it would be a good idea to open the layered XCF file to "reverse engineer" it to duplicate the results.

Summary

If you've successfully completed the tutorials in this chapter, then congratulations again! These tutorials took things up a notch. First, we looked at colorizing a section of a brick wall and marble tile.

Next, we colorized a piece of wall art–a big job, but good practice. Then, we colorized some foliage (which is common in old black and white snapshots).

Finally, we tackled another big job by colorizing a quilt. Because there were quite a few colors involved in this lesson, a color reference guide is supplied in the Chapter 4 Practice Images folder.

In the next chapter, we'll look at colorizing skin, hair, eyes, and teeth–useful information for colorizing portraits.

CHAPTER 5

Colorizing Skin, Hair, and Eyes

In this chapter, we'll cover the following:

- Colorizing various skin tones
- Colorizing hair
- Colorizing eyes

I must admit that in the early days of my career as a digital retoucher, I often found it difficult to achieve natural-looking results when colorizing people in black and white photos. It took a little time to develop an eye for what looked right after numerous trial and error attempts. The goal of this chapter is to help you achieve good results while minimizing trial and error.

There are many variations of skin, hair, and eye color. Without some guidance (or knowing the people in the photo), much of it is guesswork–particularly when no color reference photo exists. I usually rely on the customer to provide the specific color details of the skin complexion and hair and eye color of the subject(s).

I've provided a rudimentary color reference chart (found in the Chapter 5 Practice Images folder) for skin, hair, and eyes that will provide you with basic tones or colors to start with (Figure 5-1). In most cases they'll work as they are, but the results can be fine-tuned if needed by using the Hue-Saturation dialog or adjusting the layer opacity, as we'll see shortly.

P. Whitt, *Pro Photo Colorizing with GIMP*, DOI 10.1007/978-1-4842-1949-2_5

Figure 5-1. *Basic color chart for skin, hair, and eyes found in the Chapter 5 Practice Images folder*

The numeric inputs for each are provided, or the Eyedropper tool can be used to quickly sample the color. There are also charts available with a wider variety skin and hair colors. Just download Bruce Beard's Skintones Color Chart and Hair Color Chart from RetouchPro: `http://www.retouchpro.com/forums/html.php?file=bbcolorcharts.html`.

Tutorial 11: Colorizing Different Skin Tones

In the upcoming tutorial, we'll practice colorizing the faces of three people from different ethnic and racial backgrounds. The colors provided will work for colorizing people in a wide array of black and white photos.

To do this tutorial, follow these steps:

1. Open the `Ch_5 Face Colorizations.jpg` file found in the Chapter 5 Practice Images folder.

2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Copy*, or leave it as is.

3. Use the Eyedropper tool (making sure the "Sample Merged" option is checked) to sample the color directly above the man on the left-hand side of the image to change the foreground color (Figure 5-2).

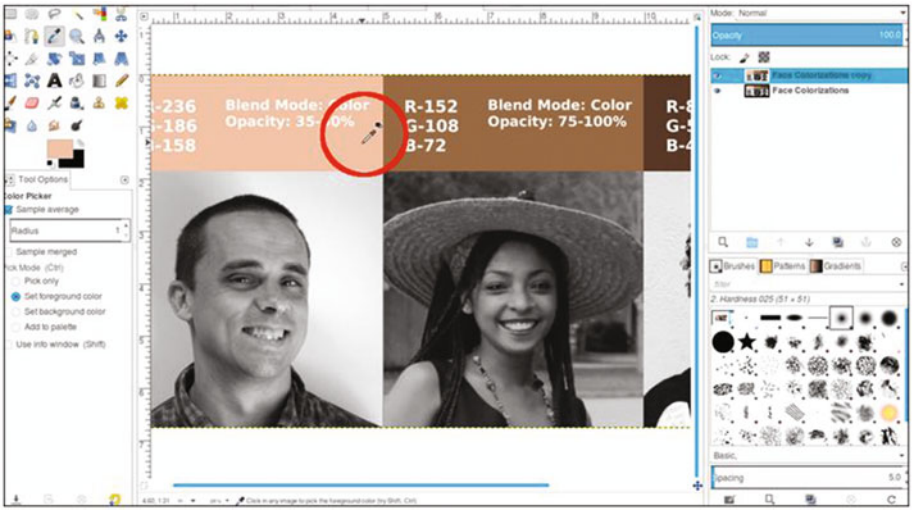

Figure 5-2. *Use the Eyedropper tool to sample the color*

4. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color and lower the opacity to 40%. Rename the new layer *Light/Caucasian Skin Color*.

5. Using the Bucket Fill tool, fill the layer with the foreground color.

6. Add a layer mask (Layer ➤ Mask ➤ Add Layer Mask) initialized to black (the fill color will disappear until it's revealed by painting in the layer mask). Click the layer mask to make it active.

7. Using a brush with the 2.Hardness 025 setting and white as the active color, paint in the layer mask to reveal the skin color. Use a small brush around the eyes, eyebrows, and hairline (Figure 5-3). It's okay to reveal the flesh color in the lips, as a layer of red will be applied later.

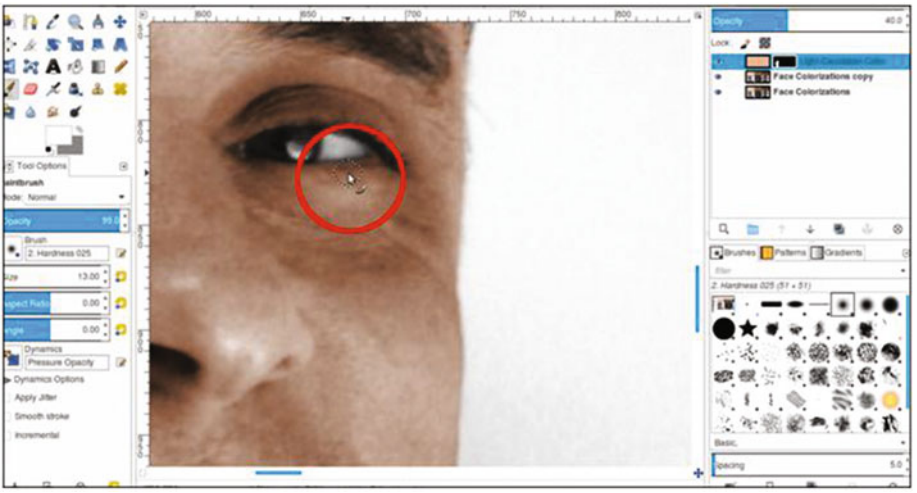

Figure 5-3. *Reveal the flesh color by painting in the layer mask*

■ **Note** Sometimes it can be difficult to distinguish where the flesh ends and the hairline begins (this is also the case with flesh and lips, and eyebrows). The next chapter will take a closer look at those issues and how to deal with them.

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8. We'll now apply some subtle enhancements so the skin tone won't look flat. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color and lower the opacity to 40%. Rename the new layer *Subtle Red*.
9. Change the foreground color to red (R-255, G-0, B-0). Click OK.
10. Using the Paintbrush tool with the 2.Hardness 025 setting, paint some red on the cheeks, forehead, nose, ears, and chin (don't worry about how bright the red is now–it's only temporary). In Caucasian people (as well as other races), there is often some degree of red in these facial areas (Figure 5-4).

Figure 5-4. *Apply red to enhance skin tone. The bright color is only temporary.*

11. Lower the layer's opacity to around 5%. Click the eyeball icon to toggle it off and on several times to see the difference (Figure 5-5).

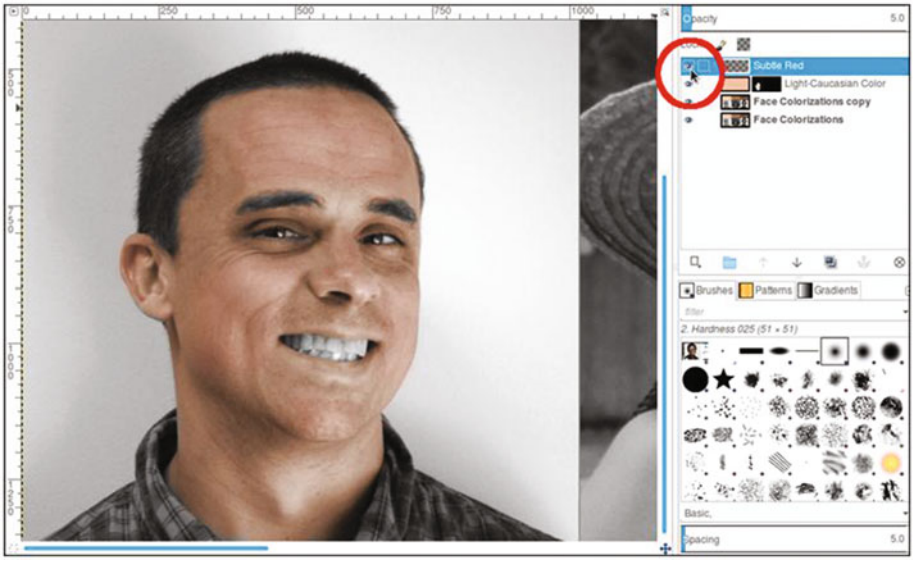

Figure 5-5. *Toggle the layer off and on to notice how the red enhances the skin tone and helps it look less flat.*

12. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color. Rename the new layer *Lips*.

13. Make sure that red is still the foreground color and paint the lips. Lower the layer opacity to 10%.

14. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color. Rename the new layer *Teeth*.

15. Change the foreground color to an ivory color (R-255, G-249, B-233). Apply the color to the teeth, then lower the layer opacity to 10% (Figure 5-6).

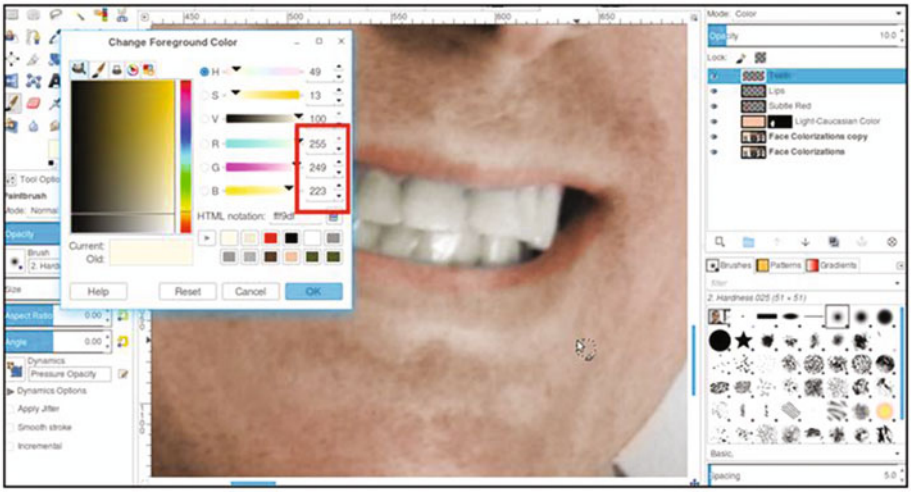

Figure 5-6. *Apply a slight bit of color to the teeth.*

Colorizing Skin (Center Image)

1. To colorize the face, neck and chest area, and arm of the young woman in the center, repeat the previous steps as you did before, with the following caveats:

    - After repeating step 4 from the previous tutorial, rename the fill layer *Middle eastern/Asian Skin Color* (this color formula also works well for light-skinned people of African lineage or people of Hispanic origin).
    - Reuse the *Lips* and *Teeth* layers for this subject.
    - Lower the fill layer's opacity to 75-85%.

2. Use a small brush to reveal the skin color around the nose ring and the beads (Figure 5-7).

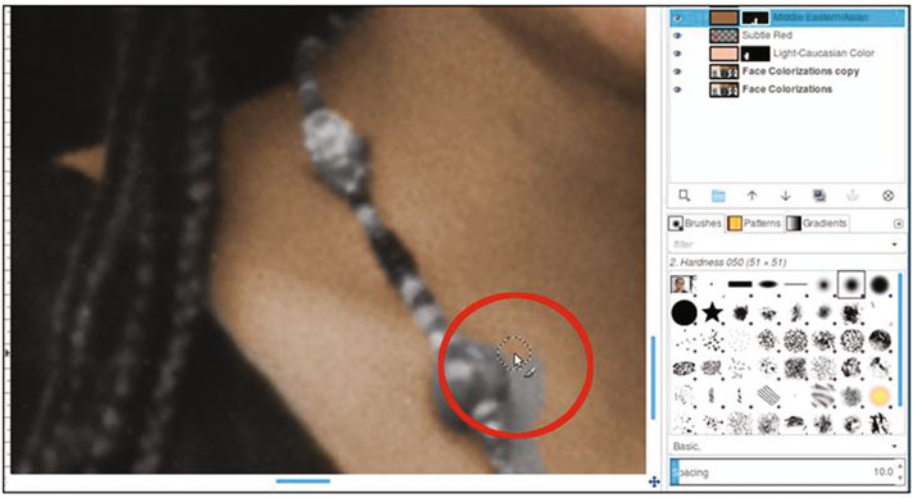

Figure 5-7. *Use a small brush to work around the beads*

3. Repeat applying red to the lips and ivory to the teeth on the respective layers, as was done previously.

   The result should look something like what is shown in Figure 5-8.

Figure 5-8. *Colorizing the center image of a young woman*

Colorizing Skin (Right-Hand Image)

1. To colorize the image of the young woman on the right, repeat steps 3 to 11, with the following caveats:

    - Change the foreground color by using the Eyedropper tool to sample the color above the young woman on the right.
    - Rename the fill layer *African American/Dark Skin Color.*
    - Lower the fill layer's opacity to 85%.
    - The hairs in her eyebrows are much finer than those in the previous two subjects, so instead of painting in the layer mask with black, use a light gray (R-176, G-176, B-176) for a partially transparent result (Figure 5-9).

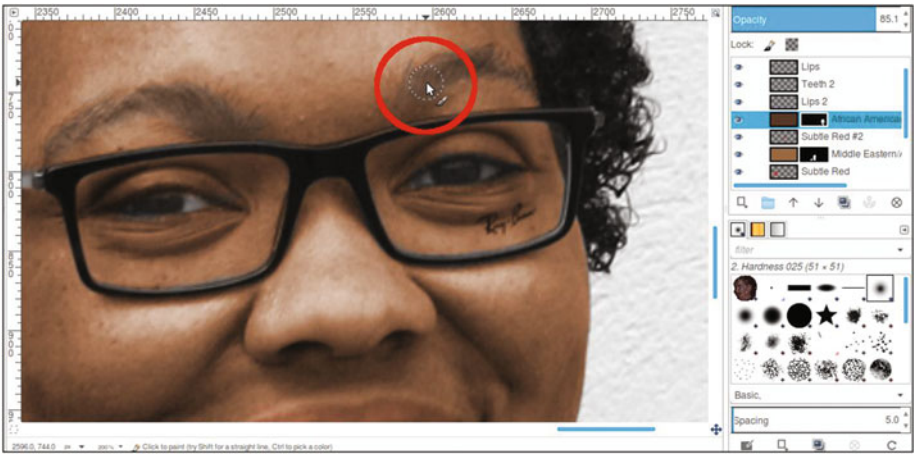

Figure 5-9. *Reveal partial color in fine eyebrow hairs*

    - We will be using new layers for the lips and teeth for this subject. Rename the layers to be used to apply the coloring for the lips and teeth accordingly (*Lips 2* and *Teeth 2*).

2. Change the foreground color to red and apply the red to the lips (on the *Lips 2* layer).

3. Lower the layer opacity to around 8%. We're going for just the slightest hint of red (Figure 5-10).

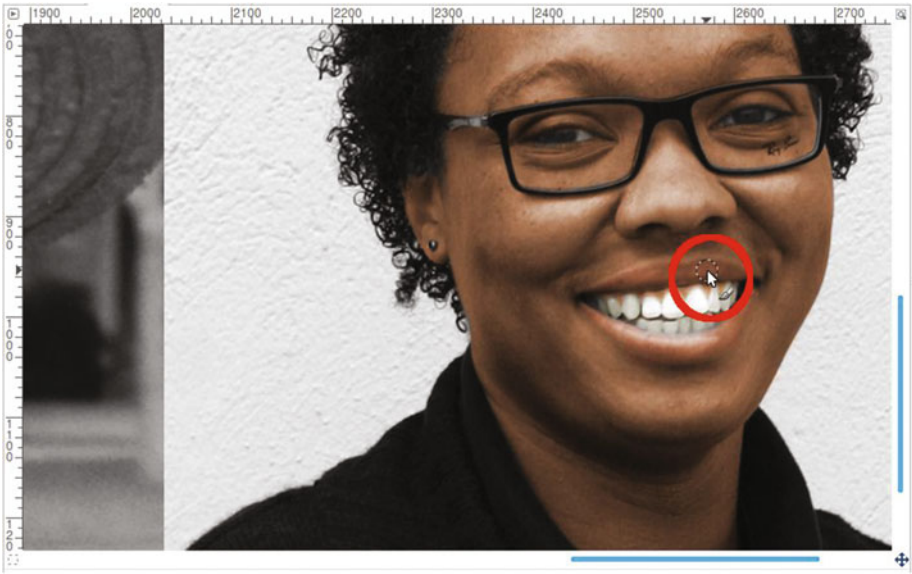

Figure 5-10. *Applying the slightest hint of red to the lips*

4. Apply ivory to the teeth (*Teeth 2* layer). The layer opacity should be around 10%.

Tutorial 12: Colorizing Hair

In the upcoming tutorial, we'll practice colorizing hair. While hair color can vary widely, we'll practice applying a few basic colors.

To do this tutorial, follow these steps:

1. Open the `Ch_5 Hair Colorization.jpg` file found in the Chapter 5 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Copy*, or leave it as is.
3. Use the Eyedropper tool (making sure the "Sample Merged" option is checked) to sample the color from the square on the far left (the pale yellow square in the Blonde category).
4. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color and lower the opacity to 35%. Rename the new layer *Blonde*.
5. Using a brush with the 2.Hardness 025 setting and a large diameter (100–150 pixels), apply the color to the hair (Figure 5-11).

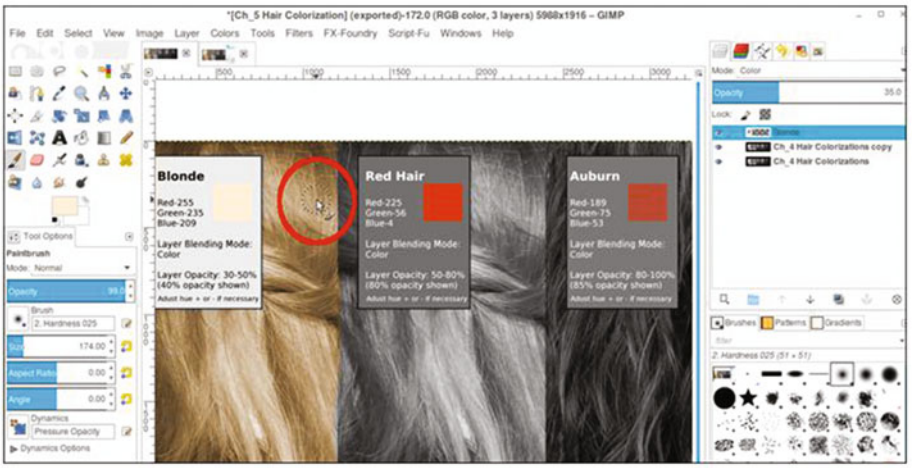

Figure 5-11. *Apply the blonde color*

6. Repeat steps 3 to 5 for each hair color that follows. Rename each new layer accordingly (*Red hair*, *Auburn*, etc.). Use the layer blending mode and opacity range indicated for each hair color (Figure 5-12). Don't be overly concerned with painting accurately within the lines; the purpose is to see the resulting hair color.

Figure 5-12. *Remaining hair colors applied*

It would be a good idea to see what range of shades is possible. Experiment with the Hue-Saturation dialog on each layer to make minute color adjustments, and adjust the layer opacity settings to observe how the color behaves. We'll see how to color hair in portraits (and handle strands of hair) in the next chapter.

Tutorial 13: Colorizing Eyes

In the upcoming tutorial, we'll practice colorizing eyes. Like skin and hair, eye color can also vary greatly. For this tutorial, we'll stay with the basics.

To do this tutorial, follow these steps:

1. Open the `Ch_5 Basic Eye Colors.jpg` file found in the Chapter 5 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Copy*, or leave it as is.
3. Use the Eyedropper tool (make sure the "Sample Merged" option is checked) to sample the color from the square in the area designated Green Eyes.
4. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color and lower the opacity to 75%. Rename the new layer *Green*.
5. Using a brush with the 2.Hardness 050 setting and a medium diameter (60–65 pixels), apply the green to the eye (Figure 5-13).

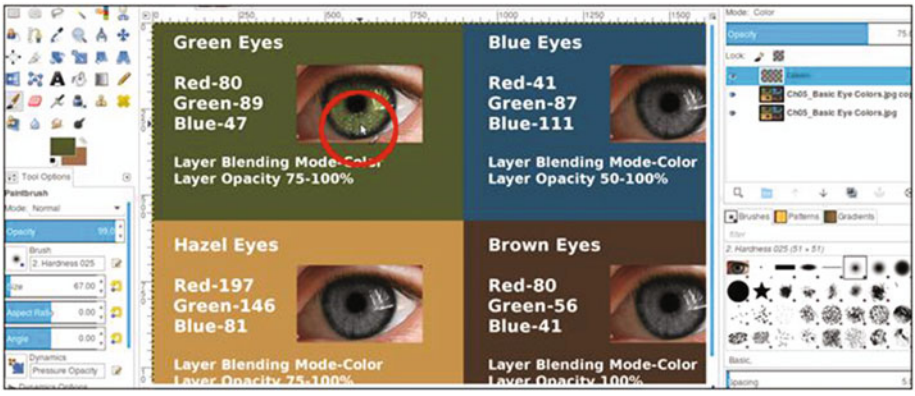

Figure 5-13. *Apply green eye color*

6. Repeat steps 3 to 5 for each eye color that follows. Rename each new layer accordingly (*Blue*, *Hazel*, and *Brown*). Use the layer blending mode and opacity range indicated for each eye color (Figure 5-14). To achieve darker brown eyes, simply using a darker color won't work. Adding an extra layer set to "Multiply" will darken them when needed. The opacity can be lowered to achieve the desired outcome.

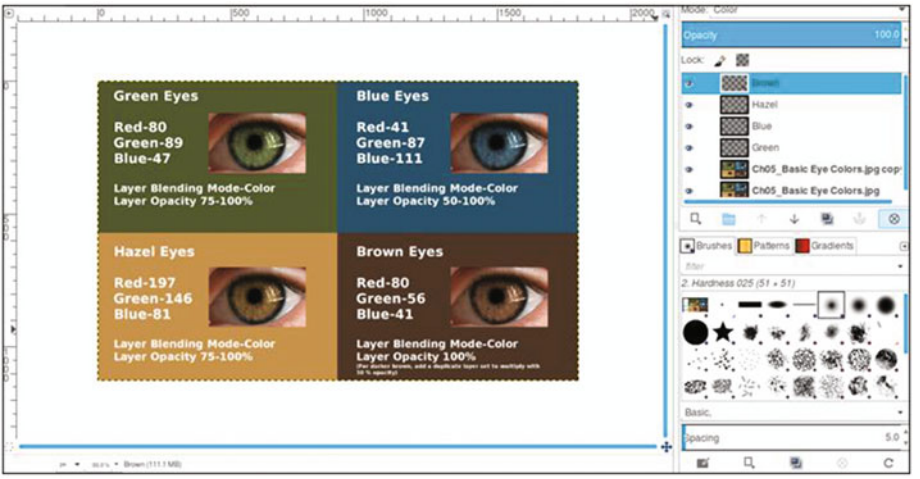

Figure 5-14. *Eye colors applied*

As you did with the previous tutorial, it would be a good idea to see what range is possible. Experiment with the Hue-Saturation dialog on each layer to make minute color adjustments, and adjust the layer opacity settings to observe how the color behaves.

Summary

In this chapter, you practiced colorizing the skin of a few people of different racial backgrounds. Also covered was colorizing several basic hair colors, such as blonde, red hair, auburn, light brown, and dark brown.

The last thing was to apply basic eye colors, such as green, blue, hazel, and brown. In the next chapter, we'll colorize several portraits and snapshots.

CHAPTER 6

Colorizing Portraits and Snapshots

In this chapter, we'll cover the following:

- Colorizing a 1950s portrait (Man)
- Colorizing a 1950s portrait (Boy)
- Digitally repairing a faded color portrait
- Colorizing a snapshot

This chapter is a glimpse into the types of colorization I do the most: old portraits and snapshots. In most cases, the client does not have a color reference photo; the image supplied is often the only known photograph of that person (or persons) or, if color photos do exist, they don't have ready access to them.

The client will often provide you with the basic color information you'll need for hair, eyes, and so forth. It's important to save a layered version of the work, especially if you are colorizing as a professional service. It's common to have to make minor adjustments, and keeping layers intact helps immensely.

Tutorial 14: Colorizing a Portrait (Man)

In the upcoming tutorial, we'll colorize a portrait from the early 1950s.

To do this tutorial, follow these steps:

1. Open the `Ch_6 1950s Portrait.jpg` file found in the Chapter 6 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Copy*, or leave it as is.
3. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency.
4. Change the blending mode to Color and reduce the layer's opacity to 50%. Rename the new layer *Background*.

P. Whitt, *Pro Photo Colorizing with GIMP*, DOI 10.1007/978-1-4842-1949-2_6

5. Change the foreground color to a beige color (R-219, G-202, B-150). Click OK.

6. Using a brush with the 2.Hardness 025 setting and a small diameter (5–7 pixels), apply the color around the man's hair strands (Figure 6-1). Zoom in and adjust the brush size as needed to apply the color in the small openings.

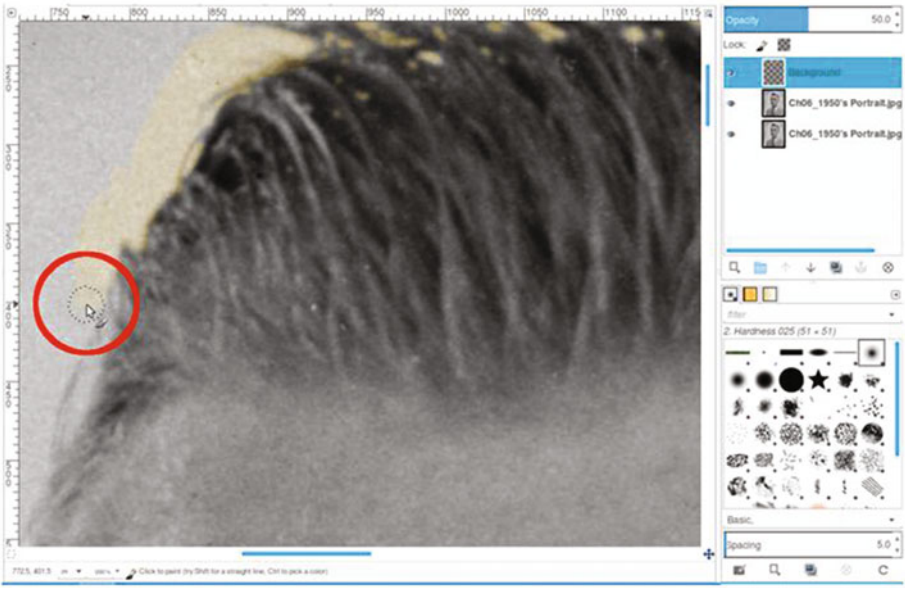

Figure 6-1. *Use a small brush to apply the color around the man's hair*

7. Continue applying the color around the man's right side; the color should extend about 40–50 pixels. Repeat on the other side until a complete outline of the background color is seen around the man.

8. We now want to quickly fill in the rest of the background with the beige color. Click inside background using the Bucket Fill tool, with these options checked (Figure 6-2):

   - FG color fill
   - Fill similar colors
   - Fill transparent areas
   - Threshold-150

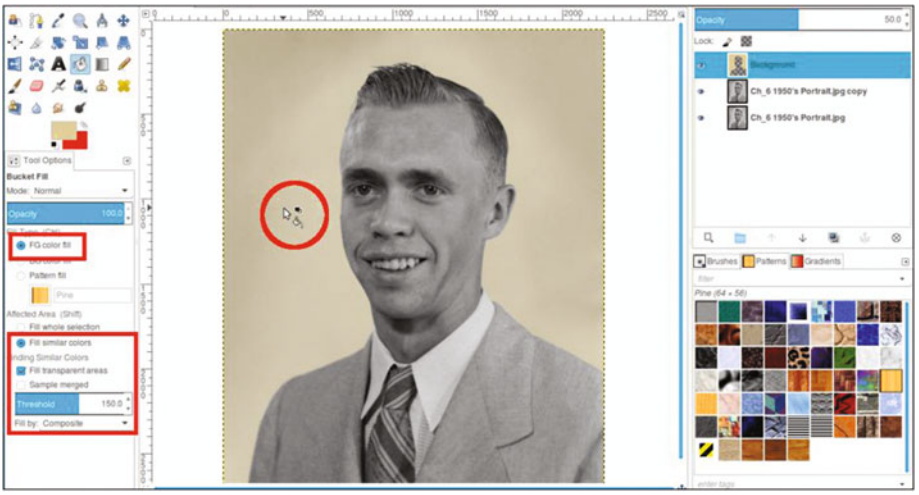

Figure 6-2. *Use the Bucket Fill tool to colorize the rest of the background*

9. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color and lower the opacity to 60%. Rename the new layer *Coat and Sweater*.

10. Change the foreground color to a light blue/gray color (R-76, G-98, B-99). Click OK.

11. As was done with the background, we'll create an outline for the coat and sweater and then fill it in. Using a brush with the 2.Hardness 050 setting, paint along the edge of the suit and paint in the visible part of the sweater.

12. Use the Bucket Fill tool (and the same fill settings used to fill the background color), click in one side of the coat, and then the other (Figure 6-3).

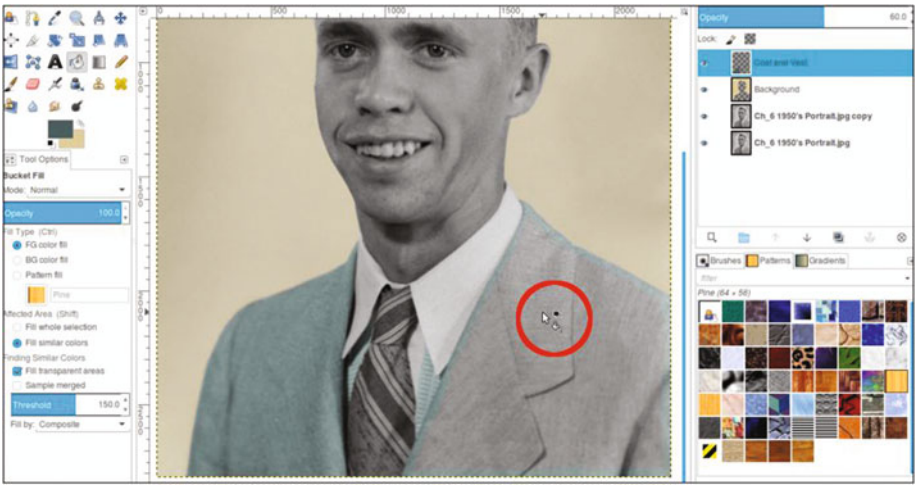

Figure 6-3. *Apply color to the coat and sweater*

13. Next, we'll work on the tie. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Overlay and leave the opacity at 100% (I chose Overlay because it applied just the right amount of color for the effect I was aiming for). Rename the new layer *Tie-Blue/Green*.

14. Using a brush with the 2.Hardness 050 setting, apply the foreground color to the layer to colorize the entire tie.

15. Now, we'll add some gold-yellow trim to the tie. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color and lower the opacity to about 80%.

16. Change the foreground color to a gold-yellow color (R-215, G-165, B-31). Click OK.

17. Using a brush with the 2.Hardness 050 setting, paint the trim in the lighter lines of the tie. The brush size should be around 7–8 pixels in diameter (Figure 6-4).

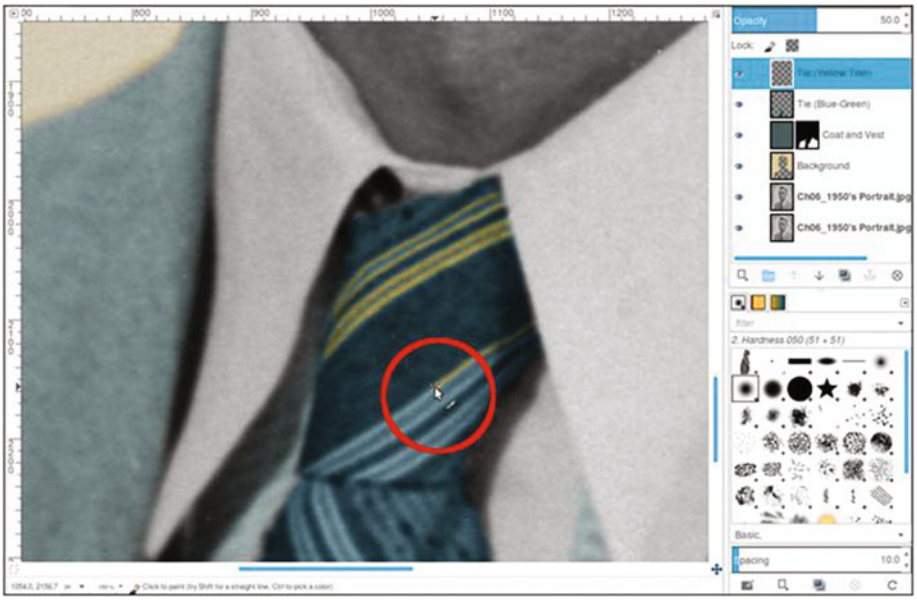

Figure 6-4. *Apply the gold-yellow color for the trim*

18. To make the edges transition better (and look less like they were painted in), we'll need to blur the trim color a bit. Open the Gaussian Blur dialog (Filters ➤ Blur ➤ Gaussian Blur). Use the default setting of 5.0 (Vertical and Horizontal) and the RLE blur method, then click OK (Figure 6-5).

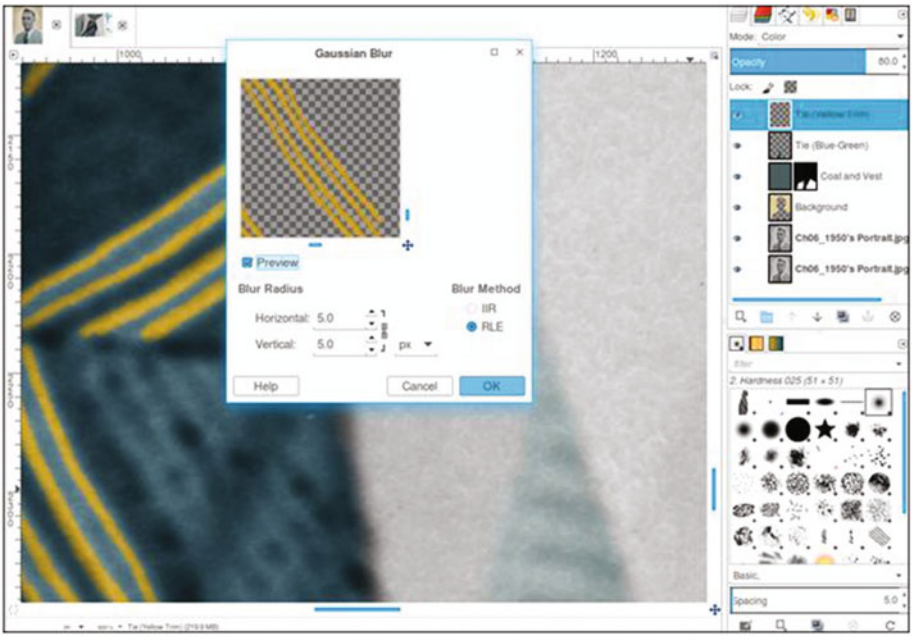

Figure 6-5. *Apply a slight blur to the lines for better transition*

19. Now, to colorize the face. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color. Rename the new layer *Skin* and lower the opacity to 40%.

20. Change the foreground color to R-236, G-190, B-157 (or just use the Eyedropper tool to sample from the colors chart used in the previous chapter).

21. Using the Bucket Fill tool, fill the layer with the foreground color.

22. Add a layer mask (Layer ➤ Mask ➤ Add Layer Mask) initialized to black (the fill color will disappear until it's revealed by painting in the layer mask). Click the layer mask to make it active.

23. Using a large brush (around 100 pixels in diameter) with the 2.Hardness 025 setting and white as the active color, paint along the edge where the flesh ends and hairline begins. Because the defining line isn't very clear, it helps to use the outermost edge of the brush to blend the color into the hairline (Figure 6-6).

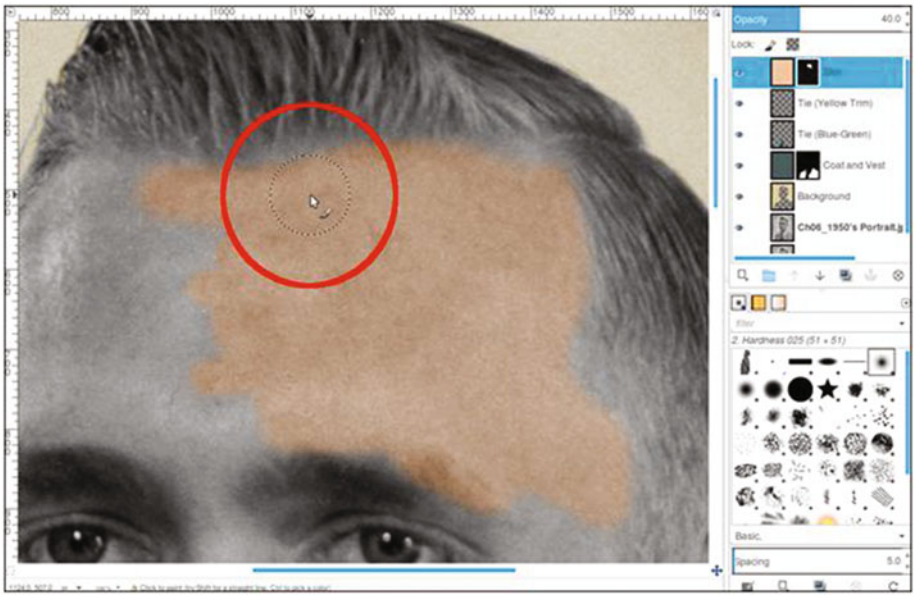

Figure 6-6. *Use a large, soft-edge brush to help blend the color into the hairline*

24. Adjust the brush size as needed to apply the color around the eyebrows (except where the hairs are very thin) and eyes (Figure 6-7). Continue applying color until the entire face is complete.

■ **Note** Eyebrows can be tricky. There is only sparse hair on part of his left eyebrow (with more skin than hair), so adding the fleshtone color here will usually suffice.

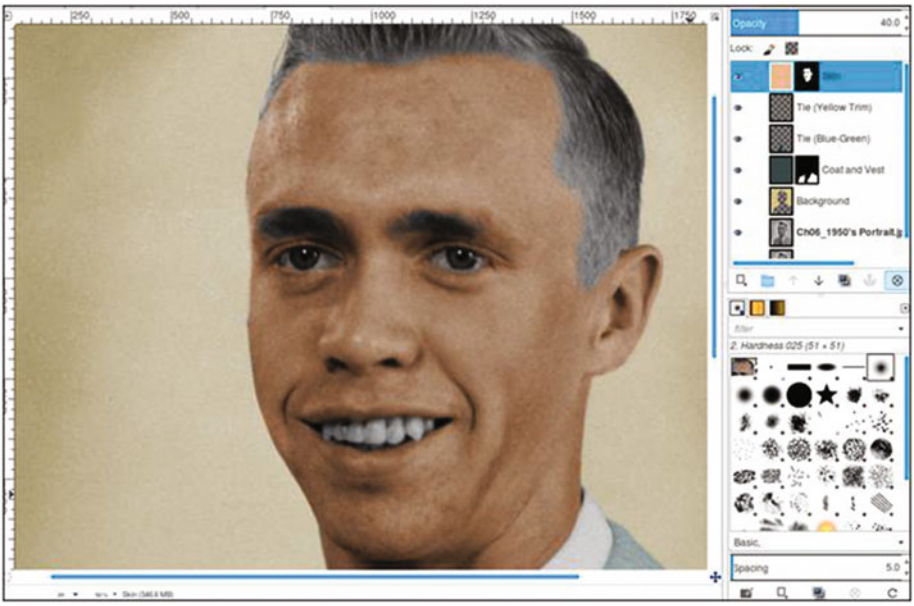

Figure 6-7. *The skin color applied*

25. To colorize the hair, create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color. Rename the new layer *Hair* and lower the opacity to 40%.

26. Change the foreground color to R-166, G-128, B-78. Click OK.

27. Using the Paintbrush tool with the 2.Hardness 025 setting, apply the foreground color to the hair and eyebrows. Use a small brush to colorize the flyaway strands.

28. We'll now improve the hairline transition where it borders the skin. Open the Gaussian Blur dialog (Filters ➤ Blur ➤ Gaussian Blur). Use the default setting of 5.0 (Vertical and Horizontal) and the RLE blur method, then click OK. Applying the blur helps makes the edges less sharp.

29. As was done in the previous chapter, we'll add a small amount of red to vary the skin tone. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color and lower the opacity to 40%. Rename the new layer *Subtle Red*.

30. Change the foreground color to red (R-255, G-0, B-0). Click OK.

31. Using the Paintbrush tool with the 2.Hardness 025 setting, paint some red on the cheeks, forehead, nose, ears, and chin. After red is applied, lower the layer's opacity to 5%. Click the layer's eyeball icon to turn the effect on and off to see the effect.

32. To add color to the lips, create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color. Rename the new layer *Lips* and lower the opacity to 10%.

33. Using a brush with the 2.Hardness 025 setting, apply red to the lips and to the small exposed gum area around the teeth (Figure 6-8).

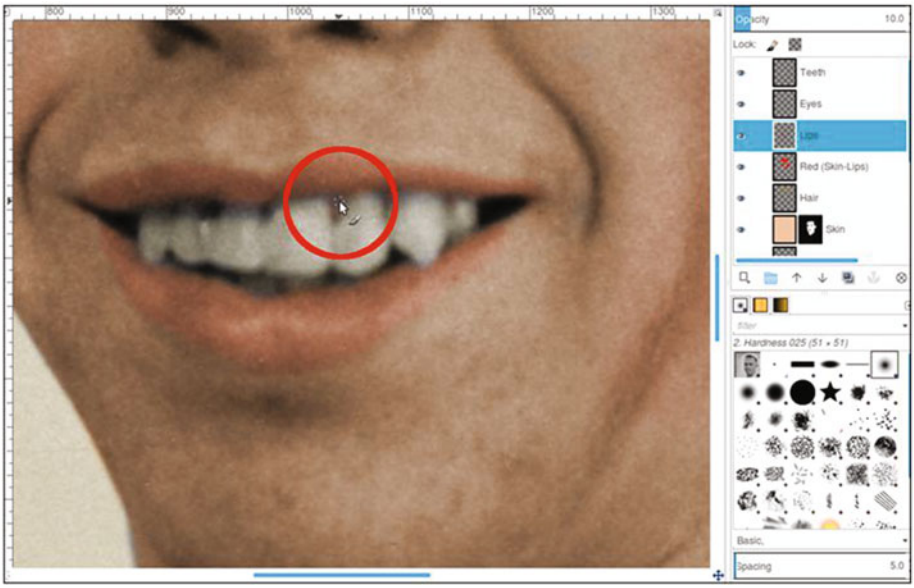

Figure 6-8. *Apply color to the lips and small exposed area of gum*

34. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color and lower the opacity to 10%. Rename the new layer *Teeth*.

35. Change the foreground color to an ivory color (R-255, G-249, B-233). Apply the color to the teeth. This adds just a hint of color.

36. Now, we'll colorize the eyes. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color. Rename the new layer *Eyes* and lower the opacity to 50%.

37. To color the eyes, change the foreground color to blue (R-41, G-87, B-111). Apply the color to the eyes.

When finished, the end result should resemble that shown in Figure 6-9. If desired, save it as an XCF file for future reference.

Figure 6-9. *Before and after comparison*

Tutorial 15: Colorizing a Portrait (Boy)

In this tutorial, we'll colorize another old family photo from the 1950s.

You'll notice that I go about this project somewhat differently than in previous tutorials. Even the order in which some elements are colorized is different. It's not meant to confuse; it's meant to demonstrate the power and flexibility of GIMP, and that it's possible to take different approaches while achieving similar results.

To do this tutorial, follow these steps:

1. Open the `Ch_6 1950s Portrait 2.jpg` file found in the Chapter 6 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Copy*, or leave it as is.
3. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color. Rename the new layer *Skin* and lower the opacity to 40%.
4. Change the foreground color to R-236, G-190, B-157 (or just use the Eyedropper tool to sample from the colors chart used in the previous chapter).
5. Using a brush with the 2.Hardness 025 setting, apply the foreground color to the face, exposed areas of the legs, and arms. Zoom in and vary the brush size as needed (Figure 6-10). If you go outside the bounds, don't worry at this point.

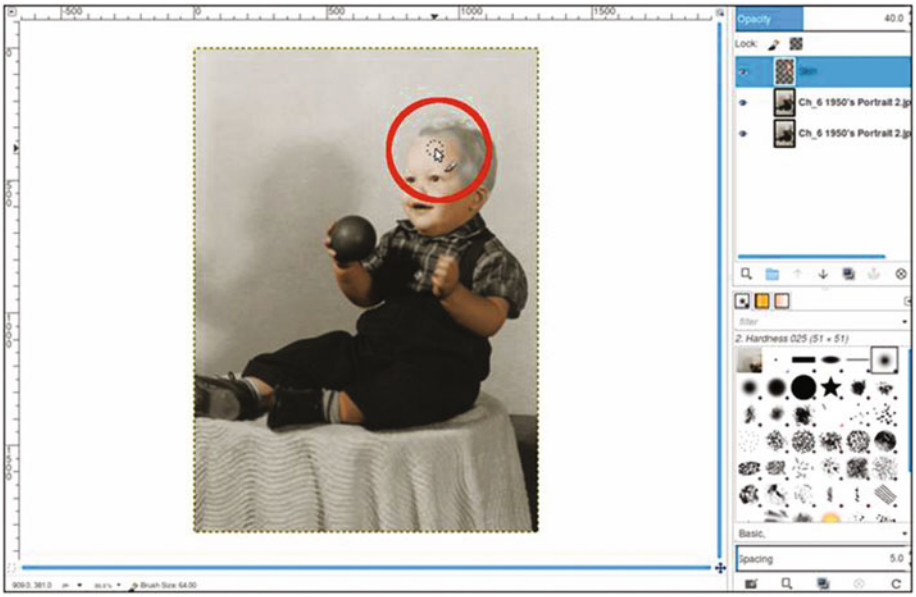

Figure 6-10. *Apply color to the skin areas*

6. Add a layer mask to the *Skin* layer (Layer ➤ Mask ➤ Add Layer Mask) initialized to white. Using a small, soft brush and a 50% gray as the active color, paint on the layer mask to remove some of the skin color from the eyes (Figure 6-11). Use black to clean up any excess color that went outside the bounds.

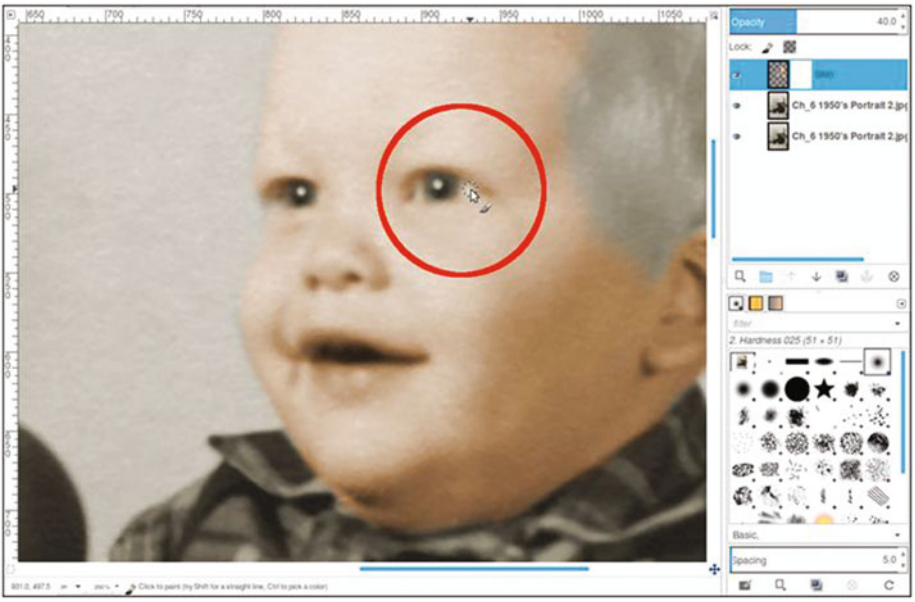

Figure 6-11. *Partially remove the skin color from the whites of the eyes*

7. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color. Rename the new layer *Subtle Red*.

8. Change the foreground color to red (R-255, G-0, B-0). Click OK.

9. Using the Paintbrush tool with the 2.Hardness 025 setting, paint some red on the cheeks, forehead, nose, ears, and chin. After red is applied, lower the layer's opacity to 5–8%. Click the layer's eyeball icon to turn the red on and off to see the effect.

10. To add color to the lips, create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color. Rename the new layer *Lips* and lower the opacity to 10%.

11. Using a brush with the 2.Hardness 025 setting, apply red to the lips.

12. Now, we'll colorize the eyes. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color. Rename the new layer *Eyes* and lower the opacity to 50%.

13. To color the eyes, change the foreground color to blue (R-41, G-87, B-111). Apply the color to the eyes.

For the remainder of this project, refer to the color guide provided in the Chapter 6 Practice Images folder, or refer to Figure 6-12. It provides the color information, blending mode to use, and layer opacity to use for each element.

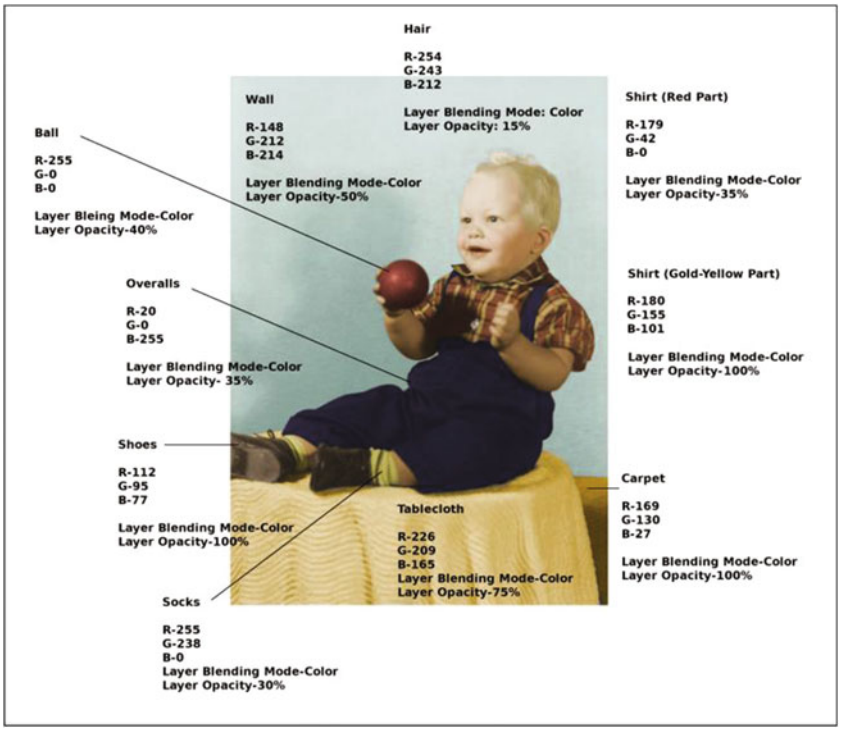

Figure 6-12. *Refer to the color guide to colorize the rest of the image*

When finished, the end result should resemble that shown in Figure 6-13. If desired, save it as an XCF file for future reference.

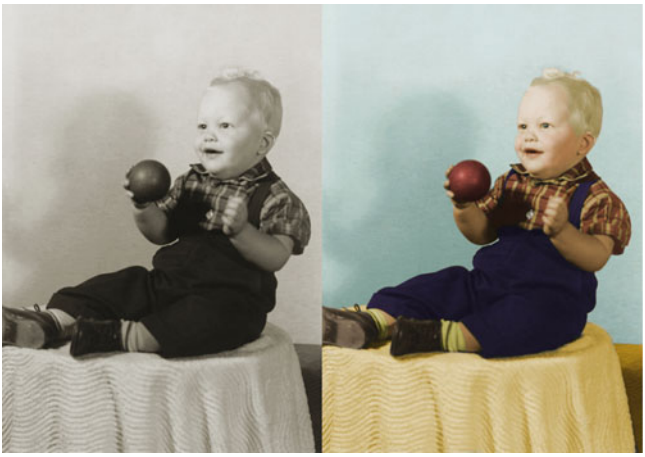

Figure 6-13. *Before and after comparison*

Tutorial 16: Digitally Repairing a Faded Color Portrait

Occasionally, I run across an old color image that has seen better days. Many photographs from the 1960s and 1970s didn't hold up well over time. The dyes would either shift or fade, leaving little of the original color.

Some old portraits lose so much color information, the only way to repair them is to convert them to black and white, make tonal adjustments to restore contrast, and recolorize them.

Fortunately, they can sometimes be repaired by making a few adjustments and adding color where needed. This technique often works when there is some salvageable color information left in the image.

To do this tutorial, follow these steps:

1. Open the `Ch_6 Damaged Portrait.jpg` file found in the Chapter 6 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Copy*, or leave it as is.
3. We'll use the Levels dialog to rebalance the color and tonal information contained in each color channel (red, green, and blue). Open the Levels dialog (Colors ➤ Levels).
4. Click the triangle to the right of the Channel drop-down. Choose Red and move the black and white sliders of the input levels inward until they stop where the image data begins and ends in the histogram (Figure 6-14). Do not click OK just yet.

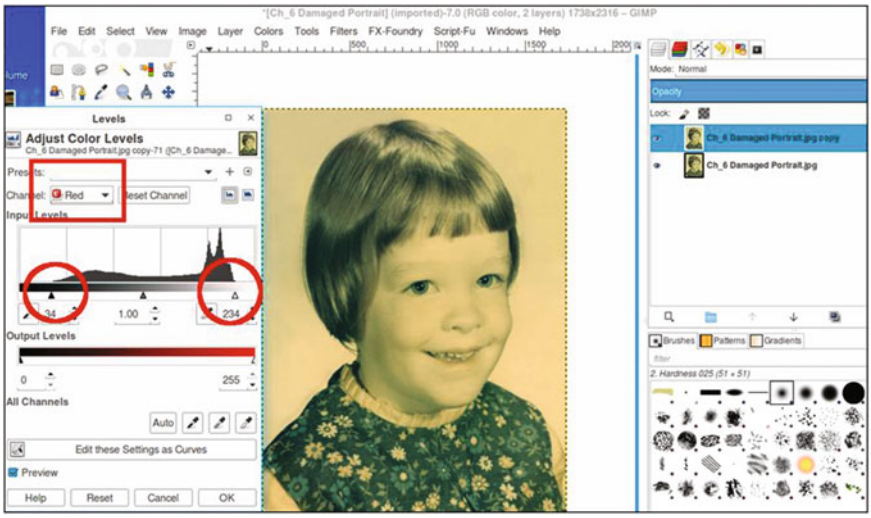

Figure 6-14. *Re-balance the tonal and color information in the color channels using levels*

5. Repeat the same steps, only making the adjustments in the green color channel this time. Do not click OK just yet.

6. Repeat the steps, making the adjustments on the blue color channel. By this point, you'll notice a marked improvement (Figure 6-15). Once the adjustments have been made, click OK.

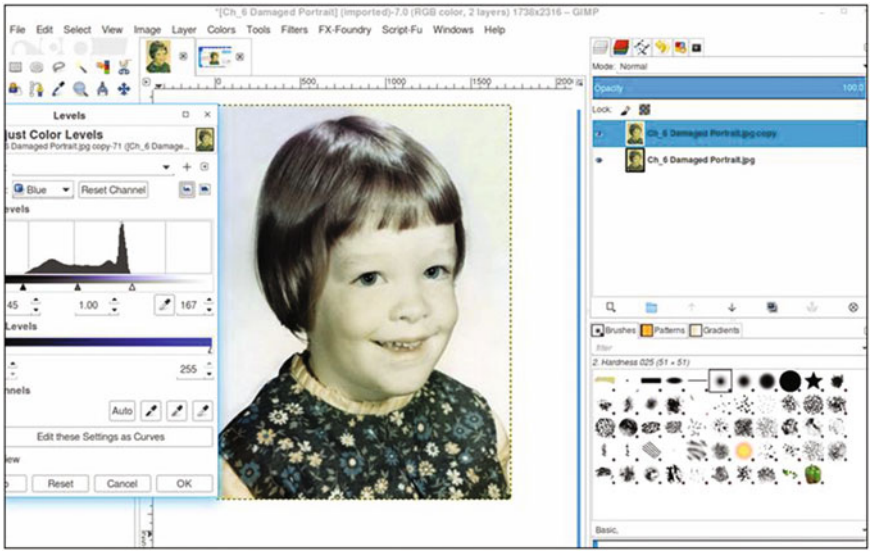

Figure 6-15. *Adjusting each color channel makes a drastic improvement*

7. Open the Hue-Saturation dialog (Colors ➤ Hue-Saturation). Boost the saturation value up to 75 (Figure 6-16). This will increase the color intensity of the image.

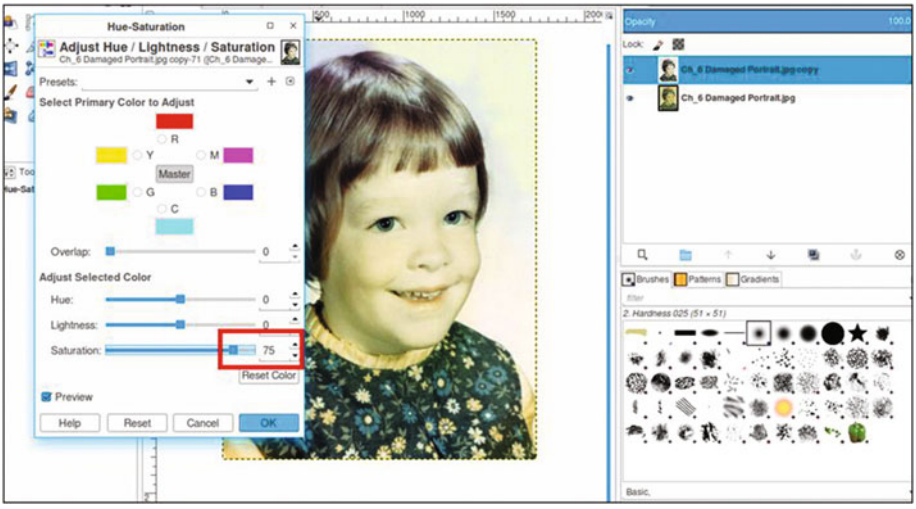

Figure 6-16. *Use the Hue-Saturation dialog to boost the color*

8. Duplicate the layer (Layer ➤ Duplicate Layer).

9. We'll now make an adjustment to improve the skin color. Open the Hue-Saturation dialog (Colors ➤ Hue-Saturation). Adjust the hue slider to read -24 (Figure 6-17). This action introduces a little more red into the image, improving the skin and hair color.

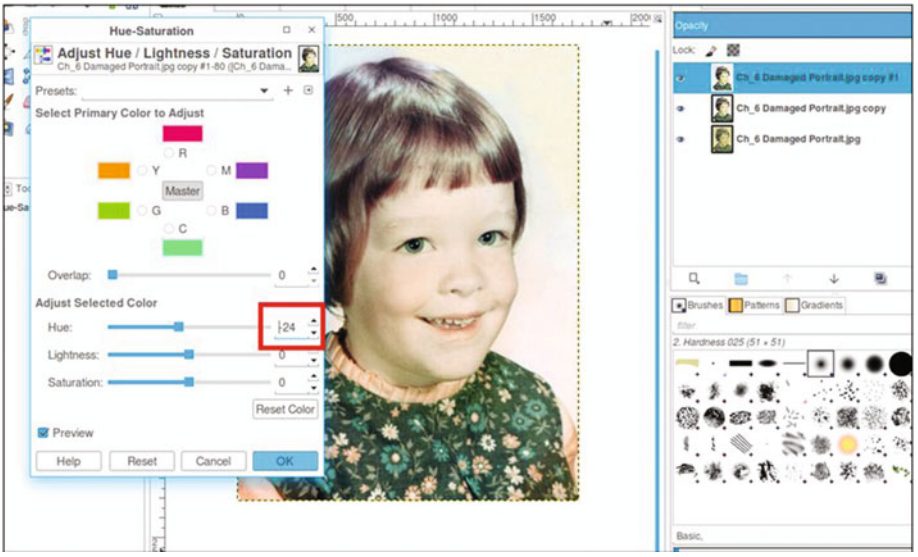

Figure 6-17. *Use the Hue-Saturation dialog to improve the skin color*

10. Add a layer mask (Layer ➤ Mask ➤ Add Layer Mask) initialized to white. Click on the layer mask to make it active.

11. Step 9 changed the hues in the dress, so we'll now change them back. Using a brush with the 2.Hardness 025 setting and black as the active color, paint in the layer mask to return the dress to its original color.

12. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color and leave the opacity at 100%. Rename the new layer *Background*.

13. Use the Eyedropper tool to sample some of the light blue color in the background with the sample "Merged" and "Set Foreground Color" options checked.

14. Using a large brush (around 100 pixels in diameter), apply the foreground color to provide a more uniform look to the background (Figure 6-18).

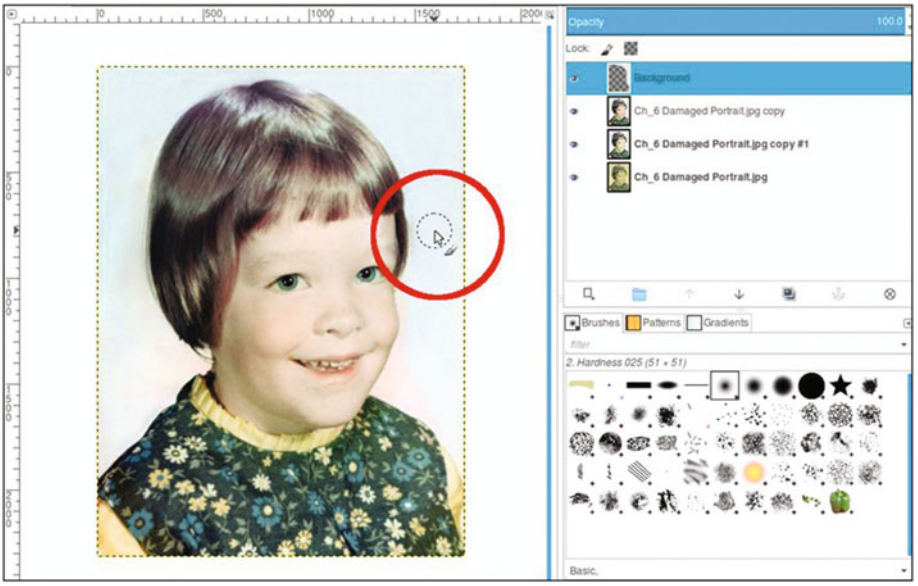

Figure 6-18. *Apply a uniform color to the background*

The final result should look something like the example in Figure 6-19. If desired, save it as an XCF file for future reference.

Figure 6-19. *Before and after result*

Tutorial 17: Colorizing a Snapshot

Colorizing snapshots can be more challenging in some respects. There are often a number of background elements that must be colorized as well as the subject(s). Another factor is that old snapshots usually don't contain the clarity and detail that an 8" x 10" portrait does. The defining line between objects isn't always so easy to see.

Colorizing outdoor snapshots is fairly common for me, and there is usually a lot of foliage to deal with. The next project is time intensive. It will require a lot of zooming in and using small brush diameters. However, there is a completed version in the Chapter 6 Practice Images folder that you can refer to. In fact, I suggest you open it first and look it over carefully. There are likely a few minor imperfections when viewed at close magnification, but at normal viewing distance, they probably wouldn't be noticed by anyone.

There is a layered XCF version provided as well.

To do this tutorial, follow these steps:

1. Open the `Ch_6 Car.jpg` file found in the Chapter 6 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Copy*, or leave it as is.
3. Create a new layer (Layer ➤ New Layer) and make sure Layer Fill Type is set to Transparency. Change the blending mode to Color. Rename the new layer *Grass*. The opacity range should be from 90–100%.
4. Change the foreground color to R-64, G-85, B-41. Click OK.
5. Using a brush with the 2.Hardness 025 setting, apply foreground color to the grass. You'll need to make sure to color the grass through the car windows and work around the car's radio antenna in the rear. Zoom in and vary the brush size as needed to work around the paving stones and visible parts of the driveways in the distance (Figure 6-20).

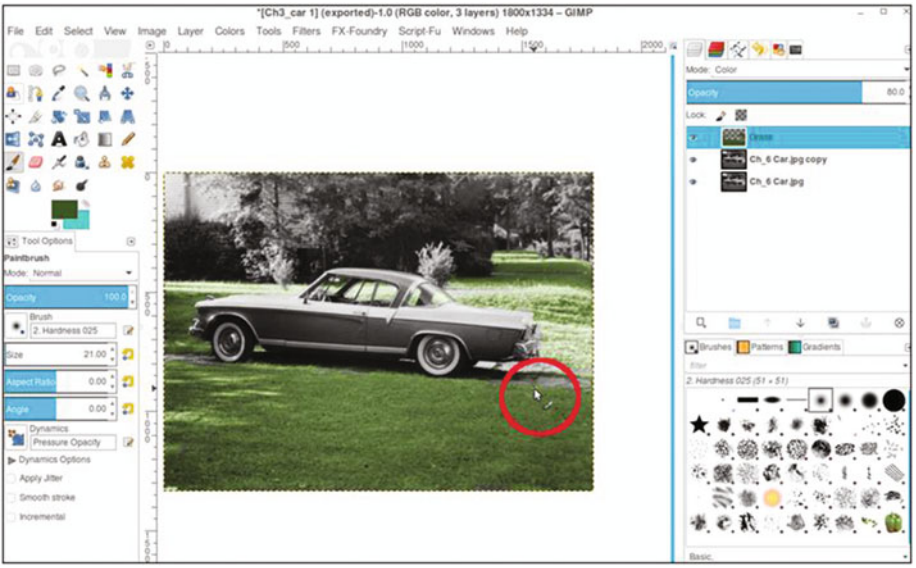

Figure 6-20. *Apply the color to the grass working around the paving stones*

6. Repeat steps 3 to 5 to apply some yellow-green color to the small trees (Figure 6-21) using these parameters:

    - Set the foreground color to R-176, G-188, B-37.
    - Set layer blending mode to Color and layer opacity to 60% (name the layer *Yellow-Green Foliage*).

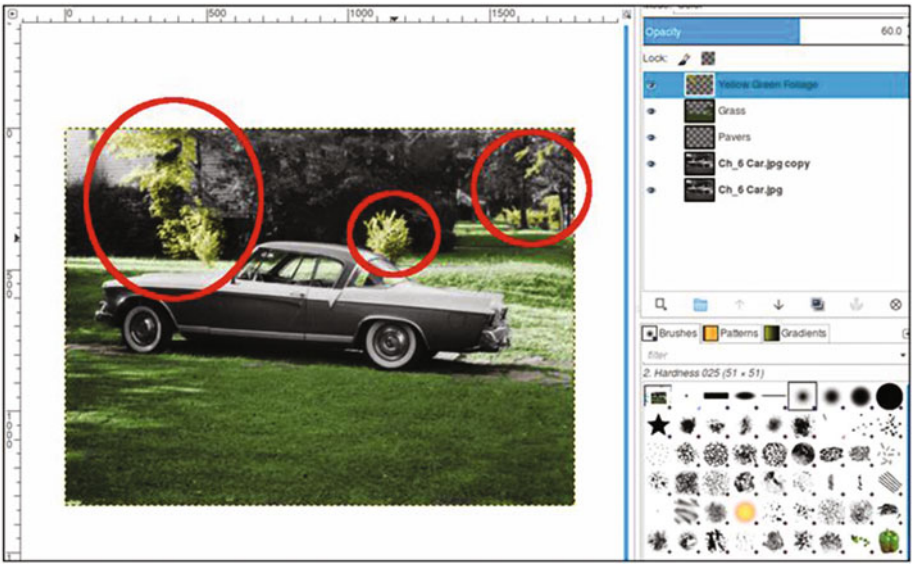

Figure 6-21. *Apply color to the trees as shown*

7. Now, repeat the same steps to apply a darker green color to the remaining trees and bushes (Figure 6-22) using these parameters:

    - Set the foreground color to R-39, G-58, B-6.
    - Set layer blending mode to Color and layer opacity to 30% (name the layer *Dark Green Foliage*).

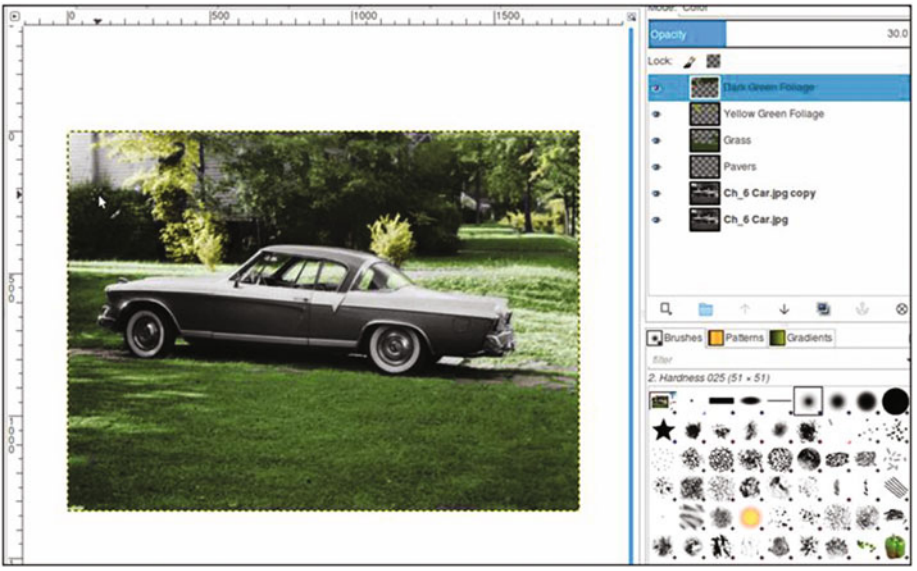

Figure 6-22. *Apply color to the bushes and trees as shown*

In previous tutorials, a color guide was provided for images involving several layers and colors. In this case, I don't think that would be practical, because so many elements are small and hard to see. To colorize the rest of the image, just follow the guide below. Each bullet point goes on its own layer.

- **Tree trunks:** foreground color R-88, G-57, B-27. Layer blending mode set to Overlay and the opacity to 40%. Name the layer *Tree Trunks*.
- **Brick and rooftops:** foreground color R-131, G-52, B-17. Layer blending mode set to Color and the opacity to 25%. Name the layer *Brick-Rooftops*.
- **Aqua color (car):** foreground color R-136, G-195, B-191. Layer blending mode set to Color and the opacity to 100%. Name the layer *Aqua Car Color*.
- **Tail lights:** foreground color R-255, G-0, B-0. Layer blending mode set to Color and the opacity to 100%. Name the layer *Tail Lights*.
- **Pavers:** foreground color R-114, G-103, B-82. Layer blending mode set to Color and the opacity to 50%. Name the layer *Pavers*.
- **Grass discolorations:** foreground color R-88, G-57, B-27. Layer blending mode set to Color and the opacity to 10%. Name the layer *Discolorations*. Paint on random areas on the grass area the foreground.

- **Reflections:** foreground color R-39, G-58, B-6. Layer blending mode set to Color and the opacity to 10%. Name the layer *Reflections*. (Paint on the hubcaps and chrome trim to simulate the color of grass reflecting off the chrome).

If needed, refer to the completed version as you work to provide some guidance. The final result should resemble the example in Figure 6-23.

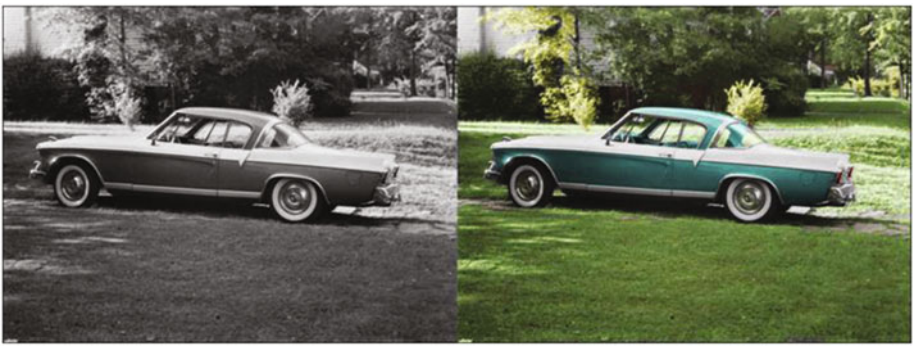

Figure 6-23. *Before and after comparison*

■ **Note** When you start to colorize your own photos, having a frame of reference for choosing colors can help a great deal. Stock photography sites are a good source of reference photos. Just download a low-resolution preview of an image similar to the one you plan to colorize. This can help remove some of the guesswork from choosing colors.

Summary

In this chapter, you colorized two portraits from the 1950s. You also learned a method of restoring the color from old, faded color portraits (a method that works in many, but not all cases).

Finally, you gained some experience colorizing an old snapshot of a 1950s car. As you likely surmised, colorizing snapshots can be a bit challenging.

The first part of this book had to do with colorizing to achieve the most realism possible. In the remaining chapters, you'll learn some fun methods of colorizing for artistic effect.

PART 3

Artistic Colorizing Techniques

CHAPTER 7

Creating an Old-Fashioned Look

In this chapter, we'll cover the following:

- Creating a sepia tone
- Creating a subtle, hand-tinted look
- Combining sepia and color

In the first section of this book, we covered colorizing techniques to achieve a high degree of realism. Now, the book will go in a more artistic direction. This chapter will show you techniques designed to create the look of photography during its early years.

Tutorial 18: Creating a Sepia Tone

You've probably seen old photographs with a sepia tone from the late nineteenth or early twentieth century at some point (Figure 7-1). Sepia toning gives black and white images a warmer tone. The sepia tone varies somewhat, ranging from a yellow-brown to a red-brown hue. The chemical sepia toning process was widely used in the early years of photography.

P. Whitt, *Pro Photo Colorizing with GIMP*, DOI 10.1007/978-1-4842-1949-2_7

Figure 7-1. *A sepia-toned photograph from the early twentieth century*

■ **Note** Sepia photos are often referred to as black and white, but they are technically monochrome, which simply means the image contains one color.

GIMP offers a quick and easy way to create a sepia tone that allows you to fine-tune the results. The hue and saturation can be adjusted to suit your taste (Figure 7-2).

Figure 7-2. *GIMP allows the sepia tone to be fine-tuned by adjusting the hue and saturation*

To convert this image, follow these steps:

1. Open the `Ch7_Trees` and `Water.jpg` file found in the Chapter 7 Practice Images folder.

2. Duplicate the background layer (Layer ➤ Duplicate Layer). Rename the duplicate layer *Sepia Layer*. Open the Colorize dialog (Colors ➤ Colorize) and set the Hue slider to a value of about 40 and Saturation to around 30 (Figure 7-3). Adjust the sliders to suit you or, if you like the first attempt, click OK.

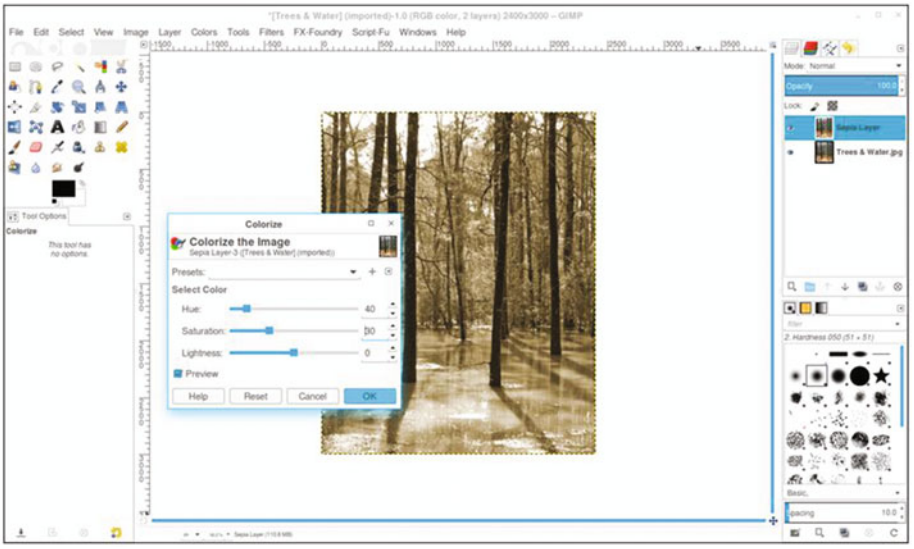

Figure 7-3. *Use the Colorize dialog to create a sepia tone*

Tutorial 19: Creating a Subtle, Hand-Tinted Look

The Introduction of this book mentioned briefly that in the early days of photography, hand tinting was a common way to apply color. Hand-tinted photos (at least, the way I see them) have a dream-like quality with muted and subtle colors (Figure 7-4). Of course, I've seen some hand-tinted pictures with bolder colors, so there are exceptions.

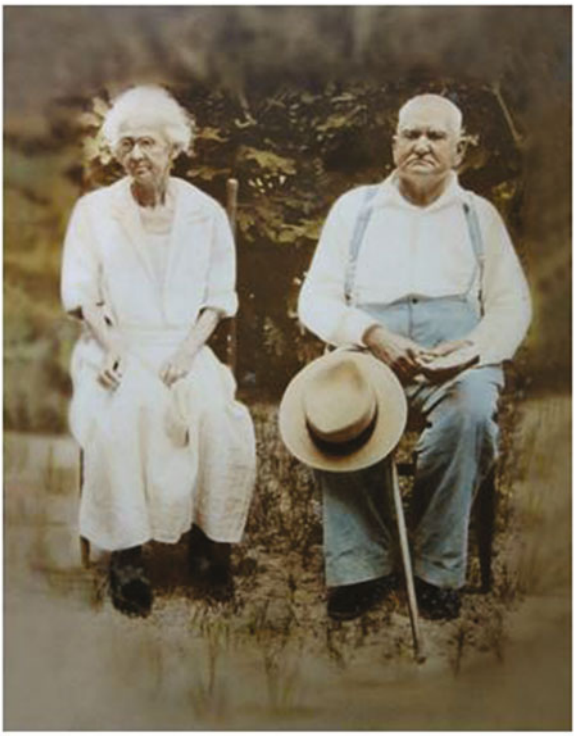

Figure 7-4. *A hand-tinted photograph with muted colors*

This black and white photo taken in 1939 (Figure 7-5) is a good candidate for applying a digital hand-tinted look.

Figure 7-5. *A suitable photograph for a hand-tinted look*

To apply a hand-tinted look, follow these steps:

1. Open the `Ch7_Hand Tint.jpg` file found in the Chapter 7 Practice Images folder (Figure 7-5).
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Base Color*.
3. Open the Colorize dialog box (Colors ➤ Colorize) and set the Hue slider to a value of about 40 and Saturation to around 30 (Figure 7-6). This applies a base color (a light sepia tone) with an aged look.

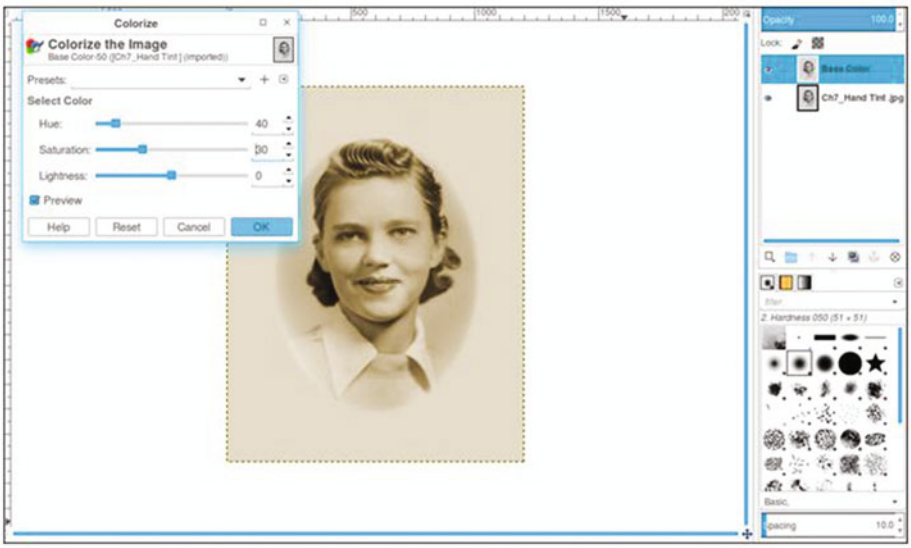

Figure 7-6. *The Colorize dialog applies a base color*

4. Create a new layer (Layer Menu ➤ New Layer), making sure Fill Type is set to Transparency, and name it *Skin* or *Skin Color*). Change the blending mode of the layer to Color and lower its opacity to 10–12%.
5. Open the Change Foreground Color dialog and choose a flesh color, or use the following numeric inputs: R-244, G-198, B-164 (Figure 7-7). Fill the layer with the flesh color using the Bucket Fill tool.

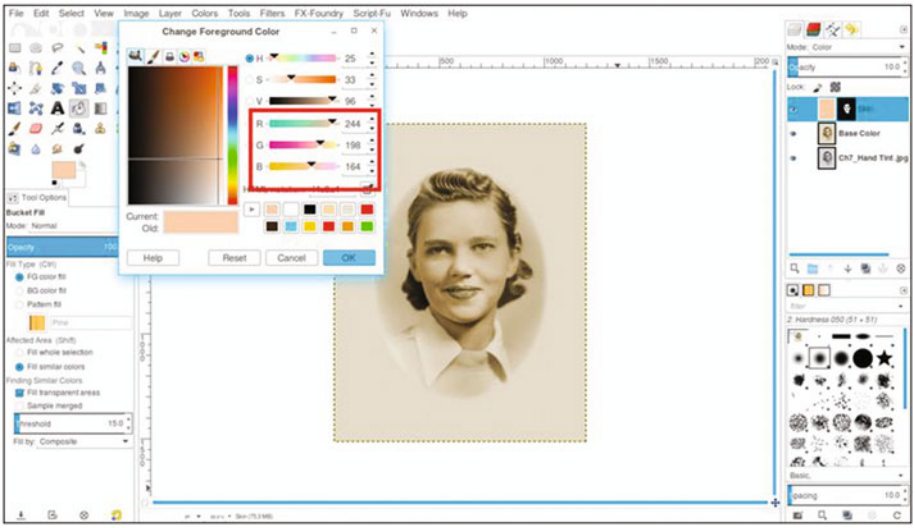

Figure 7-7. *Flesh color to add skin tone*

6. Add a layer mask (Layer Menu ➤ Mask ➤ Add Layer Mask) initialized to black. Using a brush set to 2.Hardness 050 and white as the active color, paint in the mask to reveal the skin color in the woman's face. Paint around the eyes and mouth (confine to the flesh areas).

7. Create a new layer, making sure Fill Type is set to Transparency (Layer Menu ➤ New Layer) and name it *Cheeks/Lips*. Change the blending mode of the layer to Color and lower the opacity to 10–12%.

8. Open the Change Foreground Color dialog and choose red (numeric value R-255, G-0, B-0). Fill the layer with red using the Bucket Fill tool (Shift + B). Add a layer mask (Layer Menu ➤ Mask ➤ Add Layer Mask) initialized to black.

9. Using a brush set to 2.Hardness 050 and white as the active color, paint in the mask to reveal the cheeks and the lips (Figure 7-8).

Figure 7-8. *Adding a red hue to the cheeks and lips*

10. Create a new layer, making sure Fill Type is set to Transparency (Layer Menu ➤ New Layer) and name it *Eyes/Sweater*. Change the blending mode of the layer to Color and lower the opacity to 10–12%.

11. Open the Choose Foreground Color dialog and choose a light blue (numeric value R-0, G-204, B-255). Fill the layer with blue using the Bucket Fill tool. Add a layer mask (Layer Menu ➤ Mask ➤ Add Layer Mask) initialized to black.

12. Using a brush set to 2.Hardness 050 and white as the active color, paint in the mask to reveal the eyes and the sweater (Figure 7-9). Adjust the brush and zoom in as needed to make sure you don't paint into the vignette.

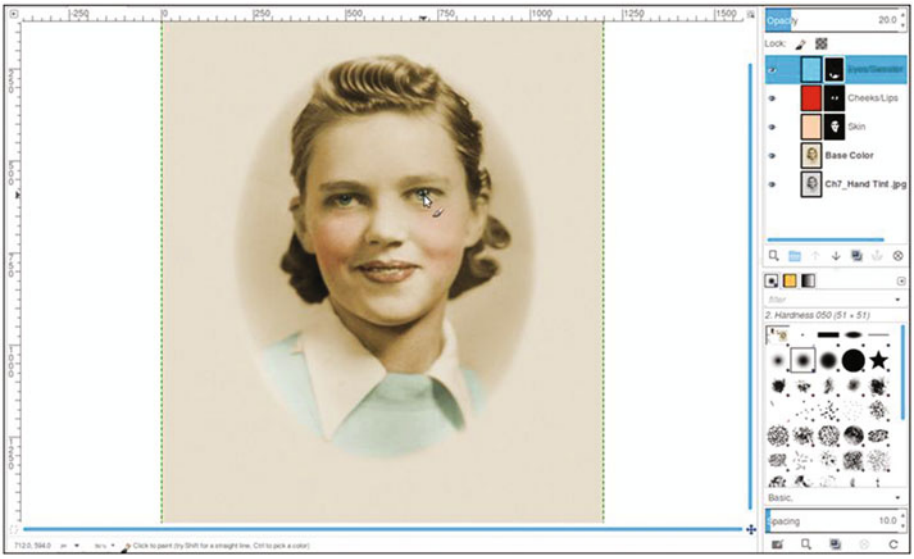

Figure 7-9. *Adding a muted light blue to the eyes and sweater*

13. Create a new layer (Layer Menu ➤ New Layer) and name it *Hair*. Change the blending mode to Overlay. The Overlay mode generally gives color less intensity, which works well for this exercise, since a subtle effect is desired.

14. Open the Choose Foreground Color dialog and choose a brown color (numeric value R-65, G-37, B-0). Fill the layer with brown using the Bucket Fill tool. Add a layer mask (Layer ➤ Mask ➤ Add Layer Mask) initialized to black.

15. Using a brush set to 2.Hardness 050 and white as the active color, paint in the mask to reveal the hair and eyebrows (Figure 7-10).

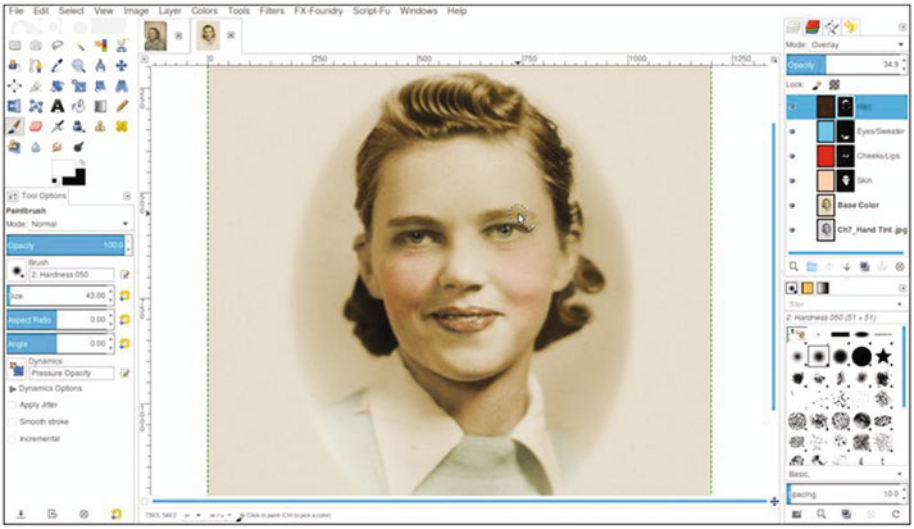

Figure 7-10. *Adding a subtle brown to the hair and eyebrows*

16. Lower the layer named *Hair* to about 10–12% opacity to make the effect subtle.

The key is keeping the colors soft and muted. Most of the layers will be around 10–12% opacity. The end result has an old-fashioned, hand-tinted quality (Figure 7-11). If desired, save the layered XCF file for future reference.

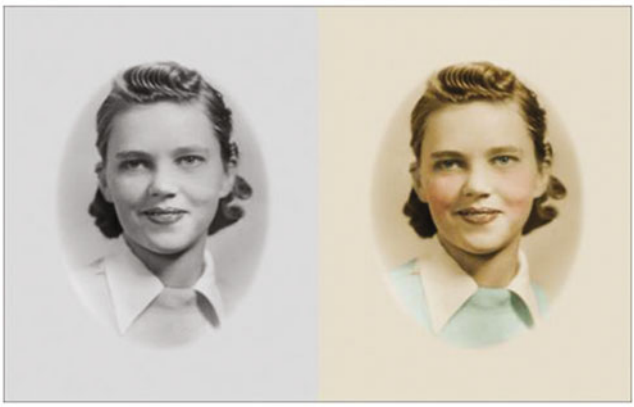

Figure 7-11. *Before and after comparison*

Tutorial 20: Combining Sepia and Color

This lesson will show you how to use a contemporary color photograph and give it an antique appearance. Instead of adding color, as was done in the previous tutorial, the color will be revealed in certain areas. This effect can give a special touch to wedding photos, so we'll start with the one shown in Figure 7-12.

Figure 7-12. *A wedding photo that will be digitally antiqued*

To combine sepia and color, follow these steps:

1. Open the `Ch7_Just Married 2000.jpg` file found in the Chapter 7 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename it *Sepia Layer*. Open the Colorize dialog box (Colors ➤ Colorize) and set the Hue slider to a value of about 40 and Saturation to around 30 (Figure 7-13). Adjust the sliders to suit you or, if you like the first attempt, click OK.

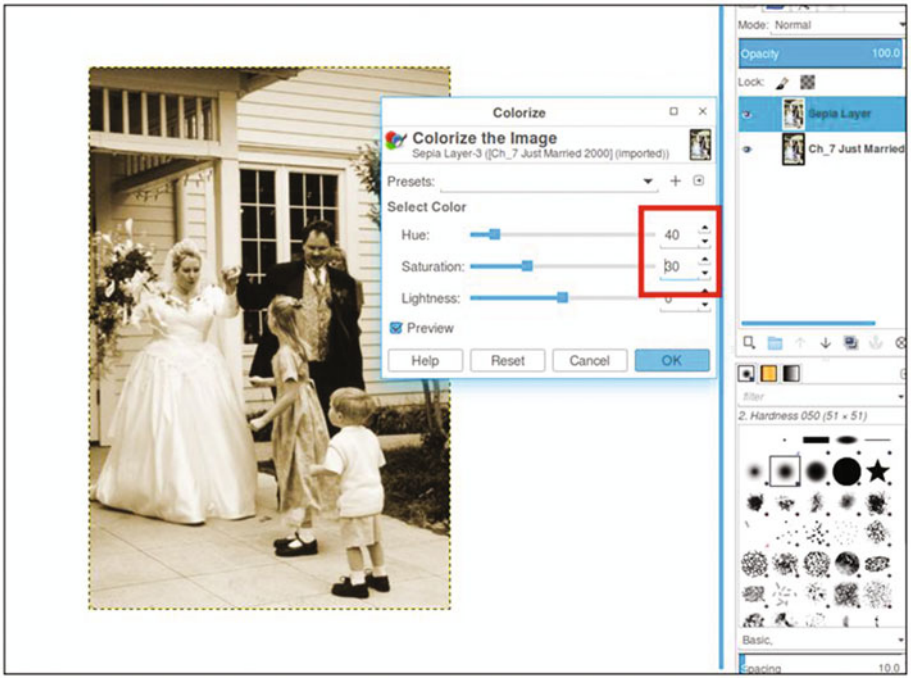

Figure 7-13. *Applying a sepia tone using the Colorize dialog*

3. Add a layer mask (Layer Menu ➤ Mask ➤ Add Layer Mask) activated to white. Using a brush set to 2.Hardness 050 and 50% gray as the active color, paint in the mask to reveal the colors of the bouquet and the groom's boutonnière and vest–just enough for splashes of subtle color (Figure 7-14). After it is complete, you can save the layered XCF file for future reference.

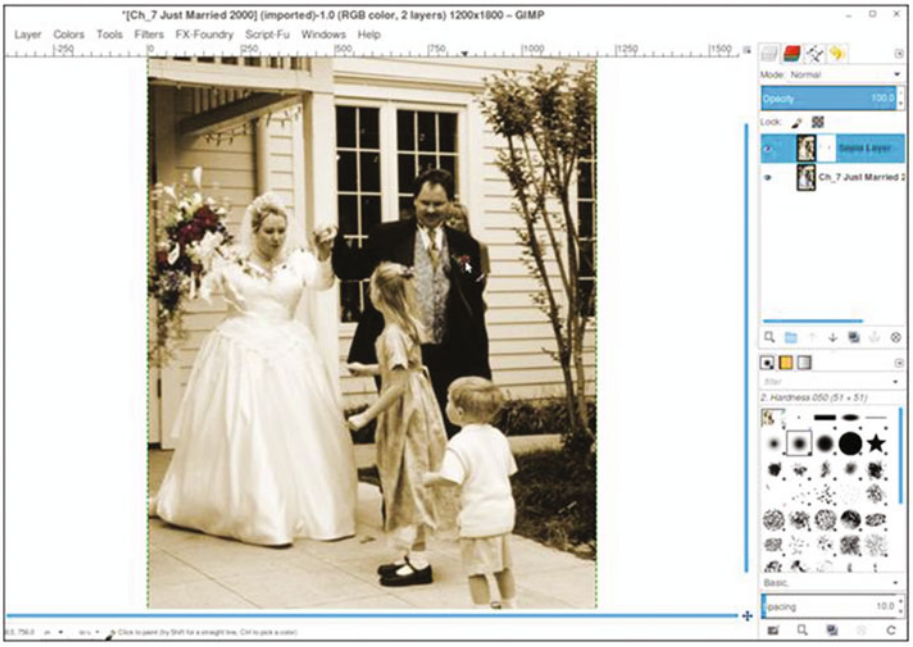

Figure 7-14. *Painting in the layer mask with 50% gray to reveal muted colors*

■ **Note** Of course, there are no hard and fast rules about what colors should be revealed. This lesson is designed to acquaint you with the process. Experimentation is encouraged.

This is an easy and fun way to give photos a vintage look (Figure 7-15). I should mention here that since there's an element of artistic expression involved, there is also a degree of subjectivity. I happen to like muted hints of color combined with sepia, but your taste might be different. If you'd prefer full, bold splashes of color, then paint in the layer mask using black to reveal all of the underlying colors you want to reveal.

Figure 7-15. *Before and after comparison*

Summary

This chapter covered a few ways to give photos a vintage look. We first covered a simple way to apply a sepia tone using the Colorize dialog. Next, we covered applying soft colors to an old black and white photograph to give it a hand-tinted look. Finally, we combined sepia and soft color in a modern wedding photograph to give it an antiqued effect.

In the next chapter, we'll look at selective colorization–mixing black and white with color for an interesting artistic effect.

CHAPTER 8

Selective Colorizing

In this chapter, we'll cover the following:

- Selective colorization in a scenic image
- Selective colorization of an image of a classic motorcycle

This chapter is one I believe you'll find easy and fun to follow. If you've ever seen the 1998 movie *Pleasantville*, then selective colorizing will probably seem familiar. In the movie, a teenage boy and his twin sister are transported into a fictional 1950s black and white sitcom. As the movie progresses, color begins to emerge here and there, mixed into a world made up of shades of gray. You can create some interesting images using this technique (Figure 8-1).

Figure 8-1. *Mix color with black and white for an artistic effect*

P. Whitt, *Pro Photo Colorizing with GIMP*, DOI 10.1007/978-1-4842-1949-2_8

It's a fun technique to experiment with. After you've done the tutorials in this chapter, give it a try using your own images.

The macaw in this example is endowed with vibrant colors, so there is a stark contrast between it and the black and white portion of the image. However, selective colorizing can be subtle as well. In Figure 8-2, there is a subtle emphasis on the figure and the surrounding area. The colors are pale, so there is a hint of color rather than a strong contrast.

Figure 8-2. *The pale colors create a subtle effect in this image*

Tutorial 21: Selectively Applying Color (Little Boy)

Selective colorization basically involves removing the color from an image and then letting the original color come through in select areas. Photos of children often work quite well. In the upcoming tutorial, you'll learn a method of accomplishing this using the photo shown in Figure 8-3.

Figure 8-3. *Photographs of children often make good selective colorization projects*

To selectively colorize this image, follow these steps:

1. Open the `Ch8_Boy in Blue Coat.jpg` file found in the Chapter 8 Practice Images folder.

2. Duplicate the background layer and rename the duplicate *Black and White* (or *Grayscale*). Open the Hue-Saturation dialog box (Colors ➤ Hue-Saturation) and move the Saturation slider to 0, then click OK (Figure 8-4).

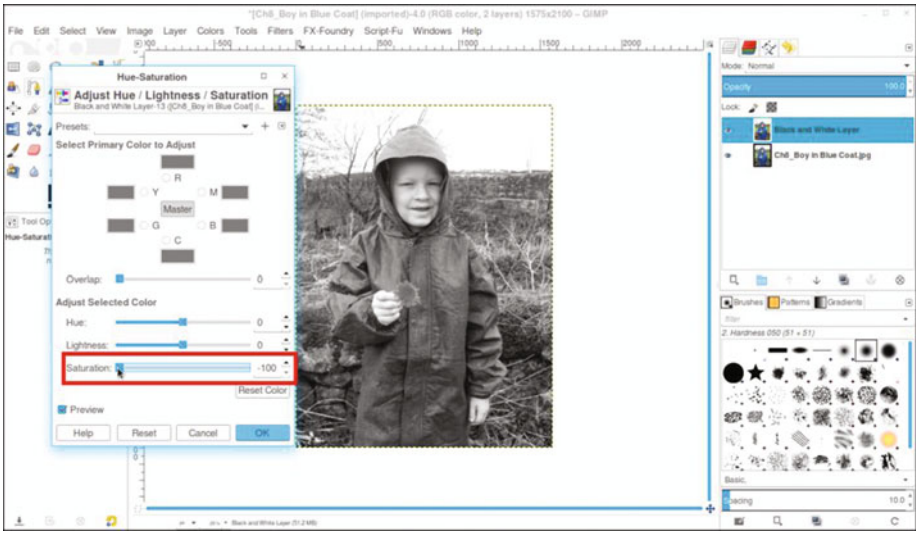

Figure 8-4. *Lower the saturation to zero in the Hue-Saturation dialog*

3. Add a layer mask to the duplicate layer (Layer ➤ Mask ➤ Add Layer Mask) initialized to white.

4. Click the black and white layer's eyeball icon to hide it. Click on the background (original) layer to make it active.

5. Use the Fuzzy Select tool—with the "Anti-aliasing" option checked and Threshold set to 25—to click around in the blue coat and yellow flower while holding the Shift key down (Figure 8-5). It will select the majority of the coat and flower.

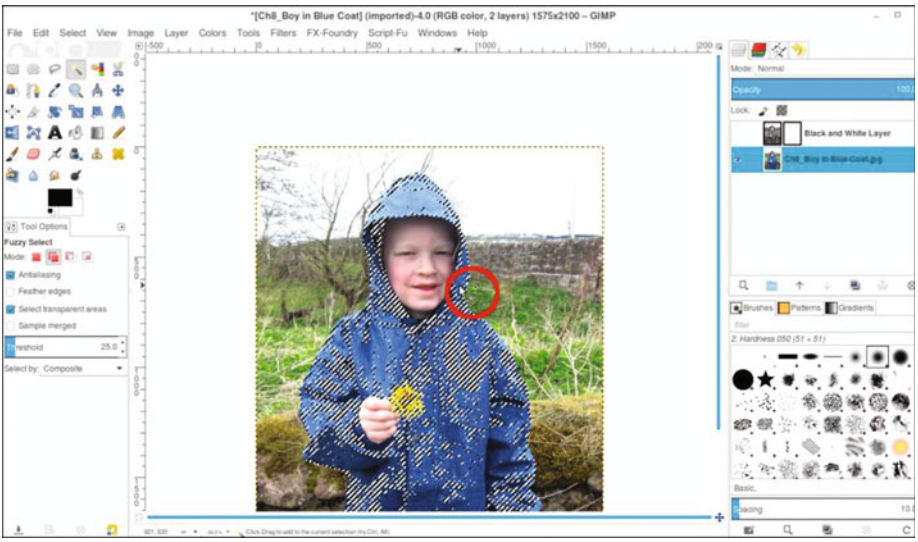

Figure 8-5. *Hold the Shift key down while clicking around the coat and flower using the Fuzzy Select tool*

6. Click the eyeball icon in the hidden layer to reveal it, and then click on the layer mask to make it active.

7. Use the Paint Bucket tool to fill the selected areas with black to reveal the underlying color (Figure 8-6).

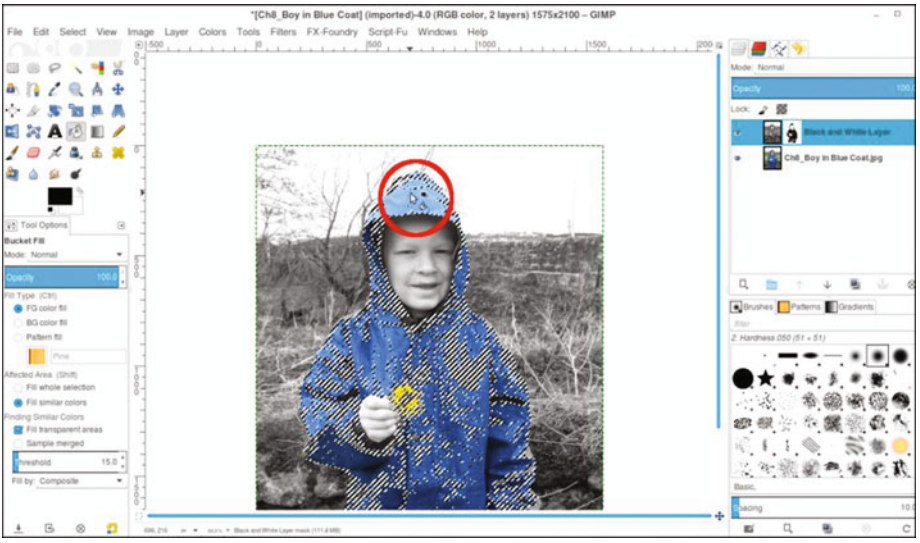

Figure 8-6. *Fill in the selected areas with black to reveal the underlying color*

8. Turn the selection off (Select ➤ None).

9. Using a brush with the 2.Hardness 050 setting and black as the active color, paint in the areas that the Fuzzy Select tool missed to reveal the remaining color. Zoom in and vary the brush size as needed (Figure 8-7).

Figure 8-7. *Paint in the areas the Fuzzy Select tool missed*

By revealing the blue coat and the yellow flower, the result is an image with an artistic twist (Figure 8-8). If desired, save the image as an XCF file for future reference.

Figure 8-8. *Before and after comparison*

Tutorial 22: Selectively Applying Color (Classic Motorcycle)

In this tutorial, we'll give an image of a motorcycle a nostalgic look. For this tutorial:

1. Open the `Ch8_Classic Bike.jpg` file found in the Chapter 8 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate *Black and White* (or *Grayscale*). Open the Hue-Saturation dialog box (Colors Menu ➤ Hue-Saturation) and move the slider to lower the saturation to zero (Figure 8-9).

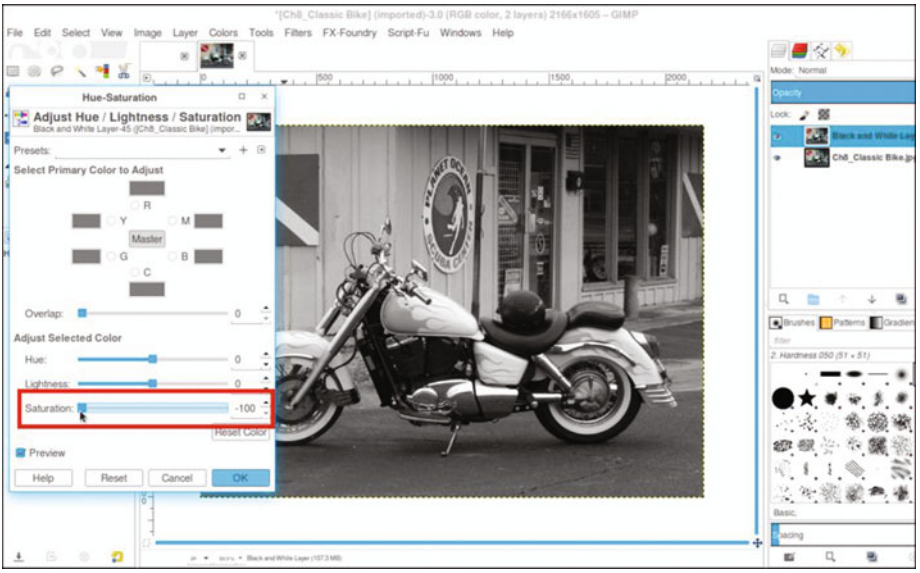

Figure 8-9. *Lower the color saturation to zero.*

3. Add a layer mask (Layer Menu ➤ Mask ➤ Add Layer Mask) initialized to white. Using a brush with the 2.Hardness 050 setting and black as the active color, paint in the mask to reveal the color in the flames painted on the motorcycle.

4. Since there is virtually no color in the rest of the motorcycle, precise brush size isn't too important; just avoid painting into the background while revealing the color in the flames (Figure 8-10).

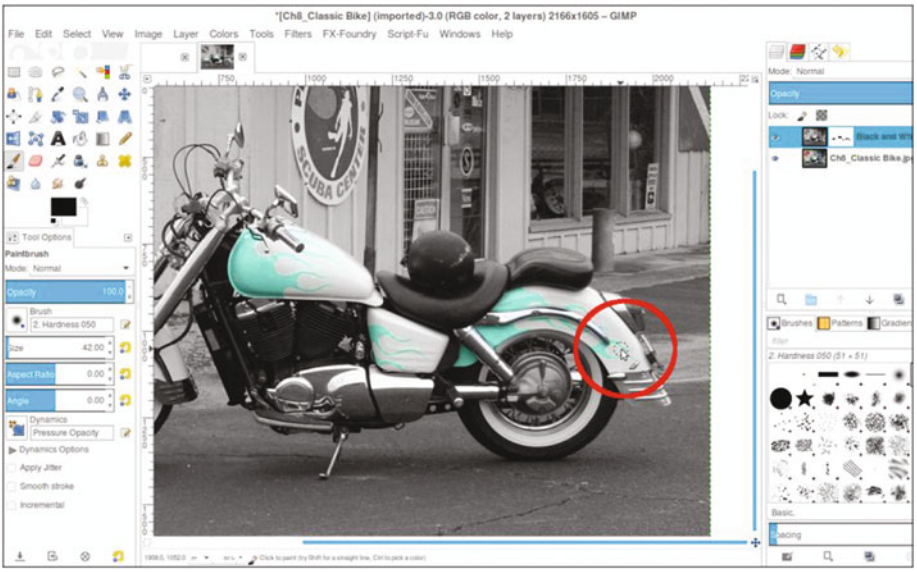

Figure 8-10. *Revealing the color in the flames painted on the motorcycle*

5. Paint in the layer mask to reveal the red in the tail light (Figure 8-11).

Figure 8-11. *Revealing the red in the tail light*

The final result creates an image with a nostalgic feel (Figure 8-12). If desired, save the image as an XCF file for future reference.

Figure 8-12. *Before and after comparison*

Like other forms of artistic expression, selective colorizing is subjective. How much or how little color to reveal will be up to the individual.

■ **Note** The Hue-Saturation dialog is a quick and straightforward way of converting a color image to black and white. For some images, it isn't always the best choice. In Chapter 10, we'll look at several other methods of converting color to black and white.

Summary

This chapter covered a couple of ways to create images with an artistic slant by using selective colorization. The methods involved turning a full-color image into black and white on a separate layer and then revealing color in specific areas using the layer mask.

This process can give an image a surreal look, as was demonstrated in the two exercises.

In the next chapter, we'll look at a few other techniques for creating artistic images by colorizing them using patterns combined with layer blending modes.

CHAPTER 9

Colorizing Using Patterns and Color Overlays

In this chapter, we'll cover the following:

- Creating an artistic image of a car using blending modes and patterns
- Creating an urban grunge effect on an image of a brick wall

This is another chapter that I hope you'll find fun and fairly easy to follow. Colorizing images can go to a new level by adding texture to your projects. The techniques described here were inspired by fellow GIMP user Deborah Carter, who was kind enough to supply some of the patterns that will be used in this chapter.

Tutorial 23: Adding a Pattern to a Vintage Car

In this tutorial, we'll add some color by adding a splotchy pattern to the image of a vintage European car.

To do this tutorial, follow these steps:

1. Open the `Ch09_Car.jpg` file found in the Chapter 9 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Duplicate* or *Copy* (or leave as is).
3. Open the `Ch09_Splotchy Floral.jpg` (Figure 9-1) file found in the Chapter 9 Practice Images folder (File ➤ Open as Layers). This is the pattern we'll use to colorize the car.

P. Whitt, *Pro Photo Colorizing with GIMP*, DOI 10.1007/978-1-4842-1949-2_9

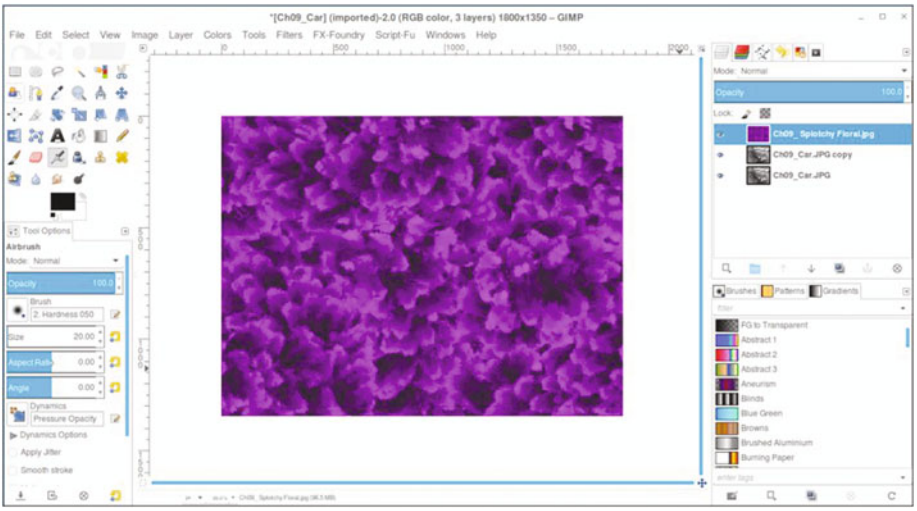

Figure 9-1. *The pattern that will be used to create the effect*

4. Copy the pattern to the clipboard (Edit ➤ Copy).
5. Go back to the car image by clicking the tab in the image navigation bar (Figure 9-2).

■ **Note** Change the blending mode of the new layer to Overlay. The pattern is larger than the car to ensure complete coverage, so we'll remove (actually, hide) the excess.

---

6. Add a layer mask to the pattern layer (Layer ➤ Mask ➤ Add Layer Mask) initialized to white. Click in the layer mask to make it active.
7. Using the Lasso tool with the "Anti-aliasing" box checked, draw a loose selection around the car (Figure 9-2).

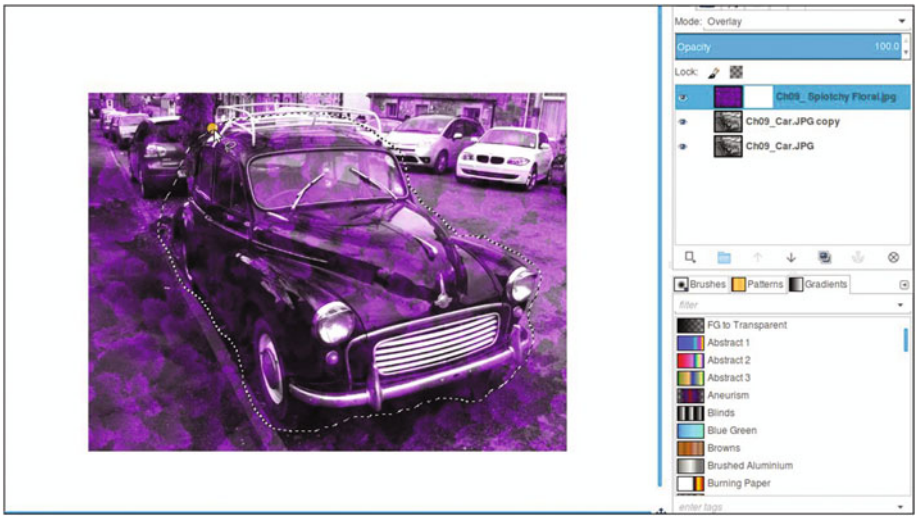

Figure 9-2. *Make a selection using the Lasso tool*

8. Invert the selection (Select ➤ Invert). Now the area around the car is selected.

9. Use the Bucket Tool to fill in the inverted selection with black to make the pixels of the pattern transparent (Figure 9-3). Deactivate the selection (Select ➤ None).

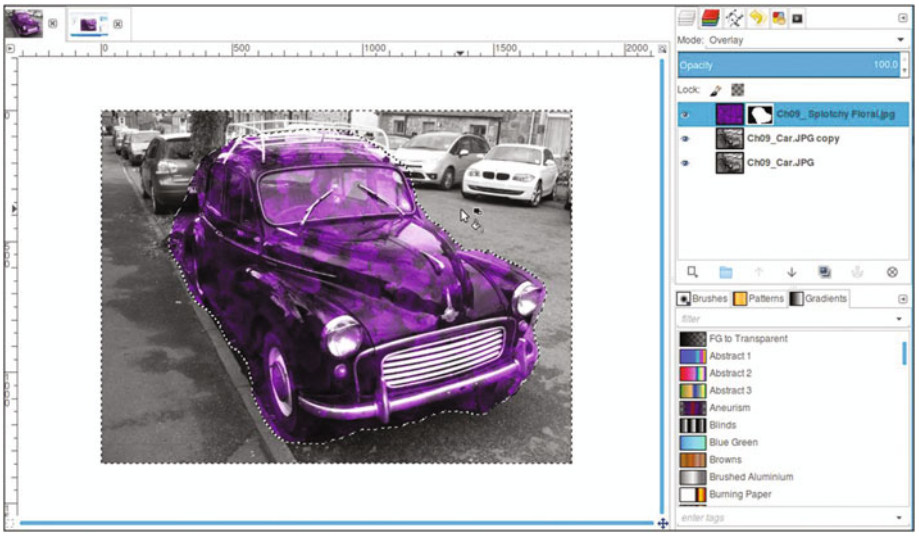

Figure 9-3. *Fill the inverted selection with black to make the excess pixels transparent*

10. Using a brush with the 2.Hardness 050 setting and black as the active color, paint around the car to clean up the edge (Figure 9-4). Paint in the headlights, wheels, bumper, and windows as well.

Figure 9-4. *Paint around the car to clean up the edge*

The end result is an image with an unusual artistic slant (Figure 9-5). If desired, save the image as an XCF file for future reference.

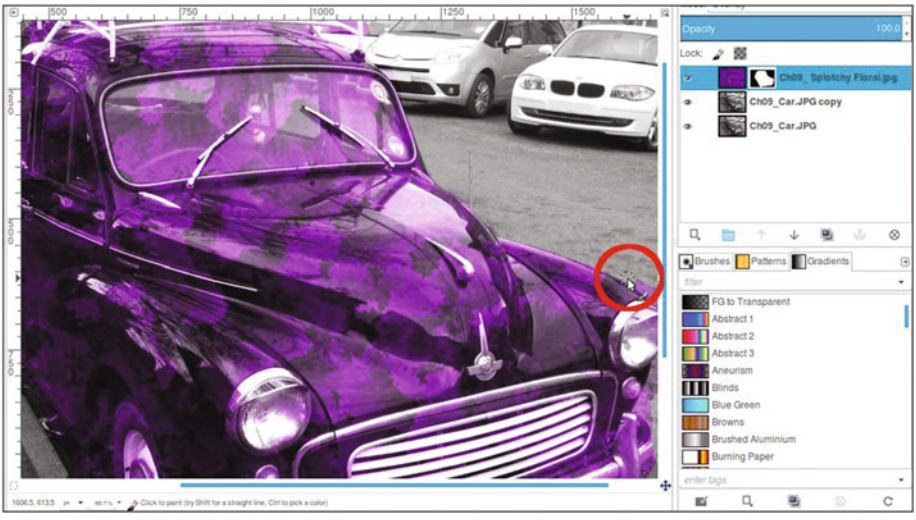

Figure 9-5. *Before and after comparison*

There are several additional patterns included in the Chapter 9 Practice Images folder if you feel inclined to experiment.

Figure 9-6 shows the result of following the same steps as in the previous tutorial, but using a different pattern (this pattern is called `Ch09_Swirly Green.jpg` and is included).

Figure 9-6. *The same tutorial using a different pattern*

Tutorial 24: Colorizing a Brick Wall Using Color Overlays

In this tutorial, we'll combine two color overlays to add color to a black and white image of a brick wall.

To do this tutorial, follow these steps:

1. Open the `Ch09_Brick Wall.jpg` file found in the Chapter 9 Practice Images folder.
2. Duplicate the background layer (Layer ➤ Duplicate Layer) and rename the duplicate layer *Duplicate* or *Copy* (or leave as is).

3. Open the `Ch09_Color Overlay 1.jpg` file (File ➤ Open as Layers) found in the Chapter 9 Practice Images folder.

4. Change the blending mode of the new layer to Color. The Color blending mode will give it splashes of red and a little yellow and orange (Figure 9-7).

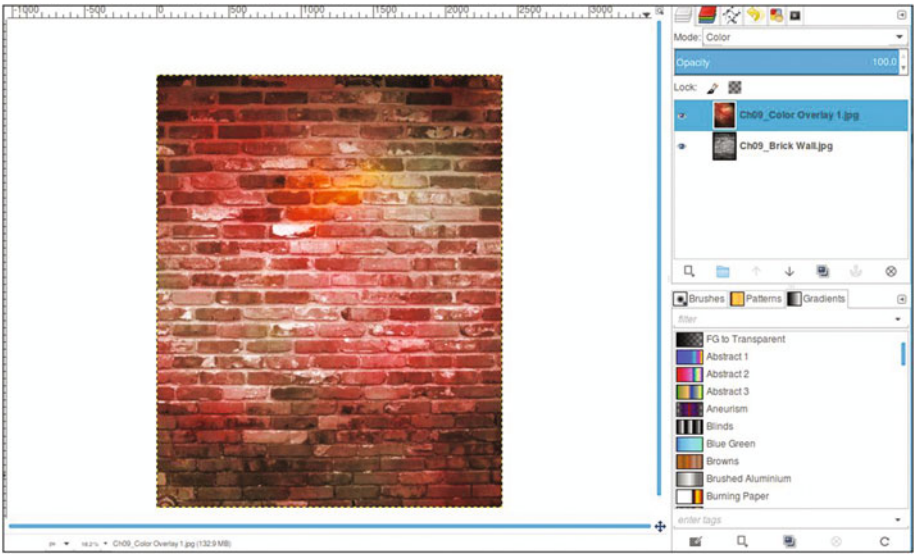

Figure 9-7. *Splashes of red, yellow, and orange using the Color blending mode*

5. Open the `Ch09_Color Overlay 2.jpg` file (File ➤ Open as Layers) found in the Chapter 9 Practice Images folder.

6. Change the blending mode of the new layer to Grain Extract (this blending mode affects the lightest and darkest values with an overlay of color).

The result is a brick wall with an urban grunge appearance (Figure 9-8). If desired, save the image as an XCF file for future reference.

Figure 9-8. *Before and after comparison*

Since a layer blending mode interacts with the layer beneath it in a specific way, you might want to switch the order of the color overlays to create different effects (Figure 9-9).

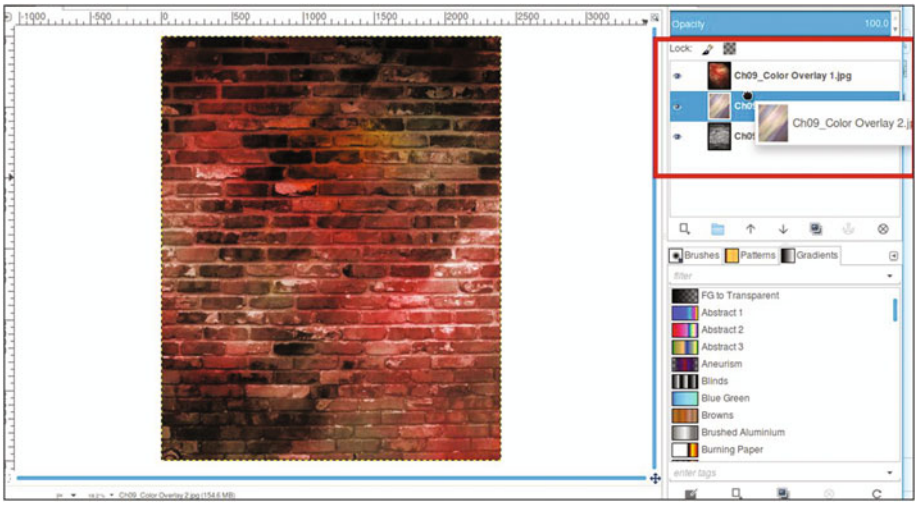

Figure 9-9. *Switch the order of the color overlay layers to change the effect*

For a more detailed explanation of layer blending modes, refer to the downloadable PDF Supplemental Beginner's Guide.

Summary

This chapter covered a couple of ways to create images with an unusual effect by colorizing using patterns and overlays. The image of the vintage car was colorized by using a pattern as a layer in the Overlay blending mode, giving it a unique look.

In the next tutorial, two different color overlays were used on the image of a brick wall. One was set to the Color blending mode, and the other was set to Grain Extract. The result was an image with a grungy, urban appearance.

In the final chapter, we'll look at several effective ways of converting color images to black and white.

CHAPTER 10

Converting Color Images into Black and White

In this chapter, we'll cover:

- Black and white conversion using the Desaturate dialog
- Black and white conversion using the Channel Mixer
- Black and white conversion using the Decompose dialog

In this chapter we'll go in a different direction, turning color images into stunning black and white. There are a number of reasons why someone might want to make such a conversion: for use in black and white publications, artistic expression, and so on.

It might seem that converting a color image into black and white is just a matter of draining the color away. You can simply use the Hue-Saturation dialog and reduce the color saturation to zero. While that does work in the sense that it removes color, it can sometimes leave behind an image that is flat, dull, or even unnatural looking, depending on the colors in the original image (see Figure 10-1). There is usually some tweaking required to achieve optimal results.

Figure 10-1. *The middle image was converted by simply lowering the saturation to zero, while the right-hand image is the result of more fine-tuning in the conversion process*

P. Whitt, *Pro Photo Colorizing with GIMP*, DOI 10.1007/978-1-4842-1949-2_10

An ideal black and white image has a wide range of grays, with deep, rich shadows for the darkest areas and bright highlights that are not washed out to pure white (except for specular highlights, which are extremely bright, such as the reflection of light off of chrome).

Tutorial 26: Converting Color to Black and White Using the Desaturate Dialog

The first method of converting a color image to black and white is relatively straightforward. If you recall, we used this function in Chapter 8 for selective colorization. Now, we'll take a closer look at this dialog's full range of abilities. Desaturate generally works well for making quick conversions on images with a good tonal range. The image of this old church is a prime example–it has good contrast with highlights that aren't too bright and good middle tones (Figure 10-2).

Figure 10-2. *A color image with good contrast*

To convert this image, follow these steps:

1. Open the `Ch10_Old Church.jpg` file located in the Chapter 10 Practice Images folder.
2. Duplicate the background layer and rename the duplicate *Black and White Layer*. Open the Desaturate dialog (Colors Menu ➤ Desaturate). This is different from the Hue-Saturation dialog. It offers a choice of shades of gray, based on lightness, luminosity, or an average (Figure 10-3).

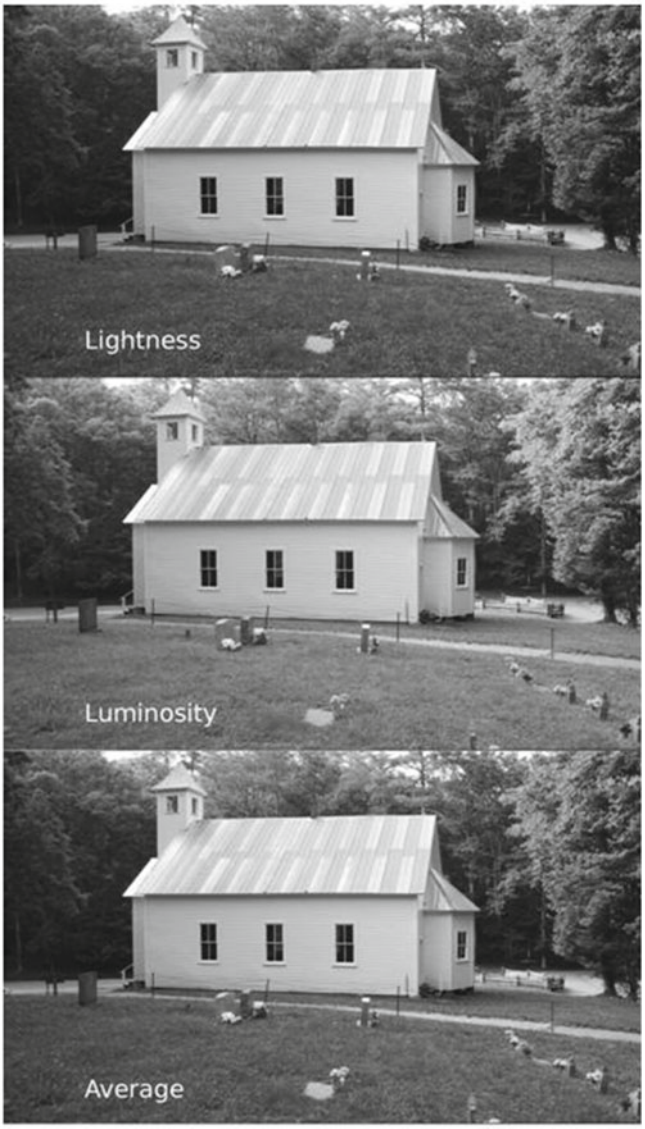

Figure 10-3. *The Desaturate dialog offers some limited but useful options for converting color images to black and white*

Determining which option to choose really depends on what looks best to you. As with many aspects of image editing, there is an element of subjectivity involved. Personally, I had trouble choosing between the Luminosity and Average settings, but in the end I thought Luminosity looked the best (there is a bit more detail in the shadow areas).

In this case, using the Desaturate dialog worked very well for a quick conversion (Figure 10-4).

Figure 10-4. *Before and after comparison*

Tutorial 27: Converting Color to Black and White Using the Channel Mixer

The Channel Mixer is used for adjusting the value of each color channel (red, green, and blue). It is often used for making corrections in color images. By choosing Monochrome, the tonal values of each can be individually adjusted and mixed, offering a greater degree of control for converting color into black and white.

Before using the Channel Mixer, let's take a quick look at what color channels are. An RGB color image is a composite of three "storage bins," or channels of color data, one each for red, green, and blue. Note where each color is represented by the brighter areas in each color channel (Figure 10-5)

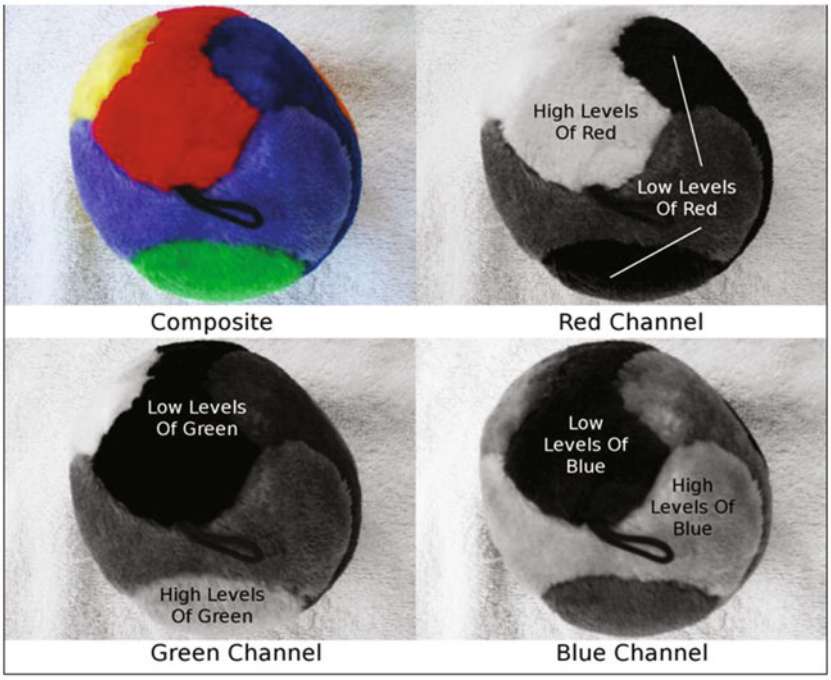

Figure 10-5. *Color channels store color data for an RGB image*

The Channel Mixer is a fairly complex tool and takes some time and practice to master. But you can end up with superb color to black and white conversions by using this feature.

To convert this image, follow these steps:

1. Open the `Ch10_Girl by Big Rock.jpg` file found in the Chapter 10 Practice Images folder.
2. Duplicate the background layer and rename the duplicate *Black and White Layer*.
3. Open the Channel Mixer dialog (Colors Menu ➤ Components ➤ Channel Mixer). Check the "Monochrome" and "Preserve Luminosity" options. The "Preserve Luminosity" option reduces the luminosities of the color channels while keeping a good visual ratio between them; this prevents the image from "blowing out" (Figure 10-6).

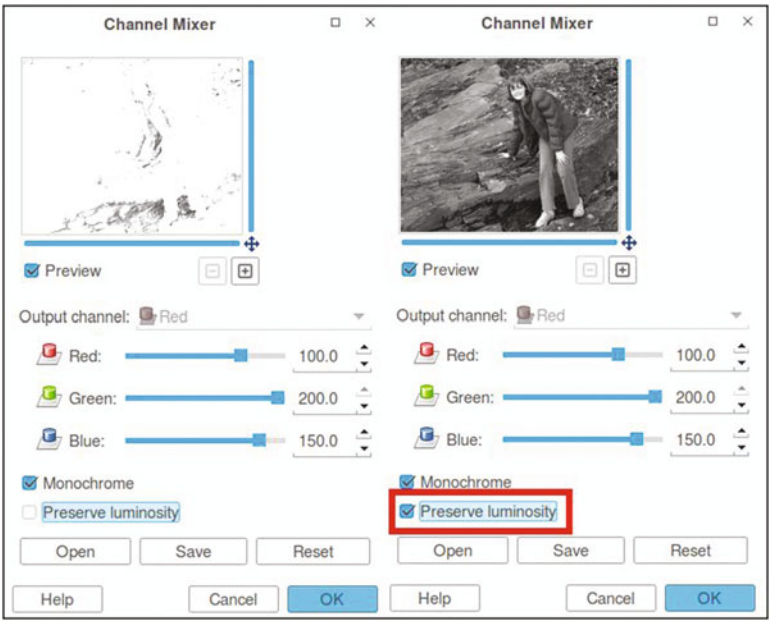

Figure 10-6. *The "Preserve Luminosity" option prevents the image from blowing out while making adjustments*

4. I found that by leaving the Red setting at 100 and increasing the Green to 200 and Blue to 150, the girl's coat darkened some, creating better contrast between it and the rock in the background (Figure 10-7).

Figure 10-7. *Fine-tuning color to black and white conversions with the Channel Mixer creates an image with improved contrast*

This method is worth investing some time and practice in, if using the Desaturate function doesn't give you the results you want.

Tutorial 28: Converting Color to Black and White Using the Decompose Dialog

The Decompose dialog separates the color image into color channels as separate layers.

We'll convert this wedding photo (Figure 10-8) into black and white by working with the Decompose dialog and using layer masks to reveal some of the tonality of the underlying layers.

Figure 10-8. *A wedding color photo that would look great as a black and white image*

To convert this image, follow these steps:

1. Open the `Ch10_Just Married 2000.jpg` file found in the Chapter 10 Practice Images folder.

2. Open the Decompose dialog (Colors Menu ➤ Components ➤ Decompose). Choose the default RGB Color Model setting and select the "Decompose to Layers" option. This creates a new separate file and extracts the channels as layers (Figure 10-9). You'll be using this file for the rest of the tutorial, so you can close the `Ch10_Just Married` image now.

Figure 10-9. *The Decompose dialog creates a separate file with the color channels extracted as layers*

■ **Note** The Decompose dialog is also capable of extracting channels from other color models, such as CMYK, LAB, and HSV, to name a few. Although these color models aren't relevant to this book, they are to other aspects of image editing. Color models are fully explained in the *GIMP User Manual*.

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3. The image will appear in black and white, with the red channel on top (Figure 10-10). Some of the tonal quality is too light in the red layer (such as the bride's face and the children's heads), so we'll need to reveal some of the tonal value from the underlying green layer (to reveal the underlying green layer, click the eyeball icon next to the red layer to hide it; Figure 10-10).

Figure 10-10. *Clicking on the eyeball icon hides the red layer and reveals the green one beneath it*

4. Reveal the red layer and right-click on it to add a layer mask, initialized to white, from the drop-down menu.

5. Click the layer mask to make it active.

6. Using a soft brush (2.Hardness 025 setting) and 25–35% gray as the active color, paint the faces of the bride and groom and the red flowers to reveal some of the tonal information of the layer (green) underneath (Figure 10-11).

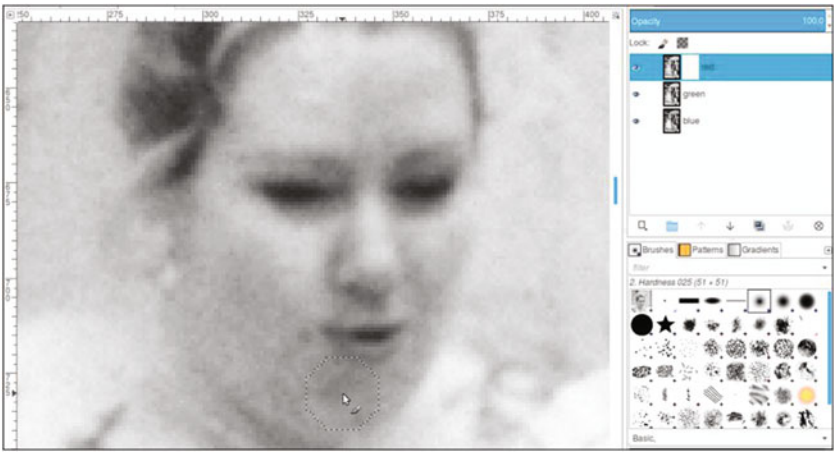

Figure 10-11. *Painting in the layer mask with 25–30% gray reveals a little of the tonality of the underlying green layer*

7. Use black to paint the heads of the children and the top of the small tree (Figure 10-12).

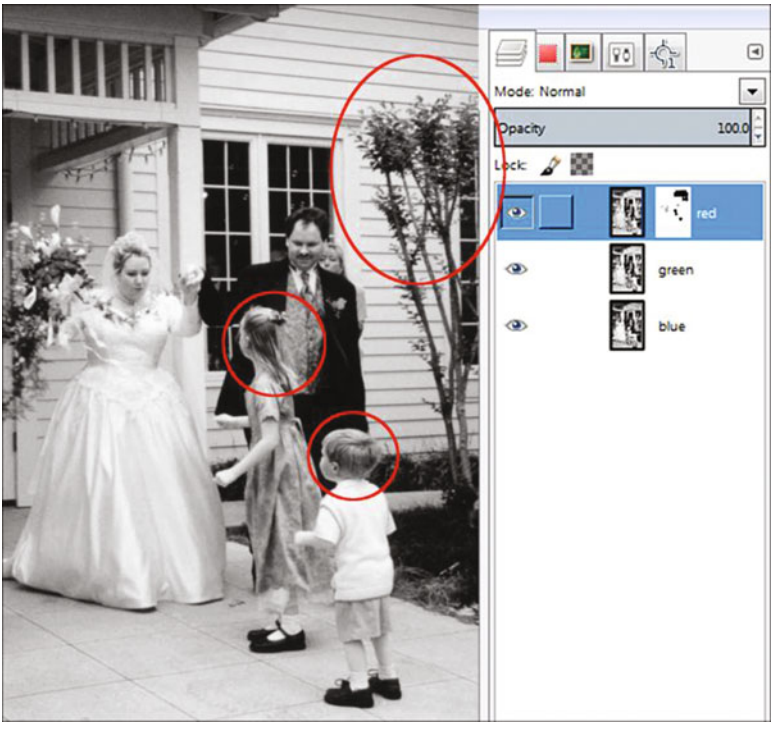

Figure 10-12. *Painting in the layer mask with black reveals the tonality of the underlying green layer*

The method just described uses the best tonal information of two channels extracted to layers. If the darker tones of the blue layer had been required, it would have been necessary to add a layer mask to the green layer and paint the same areas in both the red and green layers.

As we've seen in these tutorials, achieving good color to black and white conversions requires some degree of manual control, but it's worth it to take the time to practice. You'll develop a keen ability to create aesthetically pleasing black and white images (Figure 10-13). If desired, save the image as an XCF file for future reference.

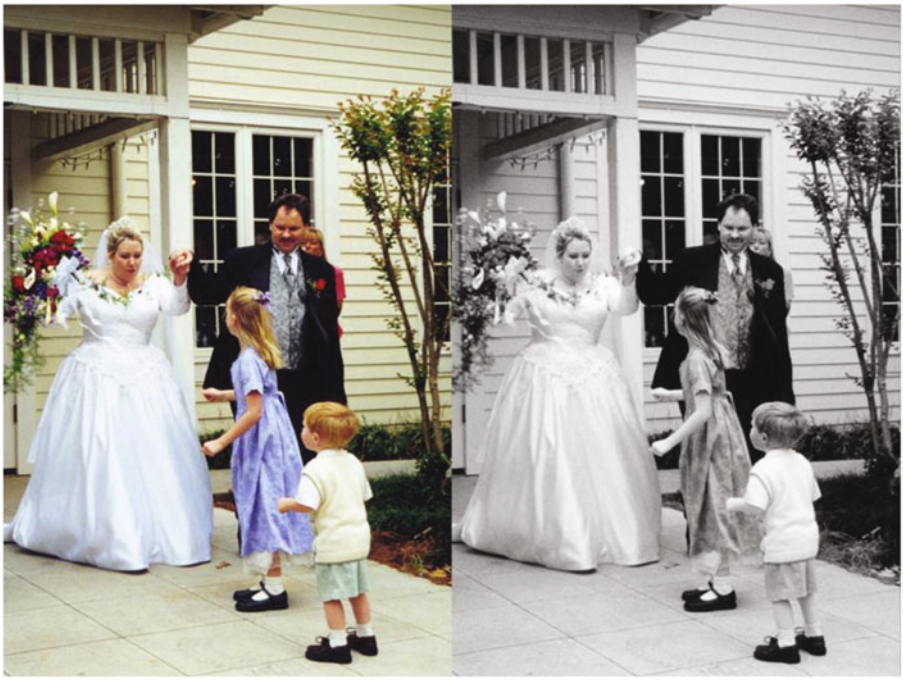

Figure 10-13. *Before and after comparison*

Summary

While this book deals primarily with colorizing images, this chapter goes in the opposite direction, converting color images into black and white (grayscale). We've gone over a few techniques that achieve better results than just lowering the saturation to zero.

The Desaturate dialog offers three options: Lightness, Luminosity, and Average. The Channel Mixer offers a high degree of control by adjusting the tonal value of each color channel. The Decompose dialog separates the image into the RGB color channels as layers. The layer mask offers control by selectively revealing or concealing tonal values, letting you use the best tonal value of each channel.

Closing Thoughts

Colorizing can be a very enjoyable and challenging aspect of photo editing. GIMP is an excellent program for adding color to black and white images, whether you want to achieve a realistic look, a nostalgic hand-tinted look, or something more fun and artistic.

If you're new to colorizing (and discover you enjoy it), you can stay busy and have fun for a lifetime!

APPENDIX

Additional Resources for GIMP and Digital Colorizing

Hopefully, you have learned a great deal about digital colorizing and using GIMP from the tutorials contained in this book. There are, of course, additional avenues to explore to learn even more about colorizing (and other ways of editing) your digital photos—I encourage you to check them out.

GIMP Resources

A list of helpful websites and resources related to all things GIMP follows.

The Official GIMP Website Tutorials Page

`www.gimp.org/tutorials/`

The GIMP website offers tutorials from beginner to expert levels and is a great place for those new to GIMP to become better acquainted with this software (see Figure A-1).

P. Whitt, *Pro Photo Colorizing with GIMP*, DOI 10.1007/978-1-4842-1949-2

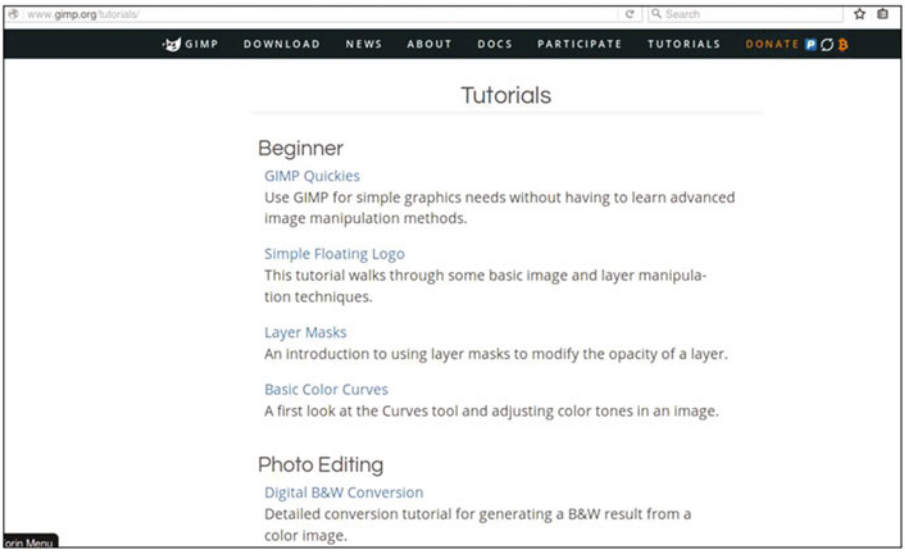

Figure A-1. *The GIMP website Tutorials page is a great place for beginners to acquaint themselves with this software*

GIMP's Official Google+ Page

`https://plus.google.com/+gimp/posts`

This is the official communications channel between developers of GIMP and its users. Apart from project news, posts feature artwork by GIMP users, artist features, links to useful tutorials, etc.

Partha's Place

`www.partha.com`

Partha's Place contains useful links to photography tutorials, Inkscape (the free illustration program), and various GIMP topics. It provides a build of GIMP for Macintosh with the Resynthesizer plug-in already included. Partha's Place also provides preliminary builds of the next stable version of GIMP.

GIMP Magazine

www.gimpmagazine.org

GIMP Magazine is published periodically and is available as a free PDF download or can be viewed online. It contains interviews with artists and photographers who use GIMP and also showcases their work. If you would prefer a print version of *GIMP Magazine*, it is available for purchase.

gimpusers.com

www.gimpusers.com

This website contains many GIMP tutorials, forums, brushes for GIMP, and other helpful resources for anything related to GIMP.

Photo Retouching, Editing, and Restoration

Following is a list of helpful websites and resources related to image editing and restoration.

RetouchPRO

www.retouchpro.com

This website (see Figure A-2) contains many tutorials on retouching, restoration, and image editing. There are many "challenges" that members of every skill level can accept (using the image-editing software of their choice) to develop and hone retouching and restoration skills.

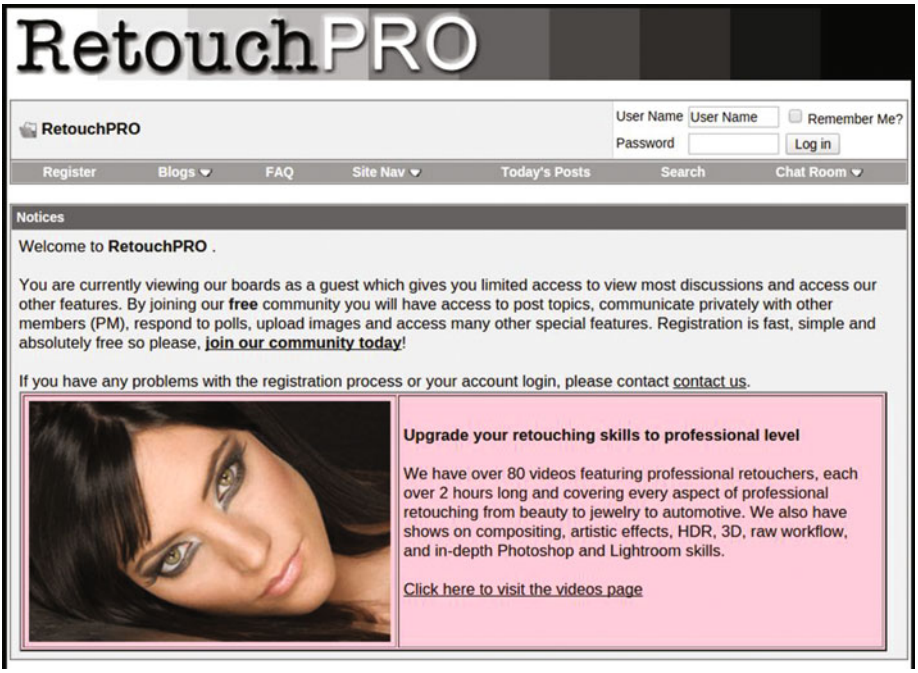

Figure A-2. *RetouchPRO is an excellent resource to help you develop retouching skills*

Whitt's Image Works Free Digital Portrait Backgrounds

`www.whittartworks.com/backgrounds/id14.html`

As a photo editing professional, I operate a website that provides digital portrait backgrounds for sale. There are several free examples available for download throughout the site (see Figure A-3). These backgrounds are useful in image editing and restoration work and graphic design (be sure to read the terms of use on the homepage).

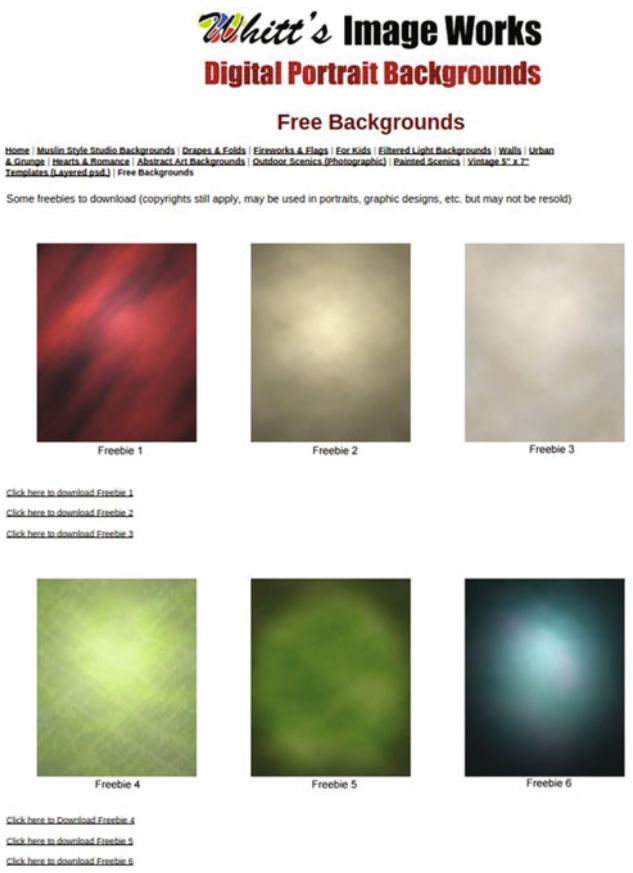

Figure A-3. *Digital portrait backgrounds available to download*

Examples of Colorized Photos

Following is a list of websites showing various examples of colorized photographs.

Dana Keller (History in Color)

http://www.danarkeller.com/

This website showcases a number of colorized images ranging from the 1800s to the mid-twentieth century.

Colorization: The Colorization of Old Black and White Photos

Reddit is a social, entertainment and news website that contains a wide variety of topics. There is a "subreddit" section that is devoted to showcasing colorized black and white images that can be seen here: https://www.reddit.com/r/Colorization/

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