

# Photoshop **Now.**

**How to do what you've been  
trying to do in Photoshop CS3**

By  
Douglas Henderson

# Photoshop Now.

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**Photoshop Now CS3**  
© 2008 Douglas Henderson.

**Published by Now Books.**  
19555 E. 108th St. North  
Owasso, Oklahoma, USA 74055

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918-688-9606

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Photoshop Now is printed on a Xerox Phaser 860 Solid Ink printer.

ISBN 0-972532-0-0

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# Photoshop Now.

## IN.1 Welcome to the World of Photoshop

We're going to have great fun, and YOU are going to do things with photographs and graphic design you never thought possible. You will amaze your friends, impress girls and maybe even make money! With Photoshop more than any other product on the market today you can lose weight, replace hair loss, remove wrinkles, increase your bust size and straighten those crooked teeth! Don't believe me? Just look at the pictures!

## IN.2 How most people learn Photoshop

Imagine you want to learn to fly an airplane. So you go out and buy a really good airplane, say a Boeing 747 jetliner.

To learn how to fly you:

- Just sit in the cockpit, flipping switches and knobs hoping the thing will start flying.
- Buy a thick book on flying, such as *The FAA Engineering Principles for Commercial Aviation*.
- Get a buddy, a U.S. Air Force fighter pilot, to show you a trick or two on a Sunday afternoon.

But you never do really learn to fly. Actually you never even get off the ground. You just have this expensive airplane sitting in the hanger.

For many people, this is their experience with Adobe Photoshop.

Years ago, I started with an early version of Photoshop LE. It was fairly simple and by poking around and muddling through I was able to teach myself Photoshop.

But that was about seven versions ago. The present version (CS3) of Photoshop is so powerful, so complex, that for many people, learning Photoshop today is like the impossible task of learning to fly in a Boeing 747 jetliner.

As a result of Photoshop's present power and complexity, many people have a program they can't use, or can only use to a limited degree. They never get off the ground.

But it doesn't have to be that way. I'm going to teach you how to fly. I have taught this program many times, to many people. Some of them were young, some old. Some were computer geeks; others were computer idiots.

I have learned how people learn Photoshop. I've learned how to teach Photoshop, and I can teach Photoshop to you.

## IN.3 Mac or PC?

First off, you don't have to have a Mac to use Photoshop. If you have a Mac that's great. If you don't, don't run out and buy one.

Photoshop works virtually the same on a PC or a Mac. Anything you can do on one, you can do on the other.

Since PCs have over 90 percent of the market I'm writing this book primarily to PC users. If you are running a Mac. Don't worry about it. This book will work just fine for you.

Most Mac users already know all this, but when a PC instruction says... then hold down the **Ctrl** key... Mac users hold down the **Command** (apple) key. When PC instructions say... right Click your mouse, Mac users hold the Alt key and click their one-button mouse. And the Preferences palette, which is accessed on a PC through the Edit menu, is under the Photoshop menu on a Mac.

While the interface is cosmetically different, I just can't believe any Mac user can look at a PC screen shot and not immediately recognize what he needs to do on his Mac.

This is a non-issue.

## IN.4 Which version of Photoshop?

This book is written for Photoshop CS3. If you have CS2, all is not lost. With very few exceptions, everything CS3 has, CS2 has. Most of the last few upgrades, to CS, CS2 and to CS3 have been to the "bells and whistles" rather than to the core program. And since this is a basic book, we deal primarily with the core tools and techniques.

I don't really recommend this book to users of Photoshop Elements. While Elements has many of the same tools and techniques, they will work just differently enough to make learning difficult from this book.

Photoshop Lightroom, is a completely different program and this book doesn't really have any useful information for those users.

However, you can order this book in it's earlier versions for the earlier programs by e-mailing [douglashenderson.com](mailto:douglashenderson.com).

## IN.5 This is how we are going to do it:

### 1. We are going to simplify the program as much as possible.

Photoshop gives you several ways to do each operation, but I am only going to show you one way. You can learn other ways, hidden icons, keyboard shortcuts, hot keys, etcetera later. But for now, let's just get the basics down.

### 2. We are going to learn stuff in a specific order at a specific pace.

As a baby you learned how to crawl, then how to walk. Only after you got good at walking did you learn how to run.

I'm not going to teach you all the ways to balance color in one session. I'll teach you the easiest way, and then after you've used it awhile, I'll show you a better way. Later I'll show you the most accurate way. Your brain has to digest stuff awhile. We are going to avoid "information overload."

### 3. We're going to learn by seeing.

You need good images to work with in Photoshop. From the [www.nowbooks.us](http://www.nowbooks.us) website you have access to all the dozens of images used in the projects in this book. There are good and bad examples of design, source images and more. The images for each chapter are in the folder of the same number.

### 4. We're going to learn by doing.

There are projects in each session. Not just busy work, but the kind of stuff you are called on in real life to produce for paying clients. The projects are listed on the Project Index on page 148, so if you wish you can just go to a specific project and learn only what you need to accomplish that project.

### 5. We're going to have knowledge where we can find it.

This manual is indexed and cross-referenced like a study Bible. The red numbers, like 9.4, refer you to chapter 9, section 4, for more info. We've got a Project index (p.152), an I want to: index (p. 149), a Cheap Trick index (p.155) and a Topic index (p.152) in addition to chapters 1-10 and appendices on getting good color (Dealing with Color; p. 157) and resolution (Resolution; p. 165)

### 6. We're going to learn not just how but when and why to do stuff.

Wisdom is the ability to use knowledge. There are people who have Photoshop knowledge without wisdom. Let's learn some design principles so you will not only know how, but when to do the things you are going to learn to do.

### 7. We're going to get "tricky."

Each chapter in the book has two "cheap tricks." These are "gee-whiz" sort of things that I think you will enjoy. Finished versions of the tricks are in the files labeled as CT#2 (cheap trick number so and so). The tricks are also indexed under the Cheap Tricks Index on page 155.

And away we go....

# Photoshop Now.

## Workspace, Toolbars, Palettes, Pixels, Viewing, Color Theory 1, Clouds, Choosing colors, Painting, Selecting, Cropping, Redeye

Start your computer and let's get to work.

### 1.1 Workspace, Tool bars, Palettes

Open Photoshop by clicking on the icon on the desktop, or by clicking on: START>All Programs> Adobe Photoshop CS2. If you are using a Mac computer, double click on the Photoshop Icon in the Dock at the bottom of your screen, Double click the icon on the desktop or open Photoshop from the Applications folder in the hard drive.

After the program opens, close the Welcome Screen. Then, from the drop menus at the top of your screen, click on the File menu, then click Open. From the Open dialogue box, where it says "Look In" click the ▾. Browse to the Photoshop Now files that are either on your network(schools) or that you have downloaded from the [www.nowbooks.us](http://www.nowbooks.us) website. There you will find ten folders (one for each chapter); double-click on One. Select **big\_air.jpg** and click the Open button.

Just to get everybody's computer screen looking more or less the same, click on **Window>Workspace>Default Workspace**.

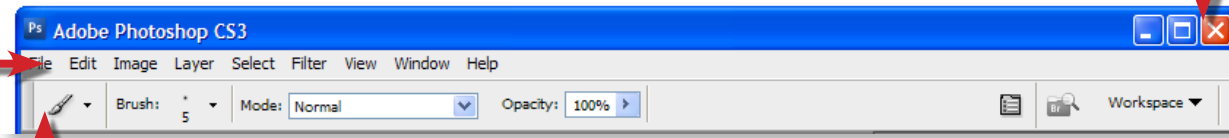
This is what you should be seeing on your screen, without the red words, of course. It will look slightly different on a Mac but not much.



This is the Program Window.

Follow through with me and locate the items on **your** screen. For the rest of the book these are the names we will be using for these items.

At the top of the screen, you see what you see in any other program; a bar with the program's name (in this case Adobe Photoshop) and then the standard buttons to minimize, maximize or close the program.



Then just below that you see the usual list of drop-down menus:

**File Edit Image Layer Select Filter View Window Help**

Right now we're just getting an overview of the program as a whole, we will talk about what are in these menus later. I just want you to find them so you will know where they are later.

Just below the list of drop-down menus is the **Options Bar**. This options bar runs all the way across the screen. This is used to set various options for whatever tool you are using. More about it later.

### Image Window

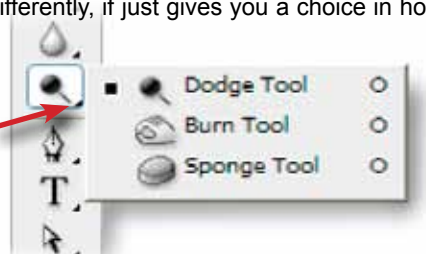
The image you opened appears in a **window** with a gray line around it, and a blue title bar at the top. The title bar has the name of the image file, the file type, (.jpg) a percentage number that shows the enlargement, and a mode (RGB). More about these terms later.

### Tool bar

The tall narrow bar with symbols of ropes and brushes and fingers and arrows on the left side of your monitor is the **Tool bar**. Each symbol, or icon, represents a tool. To use a particular tool you just put your cursor on the icon and click; your mouse cursor becomes that tool. The cursor **remains** that tool until you pick another one.

Each tool has a set of options specific to that individual tool, which are changeable in the Options Bar. For instance, if you click on the paintbrush. The Options Bar automatically changes to display options for adjusting the paintbrush. From the Options Bar you can then adjust the size of the brush, how opaque your paint stroke will be, etc.

Click and drag the top of the tool bar to drag the Tool bar to somewhere else on your screen. Click the two tiny triangles at the very top to change the narrow, one tool-wide tool bar to a fatter, two-tool wide tool bar. It doesn't work any differently, if just gives you a choice in how you want your tool bar to look.

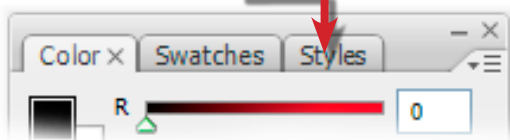


Some tool icons have a tiny **triangle** in the corner. By putting the cursor over those icons and holding down the mouse button, a menu slides out, revealing even **more** tools below the top one.

### Palettes

In Photoshop talk, Palettes are a little place to store choices, like colors, or brushes, or fonts. On the right side of your screen are many of these palettes storing Photoshop's many, many choices.

Notice there are palettes on top of palettes. Bring a lower palette to the top by clicking on the file folder tab.

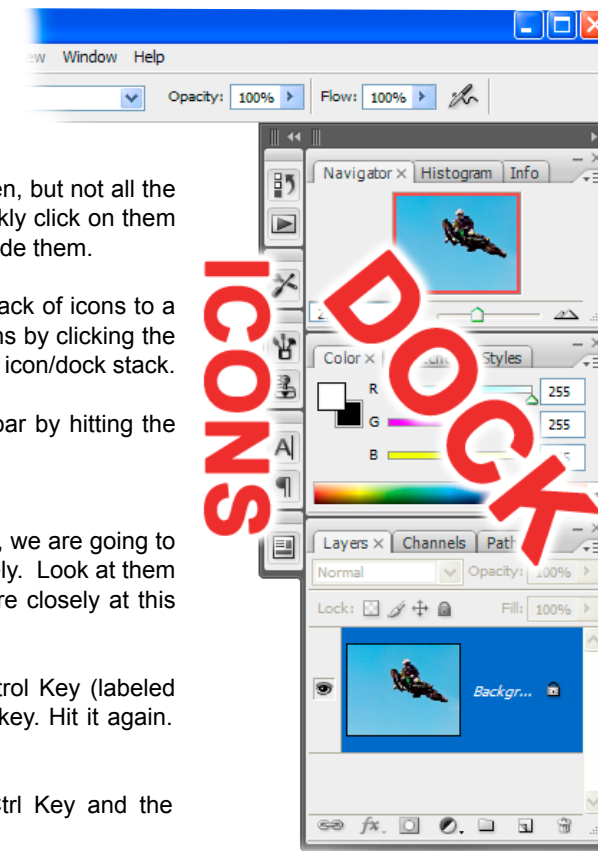


**Minimize** a palette by clicking the underscore sign in the upper corner of the palette, just as you do for complete programs. **Close** a palette by clicking the X in the upper corner.



Click on the drop-down menu labeled **Window**. This menu controls which palettes are visible (the ones with a ✓) and which are hidden (those without a ✓). Show or hide a palette by clicking its name in this menu. This clicking to change is called **toggling**; like a toggle switch.

Notice over on the right side of your screen. The tall vertical stack of palettes is called a Dock. The column of icons isn't called anything; they're just icons.



The logic is that palettes that we use often, but not all the time, are behind the icons. We can quickly click on them to pop them out, then click'em again to hide them.

At any time we can convert the whole stack of icons to a dock or collapse a dock down to just icons by clicking the ►► in the dark gray bar at the top of the icon/dock stack.

Show or hide **all palettes** and the tool bar by hitting the TAB key.

## 1.2 Zooming

If we are going to be working on pictures, we are going to have to look at them. Look at them closely. Look at them without distraction. We need to look more closely at this big\_air.jpg image.

**To Zoom in** on the image: Hit the Control Key (labeled Ctrl on your keyboard) and the + (plus) key. Hit it again. And again.

**To Zoom out** on the image: Hit the Ctrl Key and the - (minus) key.

**To Zoom the image until it fills the screen** without extending under any palettes, hit the Ctrl key and the 0 (zero) key.

Okay, this isn't hard to remember. Just hold down the Ctrl key and hit: + to zoom bigger - to zoom smaller 0 to zoom to fit.

Now look in the title bar of your image. It says, big\_air.jpg @ 200%, or some other percentage figure. Hit Ctrl + and Ctrl - and as you zoom in or out this percentage figure will change. This is the percentage of enlargement.

So... enlargement of what?

## 1.3 Understanding Pixels

A computer has only one way to display pictures on the monitor screen. We can work with it or work against it, but just like the law of gravity, it will always be there. Understanding how the computer shows us images is **Muy importante** to Photoshop work.

Hit the Ctrl + keys repeatedly to zoom in until you can't zoom in any more.

TOOLBAR

You are viewing the image at 1600%. At this point, you aren't seeing the *picture* anymore; you are seeing a mosaic of squares of color.

These squares of color are the *Picture elements* that make up the image, referred to in computertalk as *Pixels*.

At 1600% enlargement you are actually seeing the individual pixels that make up the image. Notice the pixels are perfect squares of one color. Because of this horizontal and vertical lines are straight and smooth, but diagonal lines or curves are "stair-stepped", "jagged" or "saw-toothed"... *Pixelated*.



Thus... the smallest dot we can paint  
the thinnest line we can draw  
the tiniest circle or square we can draw... can be no smaller than... one pixel.

There can be no "fractions" of a pixel. A pixel can only be one color.

Okay. We have established that our image is represented by pixels. And guess what? Our computer monitor displays images by lighting up or dimming little spots of color, also called pixels.

When Photoshop displays an image on screen it describes enlargement as a percentage.

**At 100%:** one image pixel is displayed by one pixel on the monitor.

**At 400%:** one image pixel is displayed by four pixels (two wide, two tall) on the monitor.

**At 25%:** four image pixels (two wide, two tall) are displayed by one pixel on the monitor.

What this means to you is that your *most accurate view of your image is at 100%* enlargement, where one pixel on your image is exactly one pixel on your monitor.

Make your critical decisions when viewing at 100%.

Zoom in until you get to 300%. At this point you are seeing the image very closely, but you can't see very much of the image.

You are looking at the image through a window that is smaller than the image. Portions of the image outside of the window are hidden to you.

Using your mouse, move the on-screen cursor until it is over the very edge of the window. When you get to the right spot the cursor will turn to a  $\leftrightarrow$ . By holding down the mouse button and dragging you can re size the window.

But at 300% you still can't see all of the image.

You can move the image around inside the window by using the scroll bars at the bottom and right side of the window.

But this is awkward. Forget the scroll bars; there's a better way.

## 1.4 Hand Tool

Take your cursor over to the tool bar and go to an icon that looks like Mickey Mouse's hand. This has been most appropriately named the "hand" tool.

Click on the hand tool and your cursor becomes a hand. Put the hand over the image, then click and drag. You are moving the image "under" the window.

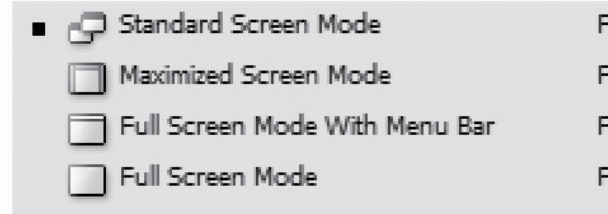
## 1.5 Viewing

Click and hold down the mouse button on this icon. A fly-out menu with four icons appears.



These icons control Photoshop's viewing environment.

I wanted you to see this fly-out menu so you could make sense out of what we are about to do. We need to switch between these viewing modes more often than you might think. So often that I don't want you to use this fly out menu, I want you to use the F key, which lets you cycle through these four viewing options.



Click off of this fly out menu, then click the F key to go from the normal Standard Screen Mode to the Maximized Screen Mode, then to the Full Screen with Menu Bar Mode, then to the Full Screen Mode.

Click the F key again and you are back to the Standard Screen Mode.

The differences between these modes are:

- the **Standard Screen** lets you see the image in a window, and Photoshop itself in a window. If you have other programs open you can see their windows also. This is the mode to work in when we have multiple images or multiple programs open, such as Photoshop and Indesign. This lets you switch back and forth between images or programs with just one click.
- the **Maximized Screen** mode doesn't display the image window or the scroll bars, thus giving you a larger view of your image, but you can still see other open programs.
- The **Full Screen Mode with Menu Bar** fills out your monitor and hides any other open images or programs under a gray background. You can now see your image without all these distractions.
- The **Full Screen Mode** fills out your monitor and hides any other images you have open under a black background. It's like the Full Screen Mode with Menu Bar, but it doesn't have the Menu Bar, and the background is black.

The idea is when we have all of Photoshop's palettes, menus, tools, stuff, etc, etc. out... it's hard to work. You've got too much stuff in your way. It's difficult to accurately evaluate your work; you can barely *find* you work under all these dang palettes.

## 1.6 Checking Your Progress

Okay. So here's the deal. When doing Photoshop work you must periodically stop and check your progress.

**Just hit the Tab key,  
The F key once or twice to get to the gray or black background.  
Then the Ctrl 0 to size the image to the screen.**

Now you have your image as big as it can get with no distractions. Now, and only now can you really judge whether or not the change you made to your image is an improvement, or just a change.

It's very common for Photoshop newbies to try to judge their work while either not zoomed in enough to see what they are doing or zoomed up so big they can't see all of their work.

All ya gotta do: **Tab,  
F,  
Ctrl 0.**

That should make a clever acronym, but if does I can't figure out what it is.

We are about to start painting on a photograph, but before we can paint, we need to chose a color to paint with.

## 1.7 Choosing Color

In the bottom third of the tool bar you will see two squares of color. In your book it's a red square and a white square. In the way Photoshop "talks" the top, red box is the "foreground" color, the white square is the "background" color.

This has NOTHING to do with what is in the **foreground** or **background** of your picture. It's just what the program calls the colors in those boxes.

When you paint a stroke, you will paint with whatever color is in the foreground color box. When you delete an area the background color will be what is "under" that area.

So how do we select colors for the foreground /background color boxes?

We have five ways of choosing these colors. From least sophisticated to most:



**1. Default colors** (black and white) Because our most often used color scheme is black on a white background (just like this book!) we can quickly choose both of those colors by clicking here.

**2. Swatches Palette** If you don't see a palette labeled Swatches, click>Window and put a ✓ by swatches. Like picking a color from swatches in a paint store, we can choose a foreground color by clicking on any color in the swatches palette. Notice, when we pass the cursor over the swatches the cursor changes to an eyedropper. The metaphor is the eyedropper sucks up a sample of color that we are choosing to paint with. This is called "sampling." After you have chosen your foreground color you don't have to re-select your previous tool. The eyedropper will revert to the previous tool when you leave the swatches palette.

**3. Color Palette** If you don't see a palette labeled Color, click>Window and put a ✓ by Color. The Swatches Palette was like picking a color from a crayon box, but what if no crayon in the box satisfies? What if we want to mix our own color? The Color palette lets us move slider bars to mix any variation of color we want. As we move the sliders we see the new color appear in the tiny color boxes on the palette and also in the foreground color box in the tool bar.

**4. Eyedropper** Often the exact color we need is already in the image. You can choose a color from any pixel in the image using the Eyedropper. Select the Eyedropper from the Tool bar (right side, second up from the color boxes). This is the same tool your cursor automatically changed to when it passed over the Swatches Palette. Now put the Eyedropper over the color you want to sample in the image and click. The exact color you clicked on is now the foreground color in the Tool bar, ready for you to paint with.

**5. Color Picker** Click directly **on** the foreground color box. A very sophisticated dialogue box appears giving you myriad options for choosing colors. This is so sophisticated that we won't talk about it in chapter 1. We'll save it for later.

Okay, we have so many options for setting the *foreground* color... but how do we set the *background* color?

Easy. Set the background color by choosing it as a foreground color first, then swap the foreground color to the background by clicking on the double-headed bent arrow by the color boxes.

## 1.8 Color Theory 1: Why choose *that* color?

Color is an extremely strong stimulus to the human brain. Colors affects us. Choosing colors to achieve an end result, as opposed to just "that looks nice" , is the mark of a good designer.

Colors are sometimes described as being "warm" or "cool." The warm colors are the reds, yellows, oranges. The cool colors are the blues, greens, magenta and cyan.

Visually the warm colors seem to come forward, cool colors appear to recede.

Warm colors excite us, stimulate our appetites, raise our pulse, enliven us, speed us up, and activate us. Is it any wonder fast-food restaurants are always decorated in warm color schemes?

Cool colors, calm us, sooth us, relax us. Now you know why your dentist's office is painted pastel blues.

Colors also tend to have meanings within a culture. In Western thought, we associate:

**Black** Evil, death and mourning, darkness, night, fear, bad guys.

**White** Virtue, virginity, purity, cleanliness, innocence, snow, winter, Alaska.

**Red** Fire, hot, stop (red) lights, sex, hookers (red light district), error or warning lights, danger, excitement.

**Pink** Femininity, baby girls, male homosexuality, cuteness, poodles, Mary Kay.

**Purple** Royalty, wealth or luxury, gaudiness, excess.

**Orange** Sunshine, oranges, Halloween, autumn.

**Yellow** Happy, sunshine, caution.

**Brown** The Earth (earth tones) nature, soil, dirty, drab, the 1970's

**Green** Go-ahead (green light), fertility, nature, environmentally friendly, envy, jealousy, in-experienced (greenhorn).

**Blue** boys, truth (true-blue), quality, upper class (blue-blood) royalty, goodness, water, peacefulness, sadness.

**Gray** dullness, mediocrity, middle, gloom, old-aged (gray-haired) the 1950's

Be aware that these associations are cultural. In Japan white is the color of death, not black. In African cultures black represents health and truth while white represents sickness (anemia) and lying.

Don't just pick a color. Select your colors for a purpose.

**CHEAP TRICK 1**

## 1.9 CLOUDS, SMOKE, FIRE.

Cheap tricks are just little gee-whiz effects. Try to work through them on your own, but if you just don't get it, open the CT\_1 or whatever Cheap trick (CT) number it is in the Photoshop Now folders and see what a finished product should look like.

1. Click on FILE>New. 2.19
2. In the dialogue box set an image size of 500 x 500 pixels, a resolution of 72 pixels per inch. Click OK.
3. Set foreground/background colors to the default Black/White by clicking the tiny default color boxes. 1.7
4. If you don't see the Swatches palette, go to the Window drop down menu, and put a ✓ beside Swatches.
5. From the Swatches palette click on a nice light Blue so you now have blue as the foreground color and white as the background color.
6. Click on the drop-down menu Filter>Render>Clouds.

Hmmm. A blue sky with white wispy clouds. Now you may think this is cool but of limited use, but its not.

This Render>Clouds deal is a **Random Pattern Generator**. Every time you use it, it will produce a different random pattern. We can use this to produce backgrounds and such that look more "organic" and less "computer-generated."

- Try this again using Black and White.
- Now try Red and Yellow.

## 1.10 Painting tools: the brush, the pencil

Photoshop give us several tools to "paint" with, all of which are really just changing pixels from their former color to the color we chose. To demonstrate this, pick some bright color from the swatches palette by clicking the mouse on your chosen color. That color appears as the foreground color in the color boxes.

**Brush.** This is the painting tool we are discussing right now, Click on the brush to select it.

But this is the *History Brush* which we are NOT discussing right now. If you see a backward curling arrow you're looking at the wrong tool.

If you don't see a brush, but a pencil, that's because the Brush and Pencil are "on top of each other". Click and hold on the Pencil Tool in the Tool bar and you will get the little fly-out menu from which you can select the Brush. Remember that whichever tool you have selected will appear depressed in the Tool bar.

Anyway; select the brush. Move your cursor over the image. Your cursor appears as a circle. This circle represents the size of your brush. Now hold down the left mouse button, and move (**click and drag**) your brush across the image. You should see a streak of whatever color you had chosen appear across the image.

Now look at the Options bar at the top of your screen.

When you selected the Brush the Options Bar changed to display all the Options, or settings available for the Brush. I know you can just see it here, but that won't do you any good. On **your screen**, In this Options Bar find: **brush** icon, (the tool presently selected in the tool bar)

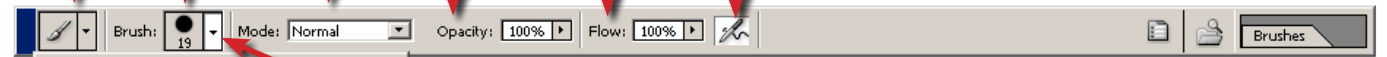
an icon showing you the brush's **shape** (round) and it's **size**, in this case 13 pixels in diameter.

a **Mode** drop-down menu; Normal is it's default setting (more on this later).

an **opacity** setting.

a **flow** percentage

an **airbrush** icon (a tiny paint sprayer)



While that's a lot of adjustments for a simple brush, that's not all. Click on the ▼ beside the brush shape. The box (shown at left) that drops down is the **brushes palette**. This gives you:

- a slider bar to adjust **brush size**.
- a slider bar to adjust **hardness**. This is a **hard** brush: ●

This is a **soft** brush: ●

Below the slider bars is a table showing you brush "tips." Notice there are scroll bars on the palette; you have many brushes from which to choose. Brushes can be round (typically the most useful) square, a shape or ?

Your palette may look different. It may show brush tips at the left, followed by an example of the sort of stroke that brush would make. Of course either palette works the same; just double click on a brush to choose your brush and hide the drop-down brushes palette. You can change how the palette looks but don't worry about that now.

Choose a brush from the palette and paint a few strokes. Try a different brush and paint again. Just play with this a little while until it makes sense how different brushes or settings effect the painted stroke.

### Opacity

In the Options bar leave the "mode" setting at normal. Let's look at the "Opacity" setting.

We can control the degree to which this digital paint "covers up" the image beneath the paint with this opacity setting. To adjust opacity, just type in a new percentage of opacity or you can click on the ► to access a slider bar.

Try painting across the motorcycle at 20 % opacity and again at 70%. Notice how little or much of the motorcycle is visible through the painted area. Paint at 0% opacity and nothing shows up. But at 0% opacity, that makes sense doesn't it?

Opacity: how much you can see through something:

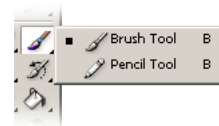
- Wood is 100% opaque, not at all transparent.
- Glass is 0% opaque; completely transparent.
- Your shower door is about 30% opaque.



PAINTING

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Put your cursor over the brush icon on the tool bar and the little menu that pops out gives you access to the other, similar painting tool: the Pencil.



### The Pencil

The Pencil is almost the same as the Brush. The two only differ in the type of stroke each paints:

- Brush. Softer, less definite, fuzzier stroke
- Pencil. Hardest, most definite, specific stroke.

Try both tools using different brush sizes and different opacities. Try different colors.

The Brush has an option in the options bar the pencil does not; the **Airbrush**. With both the Pencil and Brush when you **stop moving**, they **stop painting**, even with the mouse button still held down. But with the Airbrush option selected for the Brush tool, the Brush continues to “build” paint as long as the mouse button is held down.

Try it and see what I mean. This Airbrush option is used for some special effects later.

### Straight Lines

About now you are probably noticing that it is difficult, **very difficult**, to draw a decent straight line with a mouse.

Drawing with a mouse is about like drawing with a brick. Most Photoshop Guru’s prefer drawing with a trackball or a graphics pad, but for now, use what you have.

Photoshop gives you a little help.

To draw straight lines using the Brush or the Pencil, click the mouse once where you want the line to **start**. Then move the cursor to where you want the line to **end**. Then, **hold down the shift key**, and click the mouse again. The program paints a straight line for you, from the first click to the second one.

To draw a straight exactly horizontal, or vertical line, hold down the shift key **while** you drag.

Play around with this until the circuits connect in your brain, until it makes sense to you, then click on **File>revert**. This will cause the Kawasaki image to **revert** back to the way it was when you first opened it. Now we can move on to the next concept.

## 1.11 Selecting

Painting or drawing with any precision or finesse using a mouse is just difficult. We need better control of things. We need the same sort of help a house painter gets from a big plastic drop cloth and a roll of masking tape.

Now stick with me here, because this is an important concept.

By using masking tape and a drop cloth the painter “selects” what part of the wall will get painted, and “masks” what part of the wall he doesn’t want painted.

By using a drop cloth, the painter **SELECTS** what **CAN** be painted, and **MASKS** what **CAN’T** be painted.

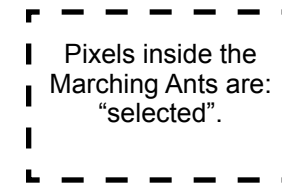
**Selected** is the **OPPOSITE** of **Masked**, and visa-versa.

Photoshop provides us the digital equivalent to drop cloths and masking tape with “selection” tools.

Selecting means that we are **SELECTING** which pixels **WILL** get painted (or colored, or darkened, or whatever) and **MASKING** which pixels **WON’T** get painted.

To make sense of this, from the Tool bar, click on the Rectangular Marquee selection tool.

Click and drag diagonally down across the image. When you release the mouse button you will see a rectangle of blinking dashed lines. In the graphic design world the correct technical term for these blinking dashed lines are: **Marching Ants**.



Pixels outside the Marching Ants are “masked”.

Now click on the Paintbrush and paint a stroke across the selected area... extending past the selected area.



You will see that the brush painted **only on the pixels that were inside the selected area**; we only painted on the **selected** pixels.

We have “masked” off the pixels outside of the ants, like covering them with an invisible digital drop cloth, we can’t get paint on them. Want to see this digital drop cloth? In the tool bar, just below the Color boxes is a rectangular button with a circle in the middle of it. This button controls how we “see” the mask.



It’s default normal mode shows the marching ants. Click the button down to change your view from the Normal View to the “Quick Mask” mode which lets you see what is and is not masked/selected. The area outside of the selected area turns orange. This mimics the old print industry technique which used ruby-lith masks. Normally, we will work in the Normal Mode (that’s why it’s called normal), but know that when you need to you can switch over to this Quick Mask mode to actually see what you have selected and what you have masked.

Return to the Normal Mode by clicking the button again, so you again see marching ants.

Because this technique of selecting/masking is so important we have several tools, many options and even an entire drop down menu dedicated to selecting/masking. Don’t just read this stuff, or it won’t stick with you. Try each of these selection tools out as you read about them and they will make much more sense.



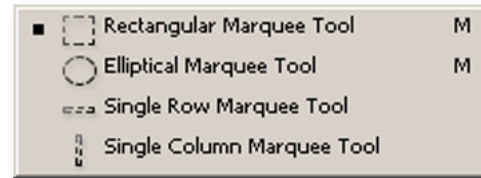
## 1.12 Selection Tools

### 1. Marquee:

Select the rectangular marquee by clicking on it. Move your cursor over the image, then click and drag the mouse diagonally across the image to create a selection. Notice when you click a second time to start a new selection the former selection is no longer selected.

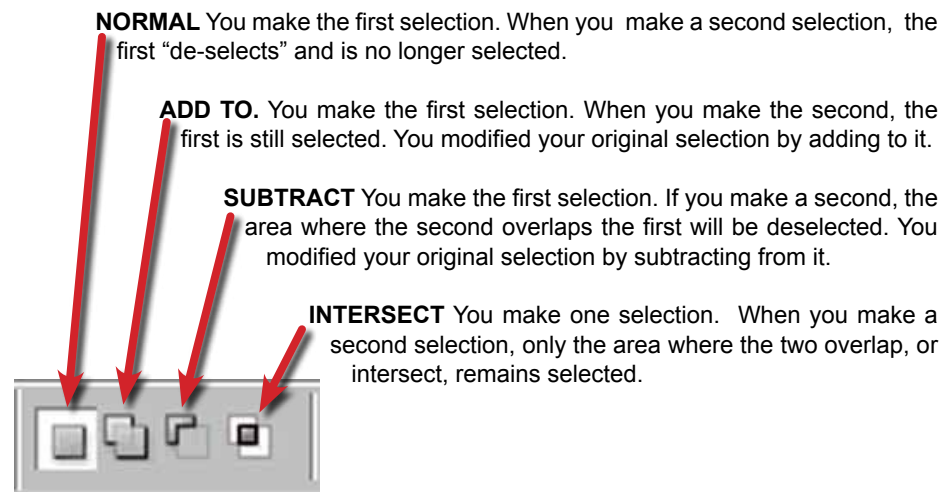
There are 4 types of marquees.

By holding down the mouse button on the Marquee icon on the toolbar a "pop-out" menu appears allowing you to choose from four different shapes to make selections.



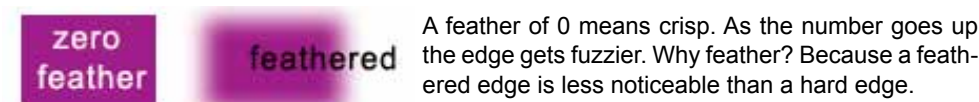
With the Marquee selection tools the options available from the Options Bar are different than they were for the painting tools. At the far left we have the icon of the tool we currently have selected; in this example it should be a small rectangle made of dashed lines.

Next we have a little group of four icons. These icons are a type of button called "radio buttons." Like the radio station buttons on your car radio: you can only pick one at any time. These four buttons offer us a choice of four different ways to work this marquee selection stuff. This will make more sense later but the four variations are:



So you could drag the cursor to make a selection, then add to it or subtract from it or intersect it, until you get just the area you want selected.

Next we have an option for Feathering. Feathering means: do we want the edge of our selected area to be hard, crisp, precise and specific OR soft, fuzzy and blurred?



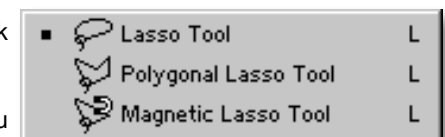
Next we have a check box for anti-aliasing. Don't bother with this now; we will talk about it later.

Next we have a Style. The choices are:

- **Normal.** What we drag is what we get. It just is what it is.
- **Fixed aspect ratio.** The proportions (ratio of height to width) will stay the same regardless of the size or direction we drag the mouse.
- **Fixed Size.** You specify the exact height and width of the selection. You type in the dimension you choose, in any units you choose, such as 8 in for eight inches or 640 px for 640 pixels. When you click the cursor on the image your selection will appear, the exact size you specified.

Most of the selection tools have the options of New, Add, Subtract and Intersect, Feather, and Style. Thus enabling you to modify your selections to select what you want, all you want and nothing you don't want.

**2. Lasso.** The Lasso tool (looks like a rope). When you click and drag with it, whatever you "loop" around is selected.



When you close your loop (get back around to where you started) and release the mouse button, the pixels inside your loop will be selected.

Like the rectangular marquee the lasso has the same four radio buttons (new, add, subtract and intersect) and the ability to set feathering. But it does not have the fixed aspect ratio or the fixed size the rectangular marquee does.

The lasso tool is useful for selecting odd-shaped areas.

**3. Polygon Lasso** The polygon lasso is similar to the lasso. It's under the lasso icon. The icon looks like a bent coat hanger. You also use it to loop around the pixels you wish to select, but this lasso only has straight lines.

Understanding the polygon lasso.

It's like taking a broken rubber band and thumb-tacking one end of it to where you want to start your selection, then stretching the rubber band and putting a second thumb-tack. Stretch the rubber band again in another direction, as far as you want, then put a third thumbtack. Then a fourth, then cross back over the first line. Everything enclosed inside the loop of stretched rubber band will be selected.

Try this by selecting the polygon lasso tool from the tool bar. Put your cursor anywhere on screen. Click the mouse once (you have just put the first thumbtack in your rubber band) then move the cursor to a new location and click again (you have stretched the rubber band and placed the second thumbtack). Click again in a new place (third thumbtack). Move and click as many times as you want, setting as many "thumbtacks" as you need to enclose the area you want to select, then cross back over the first line you made. Finally, hit the return or enter button and your selection will close and the rubber band will turn into marching ants.

If you decide that the polygon lasso wasn't what you wanted, but you can't seem to get out of it... just hit the ESC (escape) key on your keyboard to get out of the polygon lasso.

This sounds more complicated than it really is. Try it and it will begin to make sense.

The polygon lasso is useful for selecting shapes with straight sides.

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**4. Magnetic Lasso** Frequently the area you are trying to select will differ from the other areas in color or tone. There will be an area of contrast between what you want and don't want.

Also under the Lasso/polygon lasso icons is the Magnetic lasso, which looks like a bent coat hanger with a horseshoe magnet (who comes up with this stuff?).

Look at the big\_air.jpg image. If you tried to select *just* the motorcycle, but *not* the sky, using the rectangular or elliptical marquee, you couldn't do it. You would always end up with some bits of sky in your selection. It would be possible to select just the motorcycle with the lasso or the polygon lasso, but it would be a slow, laborious process.

Choose the magnetic lasso and move your cursor in close to the motorcycle.

Click on the edge of the motorcycle, where blue sky meets motorcycle. The magnetic lasso, just like a magnet sucking to metal, automatically clings to the edge of the motorcycle. Slowly move your cursor around the motorcycle, the program "sees" the area of contrast and magnetically "snaps to" it. You don't even have to be exactly on it.



Go all the way around the motorcycle, returning to where you started. Cross your starting point, and hit **Enter** on the keyboard; the selection will close and marching ants appear.

This magnetic lasso is useful, and only useful, for selecting areas that contrast from the areas we don't want.

It would quickly, perfectly select a black cat on a snow bank. But it would not be able to select a polar bear on a snow bank, or a black cat in a coal bin.

### 5. Magic Wand

The wand selects by color rather than shape or contrast. Choose the magic wand and click on one of the green fender areas of the motorcycle.

When you clicked on the green area, the wand selected all the green pixels that were:

- a) the same color as the one you clicked on
- b) contiguous (touching) to the one you clicked on.

**Tolerance.** The sensitivity of the wand is controlled from the options bar with the tolerance setting.

At zero tolerance (most discriminating) the wand will select the pixel you click on and ONLY pixels the EXACT same color. No more, no less.

At its maximum tolerance, 255, (least discriminating) it will select ALL pixels.

Right now the wand is probably set with a tolerance of 32, and at 32 it will usually select all the green panel on the motorcycle.

Okay, so we've got all these selection tools for selecting different stuff different ways, and each of these selection tools has the new, add, subtract and intersect, plus the options of feathering and many have the style option of normal, fixed proportions or fixed size. But that's not all yet.

From the list of drop-down menus at the top of your screen, click on **Select**.

## 1.13 Select Menu

The select drop down menu gives you additional options and ways to modify your selections. I won't go into all of them right now, but do notice from the Select drop-down menu:

you can quickly select:

- ALL. Selects all the pixels in the image.
- DESELECT "drops" your selection, or UN-selects everything.
- RESELECT selects again what you just un-selected.
- INVERSE "inverts" your selection. Pixels that were selected are now un-selected, and un-selected pixels are now selected.

You can also

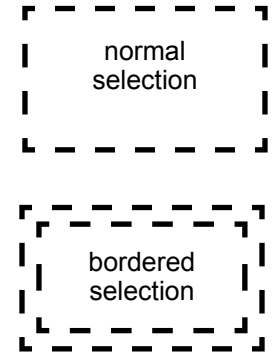
FEATHER: Feather an already existing selection.

MODIFY: **Border:** This allows you to select an area so many pixels inside and so many pixels outside of your original marquee; thus changing your *rectangular* shaped selection into a *picture-frame* shaped selection

**Smooth:** Smooths and rounds the corners of creaky, jerky selections like are sometimes made with the Magnetic Lasso or the Lasso.

**Expand:** Makes the selection larger by the number of pixels you specify.

**Contract:** Shrinks the selection by the number of pixels you specify.



Work with these selection tools until this makes sense. You need a pretty good handle on this selecting business before we move on to actually doing something with our selections.

## 1.14 Crop Tool

To “crop” means to cut away what we don’t want, leaving what we do. Choose the crop tool from the tool bar.

Click and drag the Crop Tool diagonally over the big\_air image. A rectangular area (similar to the rectangular marquee) appears. The darkened area outside this rectangle is previewing what you are about to “crop.”



Notice the little tiny squares at the corners and sides of the rectangle. These are called **handles**.

Drag the handles to move the sides in or out until you have “cropped to” what you want to retain, and “cropped out” what you don’t. Slide the handles around until you have cropped down to just the motorcycle, cropping out most of the sky.

We will see handles on other types of marques later.

At this point, the way Photoshop “thinks” you have the **option** of “**committing**” or “**rejecting**” the cropping choice you have just made.

Photoshop will not go forward until you commit or reject your cropping choice.

**Commit** your choice by clicking on the ✓ in the Options Bar.

**Reject** your choice by clicking on the ⊘ in the Options Bar.

We will see this ✓ and ⊘ business in the options bar again on other tools. We will be coming back to the motorcycle photo, so after you have cropped it, click on the Edit drop-down menu, then click Undo.

## 1.15 PROJECT: RED EYE.

We have been spending too much time learning. It’s time to DO something.

Open redevye.jpg from folder One. Zoom in using **Ctrl +** until the eyes are BIG.

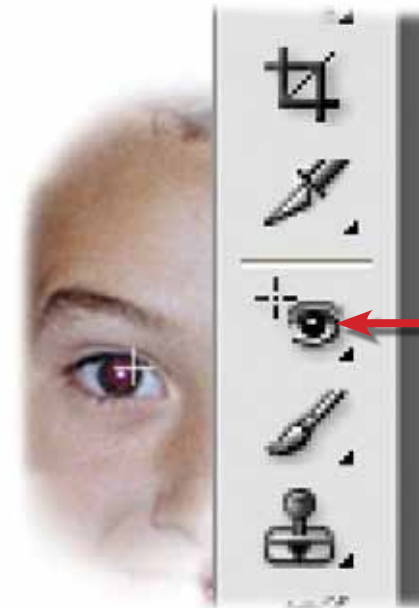
“Red eye” is a common problem in snapshots. It occurs mainly in small “point and shoot” cameras with built-in flashes. This built-in flash is too close to the lens. Light from the flash fires directly into the eye’s wide-open pupil, bounces off the blood-veined retina and reflects back to the camera to record on film or CCD as a bright red spot. Professional photographers mount their flashes on brackets way above the lens axis so they don’t reflect light directly back to the camera.

A second cause of Red eye is that many small children are demon possessed. Either way, the problem is easily fixed in Photoshop.



Like this:

We need to paint out the Red spot. To do so you will need to see **exactly** what you are doing. Zoom in by clicking on **Ctrl +**. If the eye is no longer in the window, choose the Hand tool from the tool bar, then click and drag to move the image under the window until the red eye is where you can work on it.



Select the Red Eye Tool. This tool, unsurprisingly is used for removing Red Eye.

You may not see this tool immediately, because it tends to be under the Spot Healing Brush (looks like a Band-Aid), which is the seventh tool down from the top.

Hold down whatever tool is in that spot and a pop-out menu will appear. Choose the Red Eye tool from the bottom of that pop-out menu.

When you select the Red Eye Tool, the cursor changes to a cross-hair. Move the cross hair to the red part of the red eye and click once. Almost if by magic, Photoshop will replace the red with the color of the rest of the iris, but still leave the nice little catch lights (white spot reflected in the eye).

If you don’t like what you got, Click Edit>Undo, to undo the Red Eye Tool and try again. You can adjust the pupil size and the amount the tool darkens the pupil, but that usually isn’t necessary.

That was easy, huh?

The bad news about the Red Eye Tool is that it **is** easy; too easy. It is so easy many people will just continue to fix red eyes in their photos from now on and their photography will never get any better. They won’t buy a better flash or learn to use their equipment correctly; they’ll just keep fixing it in Photoshop.

“Don’t worry: I’ll fix it later in Photoshop” is the cry of the true slacker. Don’t let this happen to you.

When you have fixed all six eyes,

- hit the tab key to hide all the palettes,
- zoom out by using the Ctrl - buttons or click Ctrl 0 to fill hit the screen with the image.
- hit the F key once to go to a gray background, twice to go to a black background.

Now really evaluate you work. Is there anyway you could make it better?

When you’re finished, since you probably don’t want to save this image, close it without saving it.

If it were a real photo of your’s you would save the changes you made, by saving the image, just like you do any other computer file. To do so, just click File>Save.

CROP

RED EYE

## 1.16 Easy 3-D

- Click on FILE>New. 2.19 Create a new image, Image size: 800x600; @ 72 PPI.
- From the Swatches Palette, choose a medium gray color. 1.7
- From the Edit Drop down menu, click on Fill>Foreground color. 2.7

You now have a gray background.

- Choose the Pencil tool from the tool bar (under the brush).1.10
- From the brushes palette choose a small hard brush.
- Use the eyedropper to choose a gray *lighter* than the first medium gray.
- Draw a horizontal line. Hold down the shift key while dragging to constrain your line to horizontal or vertical.
- Draw a vertical line, starting at the left end of the horizontal line, going down.

What you have now should look like a light gray “L” lying face down.

- Use the eyedropper to choose a gray *darker* than the first medium gray.
- Draw a horizontal line below the first one, same length, parallel to the light gray horizontal line.
- Draw a vertical line, starting at the right end of the horizontal line, enclosing the box.

So you have a light gray L and a dark gray L on a medium gray background. You have a rectangle with a light top and left edge and a dark right and bottom edge.

What’s weird is the rectangle appears to *protrude* out from the background.

Try this again, but draw the lighter colors below and left instead of above and right.

Now this crazy rectangle appears to *recede* into the gray background.

Hmmmmm. This is pretty cool. You’ve only had one lesson and you are already using a 2-dimensional drawing program to draw in three dimensions.

Something in our brain says there is a light source above us and to the left. When we see a rectangle “illuminated” this way we perceive the rectangle to have the illusion of depth. Graphic Arts people use this Jedi mind trick quite frequently. Yes. Your Windows programs use this all over the place to give a 3-D look to computer program interfaces.

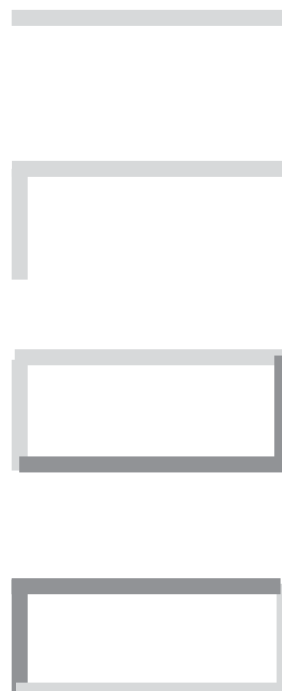
## 1.17 PROJECT: FIRE IN THE SKY

Wait a minute. Let’s try something. Go back to the big\_air.jpg image. See if you can select just the sky, but not the motorcycle.

The magic wand will be the easiest way to do that. 1.12 In the options bar set the tolerance to about 50 and click the wand on the blue sky.

If you have stray little twinkling pixels that didn’t select, feather the selection by clicking on Select>Feather and set the feathering to 1 or 2 then click OK.

Marching ants should be around the outside of the image and around the motorcycle. Now set your foreground/background colors to Red and Yellow.1.6 Now click on Filter>Render>Clouds.



# Photoshop Now.

Photoshop Think, Bridge, Crop 2, Fill, Stroke, Zoom, Undo, Image size, Resolution, Canvas size, Copy/Paste, Layers, Move tool, New files, Eraser, Range, Color Management 1.

## 2.1 How to think like Photoshop

Photoshop newbies relate creating images on a computer screen to drawing on paper. It’s time to leave that analogy behind.

Stop thinking in terms of *drawing*.

With Photoshop you aren’t drawing images anymore; you are building them. You are building them one object or one layer at a time.

Stop thinking of your images as being two dimensional. Start thinking of them in three dimensions, with objects above or below others, with opaque or transparent areas hiding or revealing other areas.

Stop thinking in inches. *Pixels* are the units of measurement in Photoshop land.

Think in terms of backgrounds, foregrounds, what you want to recede and what needs to come forward. Think of where the viewer’s eye will travel, where it will start, what it will be attracted to, what will distract it from what you want the viewer to see.

What we doing is trying to communicate a message; we are creating an image to help us communicate our message. Many newbies stare at their monitors, trying this, trying that, with no more sense of direction than a kid in a candy store. We need something to clarify our thinking and mobilizes us. Here’s a mantra for Photoshop:

### WHAT AM I TRYING TO SAY?

So what *ARE* you trying to say? What message are you really trying to communicate with this image? This should help you begin to see what is important and what is superfluous. What is it you want this image to communicate?

Really now...what are you trying to say?



## 2.2 The Bridge

In session one we opened a file with the familiar File>Open command which is common to many computer programs. This opens the file *in* Photoshop. If you open a file by just double clicking it from the My Computer windows or from Windows Explorer or Mac Finder it may open with Quicktime or Internet Explorer or another program, not necessarily with Photoshop. When this happens you just have to close the file and re-open it from within Photoshop.

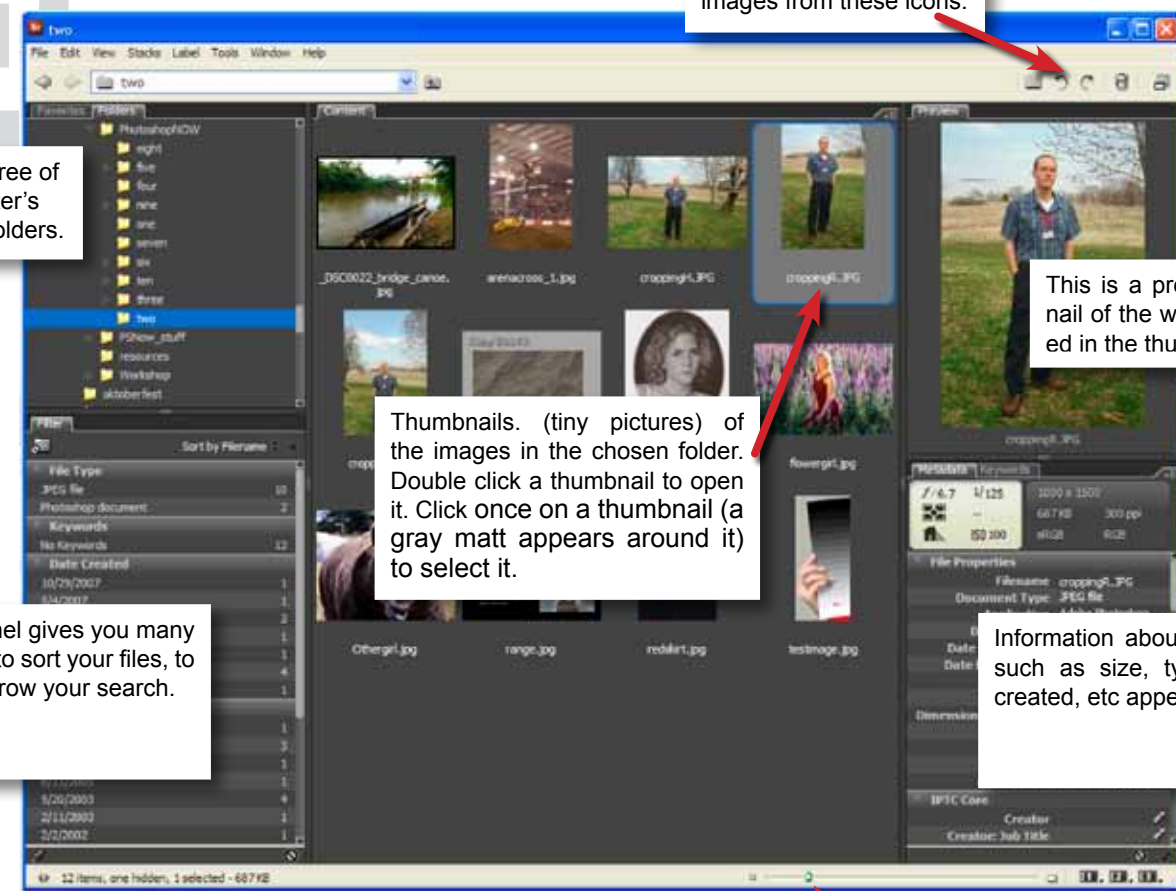
Searching for a particular image this way is pretty clumsy, especially when you visually remember a picture but not it's file name.

Adobe now bundles with Photoshop a separate program called the "Bridge" that allows you to visually browse for images. The Bridge can be accessed from Photoshop or can be used as a free-standing program by itself, without Photoshop being open.

With Photoshop open, from the Options Bar, click the Bridge Icon



The Bridge opens.



Rotate or delete selected images from these icons.

Here is the tree of your computer's drives and folders.

Thumbnails. (tiny pictures) of the images in the chosen folder. Double click a thumbnail (a gray matt appears around it) to select it.

This is a preview (larger thumbnail) of the whatever file is selected in the thumbnails pane.

Information about the file, such as size, type, date created, etc appears here.

This slider adjusts thumbnail sizes.

Switch to other views from here.

The Bridge isn't limited to displaying image files such as .jpegs and tiffs. It can also display non-image files such as InDesign documents, .pdfs, Illustrator files, and more.

You can also show your images as a slide show (Click View>Slide show, navigate using the arrow keys), rate (1-5 stars) images, group them, batch rename them, create web galleries and a host of other things from within this very versatile program.

But all of that would probably be a little overwhelming right now, so for now the important thing to know about the Bridge is that it's a quick way to find images you're looking for. Much better and faster than the File>Open business we've used in the past.

## 2.3 Crop Tool revisited

Open Redskirt.jpg from the Bridge **2.2** Zoom in with the Ctrl + keys. **1.2** Re-size the window if necessary so you can see all of the image. None of it is hidden outside the window. If you see scroll bars at the bottom or side of the image, then part of it is outside the window. Re-size the window or the image until all of it is visible.

This picture is poorly cropped. Notice the top of the image seems to almost rest on top of her head. We can see her hands but the ends of her fingers appear cut off. Why do we have this large empty black space below her knees? We have too much blank image at the bottom and none at the top. Let's re-crop this mess.

Select the crop tool from the tool bar. **1.14** But before we get too serious about cropping this photo let's look at some others first.

## 2.4 Where to crop?

From the Bridge open Cropping H.jpg, Cropping V.jpg and Cropping R.jpg.

You are looking at some of the most common mistakes in photography.

Cropping H is a simple picture of a person. But it is a **horizontal shot** of a **vertical subject**. In terms of "What am I trying to say?" the left third of the image doesn't say anything. In terms of "What am I trying to say?" the right third of the image doesn't say anything, either. Two thirds of this image is **wasted space** that contributes **nothing** to our information about this person.

Yeah, we can always crop down to what we want, then enlarge the remaining image to create the size of photo we need. But in doing so we have thrown out 2/3 of the image's resolution.

If we were shooting with an expensive 6-megapixel digital camera, after cropping 2/3 of the pixels away, our file has no more pixels or resolution than if we had shot it on a 2- megapixel point and shoot. If it were on film we have now enlarged the film grain to more than twice what it had to be.

Whether you are shooting digital or film, make the most of your image space.

Cropping V: This image is shot vertically but is not an improvement. The photographer has positioned the centrally-located auto-focus sensors on the person's face. As a result almost the top half of the image is vacant. And even worse, the person's feet are cut off. The "bull's eye" effect has struck again. It's simple to crop out all that wasted space... but replacing the feet is going to be tough.

Cropping R: This is not a Pulitzer prize winning photo, but notice that we at least have all of the subject with adequate space on all sides without any wasted space. Shot with the same camera, this image will have more than twice the resolution of the other cropped photos.

*An artist starts with a blank canvas and adds only what he wants.*

*A photographer starts with the world, and subtracts (crops) to only what he wants.*

Many photographers don't know what they want to say. So they end up including more in the image than they want. Crop to eliminate everything, except **exactly** what you need.

Where an image is cropped is an artistic choice, and the difference can make or break an image. Rather than just cropping undesirable stuff "out", refocus your thinking to cropping the desired subject "in." Close the three Cropping pictures.

Now let's get a little more specific.

**Cropping determines the perceived distance between the viewer and the subject.**

This distance between subject and viewer is a powerful variable that a good photographer/Photographer uses to his advantage.

This subject-to-viewer distance involves personal space. This is actually a whole sub-branch of psychology called kinesics, in case you think I am just making this stuff up.

Lets say we have a scene of a girl standing in a field of flowers. Open flowergirl.jpg. Use the crop tool to reproduce what I describe.

- The image, just as it is, is a horizontal image of a girl standing in the center with a wide area of flowers on either side. We are implying the girl is a considerable distance from the viewer. She is so far from us that we have no connection with her. She is of little more importance than the flowers.
- If we crop so the image is a full length vertical image of the girl, with the left and right edges of the frame at her elbows, we are implying that she is much closer to the viewer, maybe eight feet away. She is closer to us now. At this distance we must at least acknowledge her existence.
- If we crop so the image is tight around her face, we are implying that she is close, very close, even to being in our personal space, and we are in hers. This may or may not be a good thing, depending on the subject and the viewer.
- If we crop so the image is tight around her mouth, we are implying that she is within "kissing distance" of the viewer.

Now imagine the same four cropping/ implied set of distances, only this time the subject is not flowergirl.jpg but othergirl.jpg.

When cropping a portrait, consider who the viewer is, how close they want to be to the subject, and how close you want the viewer to be to the subject.

## 2.5 General People Cropping Guidelines

The common logic of cropping people is to crop all or none of the limbs. That is, if you show the legs, then also show the feet. If you need to crop the legs, do so at the knees, not the ankles. If the arms are prominent, then also include the hands. Don't crop at the wrists. If you include the hands, then also include the fingers.

You can certainly find exceptions to these guidelines, but they are exceptions not the norm. Close the two girl pictures.

30 With this added information, lets go back to the Redskirt image.

There are a thousand different pictures we could crop out of this one image.

We could crop to:

- just her eyes.
- just her head.
- just above her elbows
- just below her hips.
- just her face.
- a head and shoulders portrait.
- just above or below the bust line.
- any combination of the above.

## 2.6 Cropping Up

Everything we are talking about so far has been cropping "in" or cropping "down" to what we want. But in this image the top of the frame is too close to the girl's head. What would be really nice is if we could crop "up" to include more of the picture than presently exists.

Set your foreground/background colors to the default black/white by clicking the default color squares. 1.6 Then swap foreground with background color by clicking the double headed arrow, so white is now foreground and black background.

Zoom in or out with the Ctrl + or Ctrl - keys until you can see all of the image without scrolling. You will probably be at about 33% enlargement but it may be different on your computer's monitor.

Now place your cursor exactly on the edge of the window and drag to re-size the window so it is considerably larger than the image. You will see a empty gray area between the image and the window.

Now use the crop tool to drag a rectangle on the image. The cropping rectangle stops at the **edge** of the image. Handles appear at the corners and sides.

Grab a handle and stretch the cropping marquee **outside** of the image into the gray area. Re-size the cropping marquee until you have a nice margin of space on each side of her cut-off fingers and above her head.

Click on the ✓ to commit the crop.

Click on the ⊘ to reject the crop.

Your image is now "cropped up" to include **more** area than the image originally had. This added on area is filled with black, because it is the color you had set as your background color.



In the way Photoshop describes things: we haven't enlarged the "image" per se; we have enlarged the "canvas" the image is on.

Obviously enlarging the canvas didn't magically reattach the previously cut-off fingers. But if we had some fingers to reattach at least now we would have room to put them.

Now, where could we get some fingers?

## 2.7 Fill

On any image you have open create a selection using any of the selection tools. 1.11

Select a bright color from the swatches palette, as your foreground color. 1.7 Click on Edit>Fill.

When you are looking at a drop-down menu and an item has the three dots (called ellipses by those who care) after the item, that means that the item will have a dialogue box with options to set.



Anyway, the Fill dialogue box should be at its defaults of

- foreground color
- normal
- 100% opacity

When you click OK the area you had previously selected is now filled with whatever foreground color you had selected.

Now drag a new selection in a different part of your image.

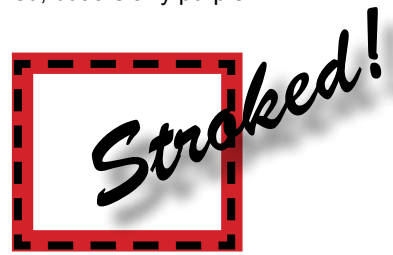
Click on Edit>fill again, but this time, set the opacity 1.9b to 40% before clicking OK.

You again have a filled selection, but instead of completely obscuring what was below the selection, this time you can see through the fill color to the image below.

Notice that your fill color is no longer pure. It is tinted by the underlying image. If you were to fill a selection with red at 40% opacity, over an area of blue sky, it wouldn't be red, but a sickly purple.

## 2.8 Stroke

In Photoshop **stroke** means to paint a "stroke" around the perimeter of a selection. It is much easier to draw a rectangle by stroking a rectangular selection than by drawing four straight lines.



On any open image create a selection using any selection tool. 1.11

With the marching ants visible, click on **Edit>Stroke**. The stroke dialogue box allows you to set the:

- width of the stroke in pixels
- color, The color box displays the current foreground color. If you don't like that color, Click there to bring up the color picker to choose another color.
- Location in terms of:
  - o inside the marching ants,
  - o centered on (half inside, half outside) the ants
  - o outside the ants
- Blending mode
- Opacity

## 2.9 Zoom Tool

Select the zoom tool from the tool bar. Click the zoom tool on your image and it zooms in (notice the + in the magnifying glass icon).

Hold down the Alt key (the + changes to a --), click, and the image zooms out.

Using the zoom tool, drag a rectangle on your image. Your image zooms to fill the screen with the selected area. I personally work better zooming in or out using the Ctrl + or - keys 1.2 rather than the zoom tool. It just seems to be less disruptive to my concentration. But you don't have to work like I work.



## 2.10 Creating a Slate background.

Create a new file by clicking on File>new. Name the image Slate. Set the size for 500 pixels wide and 500 pixels tall. 72 pixels per inch resolution. Mode: RGB, Contents: white. Hit OK.

Select black and white as the foreground/background colors by clicking on the tiny black and white squares near the color boxes.

Click on Filter>Render>Clouds, then Click on Filter>Render>Difference clouds.

Click on Filter>Stylize>Emboss. Set the angle to 135, the height to 3, and the amount to 300.

The image now has the texture of slate, but slate comes in many colors. Click on Image>Adjust>Hue/Saturation. 7.1 Put a  in the Colorize box. Adjust to settings of your liking. Try Hue 31, Saturation 22, Lightness -11. When you are finished, save the file if you wish, then close.

## 2.11 Seven Safety Nets

Throughout the history of art making a mistake has been costly. Imagine painting with oil paints, or watercolors, or sculpting in stone, or photographing a subject with film, or inking a tattoo. If you mess up, "undoing" what you did was difficult if not impossible. As a result we come from a legacy of being afraid of "messing up." Failure was expensive.

But Photoshop has **reduced the cost of failure to zero**. If you mess up in Photoshop, no matter how big or how bad, it costs you **nothing**. Check this out by opening any image, then painting three or four strokes across the image. Just click on **Edit>Undo** to undo what you just did.

Therefore, at this point in your thinking, you need to **throw out all fear** of messing up. Don't be afraid of trying ANYTHING. Be bold and fearless in your work.

Photoshop has provided not just "Edit>Undo" but several other safety nets so that even if you fall, one of these nets will catch you.

**Net 1. Keep your original image intact.** As soon as you open a digital file, click on File>Save as. Re-save the file under a different name in a different location. Only work on the copy. Most people rename those files by simply adding a "1" or an "a" to the original file name, so they don't have to remember the name of the original file.

**Net 2. File >Revert** If you don't like your changes, if your image was better off before you started, click File>Revert. Your image reverts to the way it was the last time you saved it. All your changes are gone, no damage done. If you working on Pornography, click **File>Pervert**. (just kidding).

**Net 3. Edit>Undo** We've already talked about this, but this is where it fits in the list. Un-does the last change you made to your image.

**Net 4. Edit>Redo** Re-does what you just undid.

**Net 5. Edit>Step backward** This lets you step backwards one step at a time to a previous stage, in case you don't like what you did earlier. You can typically step backward 20 steps.

**Net 6. Edit>Step forward** Goes forward one step. The inverse of Edit>Step backward. Even if you make a mistake undoing your mistakes you can undo it (did you follow that?).

**Net 7. History Palette** Allows you to turn back your progress one or more steps at a time. More on this later.

With seven nets fly as high as you like. You can't mess up. Be bold. Let your imagination run **wild**.

## 2.12 Resolution and Image Size

Before we delve into this, we have two definitions you need to know.

**Resize;** to change the *size of print* produced by an image file.

**Resample;** to change the *number of pixels* that make up an image by discarding pixels or “making up” new ones.

We’ve already said our image is made up of pixels. The more pixels you have... the more detail the image can portray and the smoother the shifts from one color to the next will be.

So it would follow that the quantity of pixels we have, will determine the size of print we can get from a file.

If we know *how many* pixels we have... and multiply that number by *how big* the pixels are... we will know how big our print (document) will be, right?

To put it simply; If our file was 10 pixels wide and 5 pixels tall, and the pixels were 1 inch wide... the document would be 10 inches wide and 5 inches tall.

That’s simple enough. But here’s the secret I want you to know that most people don’t understand.

*Pixels have no inherent size... until we assign them a size.*

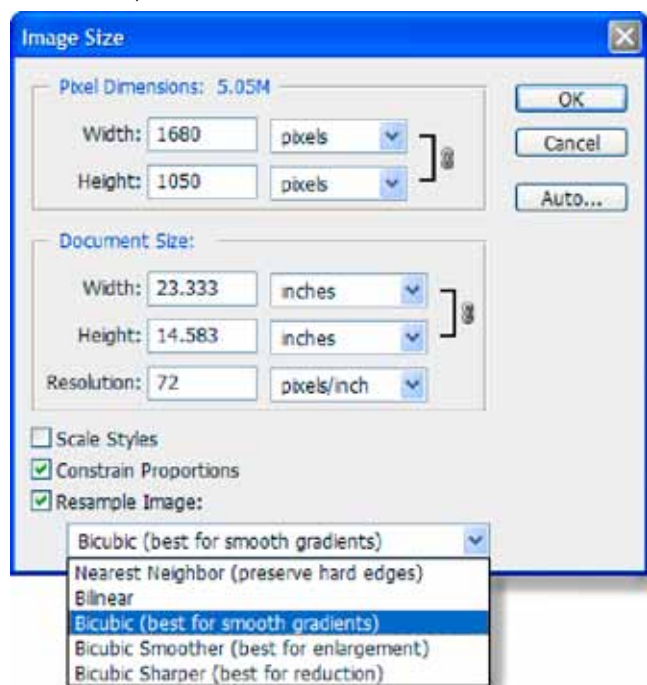
To demonstrated open Ecuador\_canoe.jpg. Click on Image>image size.

This image size dialogue box tells several critical pieces of information and allows us to alter several important parameters of our image.

Notice the dialogue box is divided into two sections;

- Pixel Dimensions
- Document Size.

As you can see, the Pixel Dimensions section tells us how many pixels make up our image; it’s 1680 pixels wide by 1050 pixels tall.



The Document Size sections has a slot that says Resolution, which is where we assign pixel size.

In this case, it tells us that if these pixels are assigned a dimension of 1/72 of an inch (72 pixels per inch) then our print will be 23.333 inches long by 14.5 inches tall.

Now uncheck the Resample Image checkbox. Type in any number you choose in the Resolution box and you will see that the image *size* changes, but the *pixel count* doesn’t.

Now try typing in a specific document width, maybe 10 inches. The program adjust the pixel size to grant your request, but again, the pixel count remains unchanged. You can have any size print you want without losing a single pixel or the tiniest detail. This is good news.

We have been working with the Resample Image box unchecked, which allows the program to change the document size/resolution without changing the pixel count.

But sometimes we need to change this pixel count. For instance, if we need to export this image to a video, we can’t use it 1680 pixels wide, we need it the size of a video frame; 720 pixels by 480. Or there may be an occasion when we need more pixels than we actually have, such as resizing an image to appear on a billboard.

In those cases we would check the Resample Image check box, type in the pixels size we need (resolution) then type in the dimensions we need, and the program would take the existing data and remap it to the numbers we require. The program will create new pixels if it needs to, or discard pixels if it needs to.

This resampling is potentially dangerous to an image. To discard pixels may discard detail. Creating new pixels from insufficient data turns a crisp image into mush.

For that reason, when we do have to resample an image... we have five different formulas we can choose from to get the job done. Click the drop down menu under the Resample Image checkbox. Each of the methods tells you what it does best.

This is important, even if it is boring. If you really want to get a good grasp of this, resample the canoe.jpg image down (called down sampling) to a video frame size(720 pixels wide) using each of the different methods and see which one fairs the best. Revert the file, then resample it up (up sampling) to a 240 pixel per inch, 40 inch wide poster using each of the methods.

At the very least, when you need to resize or resample an image, do it with care. Provided you make the right choices, you can get almost any size image out of any size file. I personally have some very nice, sharp, crisp 30x40 inch gallery prints from 6 megapixel files. But I have also seen 8x10s from larger files that were **HORRIBLE**.

More info on resolution is included as an appendix in the back of the book. Page165.

## 2.14 Sepia toned cameo

Open redskirt.jpg again. Use the crop tool 1.14 to crop to a head and shoulders, vertical portrait.

Click on the elliptical marquee, 1.11 set the feather to 3-5 pixels, then set the style to Constrained Aspect Ratio. Set the aspect to 3 wide to 4 tall. Drag an elliptical marquee over the head and shoulders of your image.

Click on Select>inverse. You have now reversed your selection so what was previously un-selected is now selected and visa versa. Set your foreground color to white.1.6

Fill the selection by clicking Edit>Fill and clicking OK. All the pixels inside the selection are now white. We have a white elliptical matt around her head.

Click on Image>mode>grayscale 5.5 We haven’t discussed this, but just play along. Click OK to discard color information. The picture is now black and white.

Click on Image>mode>duotone.

A duotone is a printing process that uses two colors of ink, typically black and one color.

In the duotone dialog box set the first color to black.

Click on the second color square, choose a warm brown from the Pantone color swatches. Click OK. You now have a sepia-toned cameo photograph. Close the file when finished. Save if you like.

**CHEAP TRICK 4.**

2.13

RESOLUTION

## 2.15 Canvas Size.

Open the Arenacross\_1.jpg image in folder two, set foreground background colors to black and white. Click on Image>canvas size.

Photoshop is using the metaphor that the “image” is on a “canvas,” like an oil painting is on canvas cloth stretched over a frame.

Using this metaphor we could enlarge the *canvas...* without enlarging the *image*.

The canvas size dialogue box tells us the

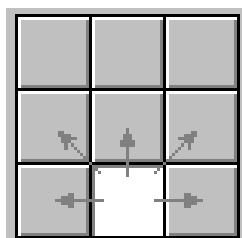
- current width and height of the canvas
- new size of the canvas, with boxes to specify dimensions
- units of measurement for the dimensions (inches, pixels, centimeters etc.)
- nine-box grid allowing us to position the image on the expanded canvas

Previously we extended the canvas on the redskirt image by using the crop tool and dragging into the gray area. This is good because we can visually create the space we need for the image to look good. The canvas size dialogue box allows us to set things more specifically, to specific sizes.

As you can see from the canvas size dialogue box, if we printed this image it would be about six and a half inches by ten inches tall. The problem is this won't fit right in our CheapMart 8x10 picture frame. We could change the image size, but it *still* won't fit. When it's the correct width it's too tall.

Let's change the Canvas Size to 8 inches by 10 inches. If your dialogue box reads in an increment other than inches, click on the ▼ to access the menu and select inches. Notice that you have to do this for both the width and height boxes.

When you add canvas size to an image, you typically add it to both the top and bottom or both left and right equally.



This little 9-square grid controls where the extra canvas will be added. At the default, with the center square depressed, the same amount of additional “canvas” will be added to each side. Or in the grid example at right, ALL the extra canvas would be added to the top; none to the bottom.

But for what we are trying to do, we don't need to add any canvas to the height, just the sides. So set the new canvas size to 8 inches wide and leave the center square depressed. Set the Canvas Extension Color to Black. Click OK.

Okay, this helped. The picture printed out and trimmed would look much better in our 8x10 frame. But it's still not great. The black bands at the side look pretty funky, and to me the motocrosser is too centered.

## 2.16 Copy, Paste.

The enlarged canvas is not the same as its background. What we need is some way to “extend” the picture.

Most of you are familiar with the word processing technique of highlighting words, (or sentences or paragraphs) then clicking on Edit>copy, then clicking Edit>paste to cut and paste portions of a text document. Photoshop uses the exact same convention using *pixels* instead of *words*.

Use the rectangular marquee to select 1.11 an area about like the area appearing stroked in red here. Having selected the pixels (just like highlighting words), click on Edit>Copy, then Edit>Paste.



Now hold that thought while we talk about something else associated with this.

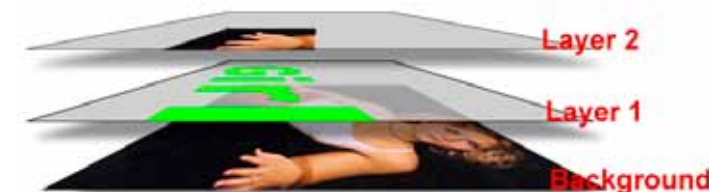
## 2.17 Layers;

Our image is (metaphorically speaking) painted on a background canvas. But if we paint on this background canvas, we will obliterate those pixels originally on the canvas. And that could be bad. What if... rather than paint directly on the image, we could place a “layer” of clear plastic over, or on top of the image and paint on *that*. This way, if we mess up, we could just throw the layer away rather than have to revert the whole image.

With layers, we can contain our changes to the layer itself while protecting the rest of the image from those changes.

If we wanted to make another change, we could add another layer. We could add as many layers as we want.

Find the layers palette. If you don't see it, click on Window and put a ✓ by **Layers**. In the layers palette you will see the motorcycle image on the background (bottom layer) and the selection you just Edit>copied, Edit>pasted on **Layer One**.



When you look at the image itself, the image looks no different than before. Your pasted selection is there, but it is *exactly on top* of the original pixels so it blends in and is sort of camouflaged.

## 2.18 Move Tool

Now select the Move tool from the tool bar. Using the Move tool click and drag in the “pasted” area and you will “move” it to another location. Release the mouse button and the pasted selection will stay where you put it.

I know it looks like you are using the move tool to move your pasted selection, but what you are *really doing* is moving the *entire layer* the pasted selection is on.

If you had several things pasted on the layer, and used the move tool you would move all of them at the same time, because they are all on the same layer.

Move the pasted area so it is over the black extended canvas. Line the pasted area up with the background. It won't match perfectly, but that's okay on this exercise.

Close the Motorcycle image without saving it. We have just scratched the surface of what layers can do.

## 2.19 New Files

So far, you have opened existing files, which is what you do when you work with images from a digital camera, saved from the web, or captured with a scanner. But Photoshop can also create files in and of itself.

Click on File>New.



The New File dialogue box opens and from here we can name the image. You can name it something descriptive or name it anything you want, like Fido or Suzette or XD11 or whatever makes sense to you. Or leave the default: Untitled-1.

Below the field for the image name is the **Preset** drop-down menu. From the Preset drop menu you can choose Custom, which let's you set the width, height and resolution to whatever size you choose. Or you can choose **Preset: sizes**. In production work, there are common image sizes you use over and over again. Such as an image the size of a letter, or envelope or if you're into video production, an image the size of a video frame.

Under this preset sizes menu, Photoshop gives you a selection of image sizes with appropriate resolutions for their intended use. All sorts of U.S. sized documents, metric sized documents, video frame sizes and more.

If you are creating a custom document set the measurements to whatever size you need.

Generally speaking, set to:

- inches if you need a print
- picas if you need to fill a newspaper space
- pixels if you need the image for the web or to view on a computer screen.

In the Resolution box, for now just put 72. We will talk more about this later.

Most of the time, unless you have reason to do otherwise, create your new files in RGB mode, because it's the most flexible. If you know you will eventually need it in another mode, you can always change it later. 5.4, 5.10 More on this later also.

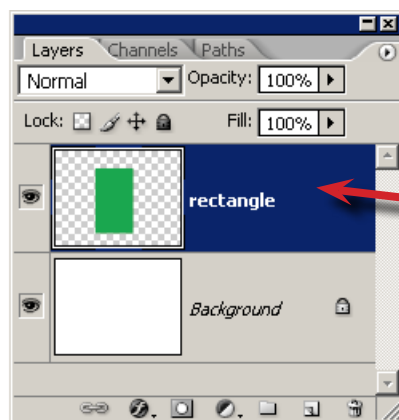
Most of the time just leave the Contents radio button on White.

Click OK and you will have created a new file. We don't tell the computer where to put this file until later when we save the file. This is how you create any new file, from a bill board to a business card, Now we'll use this to create a new file to demonstrate how layers work.

## 2.20 DEMO: LAYERS

This demonstration should clarify layers 2.17. Make sure your layers palette is visible (Window>✓ layers).

**Create a new file.** Click on File>New, just as you did in 2.19. In the new file dialogue box name the image "layers." Change the units of measurement from inches to pixels. Set its size at 800 pixels wide by 600 pixels in height and its resolution at 72 pixels per inch. Set the mode to RGB and select "white" in the contents box. Then hit OK.



**Create a layer.** With this new blank file open, click on the Layer drop down menu, then click Layer>new...>layer. In the new layer dialogue box name this new layer "rectangle" and click OK.

In the layers palette you will see the background and your new layer named rectangle. One layer will be a different color than the rest, indicating that it is the "selected" layer.

In Photoshopthink, you can only work on one layer at any time; you can only work on the "selected" layer. The selected layer is also called the "active" layer.

You select a layer (or background) by clicking on the layer in the layers palette.

Select the Rectangle layer in the Layers Palette. Select the rectangular marquee tool 1.11. Drag a rectangular selection on the image.

Use the eyedropper tool to select green by clicking on green in the swatches palette. 1.7.

Click on Edit>fill. 2.7 See that the fill dialogue box contents are set to "foreground color" and hit OK. The rectangle fills with green.

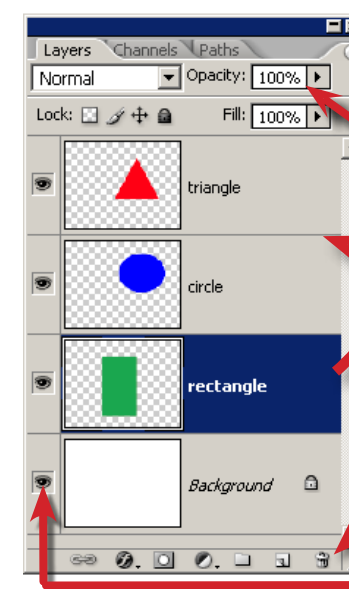
Create a second layer. Click on Layer>new...>layer. Name this new layer "circle" and click OK.

Click the rectangular marquee in the tool bar 1.11 hold it down until the menu drops down and choose the ellipse. Drag an ellipse across the image.

Use the eyedropper tool to select blue from the swatches palette. Click on Edit>fill. See that the fill dialogue box contents are set to "foreground color" and hit OK. The circle fills with blue.

Create a third layer; click on Layer>new...>layer. Name this new layer "triangle" and click OK. Click on the polygon lasso tool 1.11 and click and drag a line, click and drag a second line, then click and drag back to the starting point. Hit return. You should now have a triangle selected.

Select red from the swatches palette. Click on Edit>fill 2.7 and hit OK. The triangle fills with red. You now have an image with a background and three layers and each layer has an object on it. Your layers palette should look pretty much like the one below. Work through the command below.



### You can:

**Move** an object by selecting the layer it is on in the layers palette, then moving the layer with the move tool.

Adjust the **opacity** of an object, by adjusting the opacity of the layer in the layers palette.

Change which object is in front or behind another object, by selecting that object's layer in the layers palette, then clicking and dragging the layer above or below the other layers, to change the **stacking order** of the layers.

**Delete** a Layer by dragging it to the trash can icon.

**Hide** a layer by "poking the eyeball" beside the layer.

A couple of things I want you to notice. The layer "on top" of the stack of layers in the layers palette, is "on top" or above the other layers in the image. The top layer obscures whatever is immediately under it. Also, the gray and white checkerboard stuff you see in the layer's palette means the gray and white area is transparent: has no pixels in that area.

**Ya just gotta get layers.** Layers are what make Photoshop work. The logic here is that you put each little piece of your project on it's own separate layer. It's not at all uncommon to have a project with two hundred layers.

Does this make sense? This idea of working on layers is fundamental to Photoshop but new to many people. Leave this layered image open and we'll use it to demonstrate the next tool; the eraser.

## 2.21 Eraser

With the layer demo still open, select the **Eraser** from the Tool bar.

In the Options bar, you see the Eraser has a brushes palette just like painting tools.

The Eraser also has three modes:

- Paintbrush (soft-edged brushes)
- Pencil (hard edged brushes)
- Block (a square hard edged brush)

The Block mode is just a square you can't adjust, but when the Eraser is set to the Paintbrush or Pencil you can pick a brush size and hardness from the brushes palette in the options bar. But the eraser doesn't **add** pixels. It **removes** pixels.

Choose the paintbrush mode, then a brush of about 35 pixels in diameter.

Click and drag to erase pixels from the image.

Notice that you are erasing only the active layer, 2.20 allowing the layer or background below to show through.

If you wish to erase on object on another layer, you must select that layer by clicking on it in the layers palette. Like I said before, selecting a layer makes it the active layer and it appears as a different color in the layers palette than the other layers.

Now try erasing on the background layer. Select the background layer by clicking on it in the layers palette, and start erasing. When the background layer is removed, what remains is the "background" color in the color boxes in the tool bar.

Now let's go back to one of the layers. Select any layer from the layers palette.

If you wish to blend the edge of the erased-away area, change the opacity of the eraser to 50 percent. Erasing with a large, soft, low-opacity fuzzy-edged brush will soften the transition between original and pasted. This makes the seam between original and pasted less obvious.

When you are done playing with this, close the image without saving.

## 2.22 Range.

Open the range.jpg image from the chapter two folder. Fill the screen with the image.

Your eyes record information differently than film or digital imaging does. Your eyes hold detail across a wider range of brightness.

This "range of brightness" is called **gamut**.

The narrower gamut of digital or film cameras means that when a camera exposes for the mid-tones the image will lose some detail in the highlights and some detail in the shadows.

The photographer can adjust exposure to improve detail in the highlights or shadows, but what is gained on one end will be lost on the other.

Gamut is a very important concept for Photoshop users because your eyes, film, digital cameras, scanners, printers and off-set printing presses all have unique gamuts. Because of these different gamuts, what we see may not match what we scan, print, or shoot. Working within the confines of gamut ranges will be one of our most common battles.



ERASER

## 2.23 Color Management; Baby Steps.

A camera, a computer monitor, an inkjet printer and a four-color press are all trying to color the same picture... but each device is coloring out of a different box of crayons. The camera and the inkjet printer are using a big box of crayons, the four-color press is using a small box. Many of the colors are in all the boxes, but none of the sets match exactly.



For that reason, it will not be possible to get all of the colors in all of these devices to display exactly the same. But they should be close.

Many people reading this will think; "I've always been happy with my color, this doesn't apply to me!"

Their happiness may be an "ignorance is bliss" sort of happiness. As you really start looking at your images, good images, bad images, you will develop an increased sensitivity to color. As this sensitivity develops you will be stunned at how far off some of your early stuff was.

We need to start by getting your monitor adjusted correctly. This isn't real color management or monitor calibration, but it's a start.

From Folder Two, open Test\_image.jpg. Make it fill the screen by hitting Ctrl+0, hide the palettes by hitting the Tab key, and go to a gray background by clicking the F key once, as described in 1.6.

Look closely at this image on your monitor. This is a standard test image, with neutral grays, a deep black, a clean white, nice rosey skin tones, a 16-step gray ramp, and six colors.



If you can't make out the **darkest steps**, if the dark grays merge into the blacks, then your monitor is **too dark**. Go to the buttons or menus on the monitor and slowly adjust the **brightness up** until you can see 16 steps.



If you can't make out the **lightest steps**, if the light grays run into the white, then your monitor is **too light**. Using the monitor controls slowly adjust the **brightness down** until you can count 16 steps.



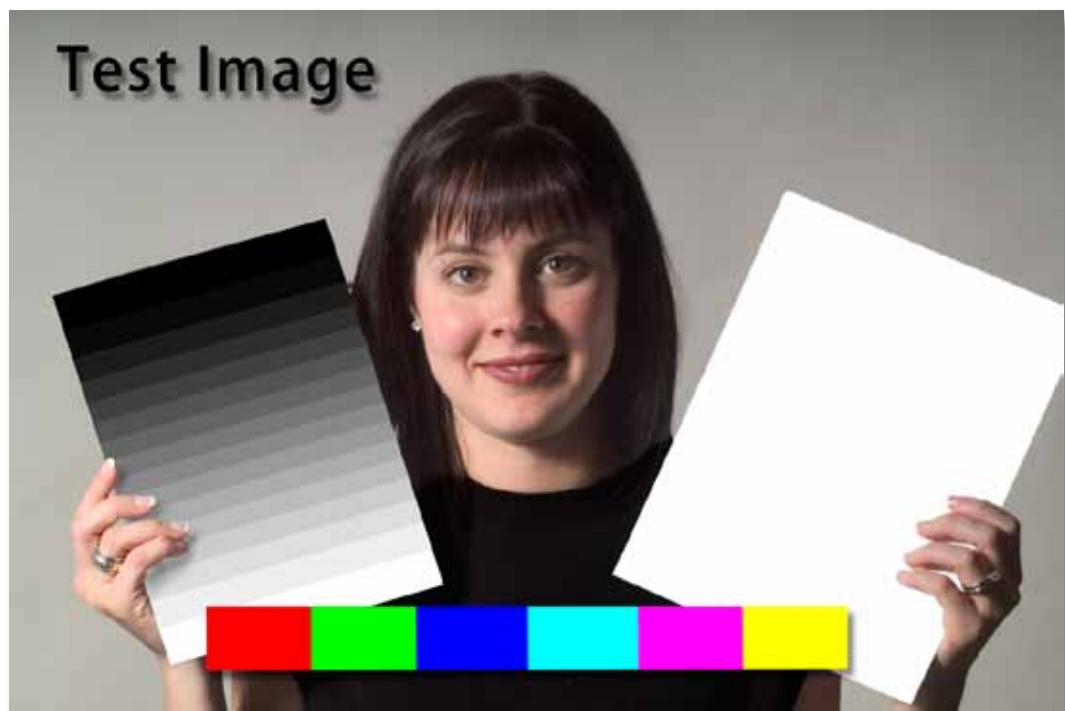
If the dark grays run into the blacks **and** the light grays run into the whites at the same time, with only a few grays in the middle than the **contrast is too high** on the monitor. Again, using the monitor controls bring the contrast down until the steps appear.



Can you see 16 separate steps in the gray ramp? If so, then your monitor is pretty close.

Like I said earlier, this is just a start. We will take this matter up again at 4.21, calibrate a monitor for free at 4.22 and get serious about it at 8.4. We get real in depth with this in the Appendix 1; Dealing with Color on page 157

COLOR



# Notes

# Photoshop Now.

Type, rasters & vectors, Type Tool, spellcheck, Clone Stamp, Healing Brush, Patch tool, Restoration 1, Rotate, Flip, Guides, Rulers and Grids, Transform, Scale, Pornography

Click on File>new. 2.19 Make the new file 1000 pixels wide, 800 pixels tall at 250 ppi, RGB mode white contents. Choose foreground/background colors from the swatches palette, say, blue and yellow.

## 3.1 Introducing: *Type*.

Photoshop was originally designed as photo editing software. It was never intended to be a text-editing or a page-layout program, and it still isn't (even though you can use it for that).

Photoshop's text tools are more for graphic design than for type production. If your project needs more than a few paragraphs, you are better off to rework you photos in Photoshop, export them to a page layout program, such as InDesign or Quark, and do your text in the page layout program.

Having said that... Photoshop 6 was much improved over previous versions in terms of type capability and 7 is even better (it has a spell checker!) CS and now with CS2 things just keep getting better and better. But Photoshop's ability to handle type still pales in comparison to InDesign's.

Before we get too deep into typography nuts and bolts, there is a point you need to understand.

When you create type in Photoshop, the program puts the type on its own separate layer. While this is handy for us, it is also necessary because Photoshop **makes type differently** than it make other shapes and objects.

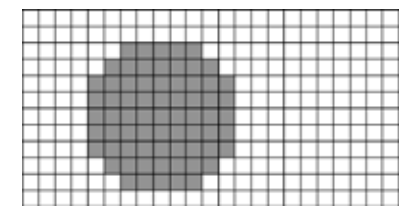
Yes, yes, I know you are anxious to make words and even sentences, but because this is foundational, lets understand this first, then we can go on to making text.

## 3.2 Concept: Raster vs. Vector.

In the last twenty years or so, as computers began to display images rather than just text on a monitor, two methods evolved for "telling" the computer how to display the image. Lets say we want to display a gray circle on a white background. A computer could display such an image two ways:

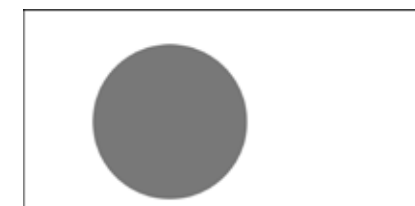
### Raster;

Divides the screen into a grid, and describes each cell (pixel) as a color.



### Vector;

Defines shapes using mathematical formulas.



The computer code for these images would look something like this:

Row 1 Column 1: white.  
Row 1 Column 2: white.  
Row 1 Column 3: white.  
Row 1 Column 4: white.  
Row 1 Column 5: white.  
Row 1 Column 6: white.  
Row 1 Column 7: white.  
Row 1 Column 8: gray.  
Row 1 Column 9: gray.  
etc. etc...

Gray circle; diameter: 2/3 of the image height. Center; 1/3 of image length from the left side.

VECTOR