# Chapter 3

# Brief Tour of Photoshop®: What Weavers Need to Know

Adobe Photoshop®, considered by its proponents to be the best computer program of all time, is beloved for a very good reason: it is so broad and deep that regardless of your needs you are bound to find useful artists' tools within it. Photographers, print artists, gallery and "fine" artists, textile designers, and others in the graphic arts fields are all likely to use it at one time or another. As nearly identical versions are available for the Macintosh and Windows operating systems, Photoshop enjoys wide acceptance. A list price of $649, as of this writing, and a street price of roughly $100 less, puts the program out of reach of the casual user, but for jacquard designers faced with the potential costs of industrial-grade software at many times this price, Adobe Photoshop merits a second look for jacquard design. Full-time and part-time students and teachers may qualify for an educational discount.

Although we do not believe Photoshop will fully replace any of the excellent programs available for professional jacquard designers, it is an excellent viable alternative for people looking for a lower cost entry into this fascinating field. We have found that Photoshop is a superb tool for the collection, modification, and adaptation of images and other graphics files for weaving, and that it also functions brilliantly for inputting weave descriptions and preparing instructions for the loom.

By going through the process of working with actual files we hope to demonstrate how typical projects are designed and prepared for the loom, with chapters geared to specific structures such as simple weaves and compound weaves. We will show how the same process is applied regardless of the loom employed, whether industrial jacquard head or studio loom such as the TC-1 or AVL Jacquard.

This book presupposes a basic knowledge of Photoshop on the part of the user: it is not a Photoshop manual for beginners. To brush up your Photoshop

**Note: You can find the figures in color on the CD in the Chapter 3 folder.**

skills, we suggest you consult the program manual itself, one of the many Photoshop books available at any bookstore, and the on-screen Photoshop Help system (available from within the program as **Help>Photoshop Help**).

# Conventions for This Book

The version of Photoshop we are using is Photoshop CS 8.2, the most current as of this writing. Macintosh and Windows versions are nearly identical. The main differences are as follows: where Mac uses the **Command** key (the quatrefoil character on either side of the spacebar), Windows uses the **Control** key; where Mac uses **Option**, Windows uses **Alt**. Where we indicate keystroke sequences, we list the Mac version followed by the Windows version in parentheses, for example, **Command (Control)-J**.

Other conventions we will use are the right carat (>) linking menu items. For example, to print a file, you would click on the File menu, then drag the mouse pointer down to Print and release. We would indicate this as **File>Print.**

# Preferences

The Preference menu is found in Mac under **P h o t o s h o p > P r e f e r e n c e s** (Command-K) and in Windows under **Edit> Preferences** (Control-K) (Figure 3-1). There are nine categories, and most are self-explanatory. Set up your preferences to suit your working style; for more information, see the Help menu or the Photoshop manual. Only Preferences items with particular relevance to jacquard design will be discussed here.
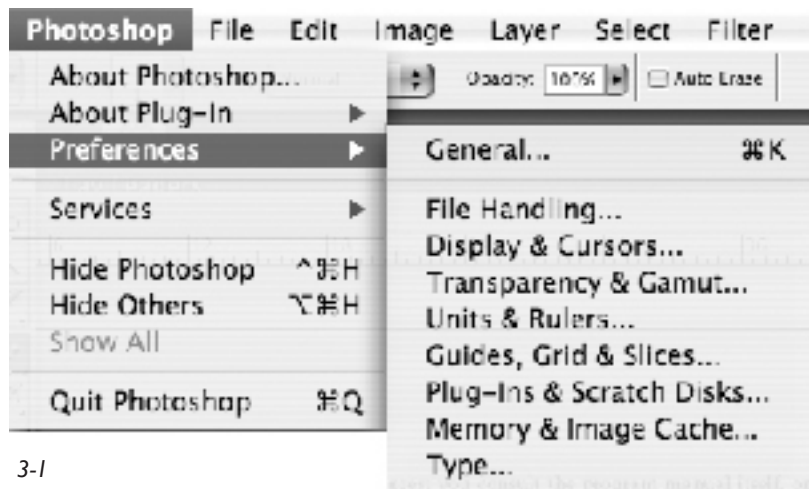


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### General

For Image Interpolation choose *Bicubic*. This defines how files will be resized. An exception to this will be in resizing files which are already indexed, and in this case we will choose *Nearest Neighbor* as the interpolation method (this will be accessed in the process of resizing, and will not necessitate a trip back to the Preferences menu).

## Transparency and Gamut

In this window you may define the background which shows in the absence of any other image information. This background will not show in your final image, but is helpful as an "anchor" in compositing layers. Make it unobtrusive but distinctive (challenging!). We prefer a white and gray grid, size medium, light. (Figure 3-2).

## Units & Rulers

For units and rulers we prefer pixels. As pixels correspond directly to number of ends, this seems most natural. Other weavers and designers prefer to use inches or mm as their unit of measurement. The file does not change, nor does the pixel count, only the way the image is described in the ruler settings and the Info palette. The preferred unit of measurement may be easily changed on the fly: first, if the ruler is not visible at the top and sides of the image window, toggle the ruler on and off by going to **View>Rulers** (the shortcut is **Command(Control)-R**). Then double-click on the ruler, and the **Preferences>Units & Rulers** window pops up, ready for your changes. Rulers are visible in Figure 3-2, and the unit of measurement here is pixels.
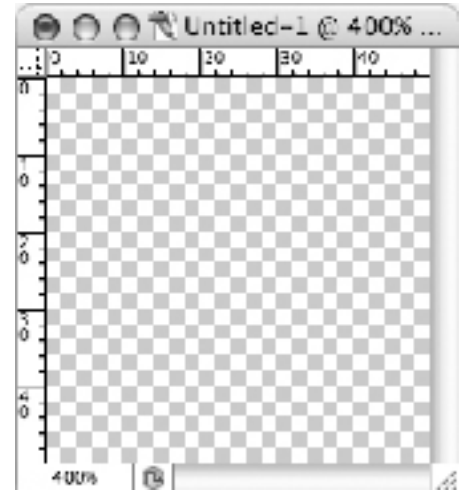
*3-2*

## Guides, Grid & Slices

Guides are helpful temporary aides for placement of design elements on your image. Drag them into place from the ruler. Get rid of them by **View>Clear Guides**. You can also use the Move tool and drag them off the file to eliminate them. Slices are used in web design and do not concern us here.

## Grid

Grid is enormously useful in creating Pattern Presets. We use Light Blue or Light Red + Lines as the grid style, but choose whatever looks clearest on the types of images you habitually work with. If you are starting a new Photoshop file expressly for the creation of patterns, we recommend using the same number in "Gridline every___pixels" and "Subdivision" boxes. For instance, enter "8" in both of these boxes. In a new blank file, greatly enlarged (to 800 or 1600%), this gives a nice gridline for every pixel, with a heavier line every 8 pixels (Figure 3-3). We can now use the Pencil tool (single pixels) and black foreground color, and fill in individual pixels for a weave structure. With the Rectangular Selection tool, select the desired boundaries of the weave structure and save it as a Pattern. More information on Pattern Presets is found in the next chapter.

*3-3*

3-4



Screen Mode Tools

3-5



3-6  Standard Screen Mode
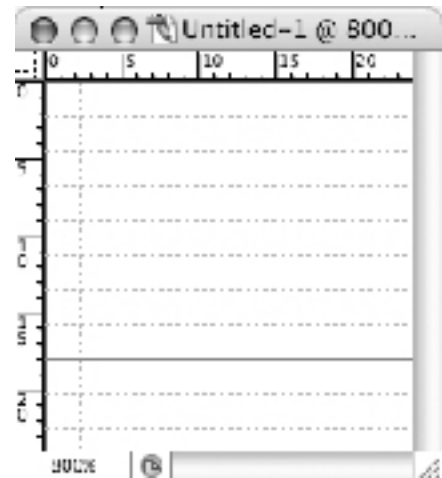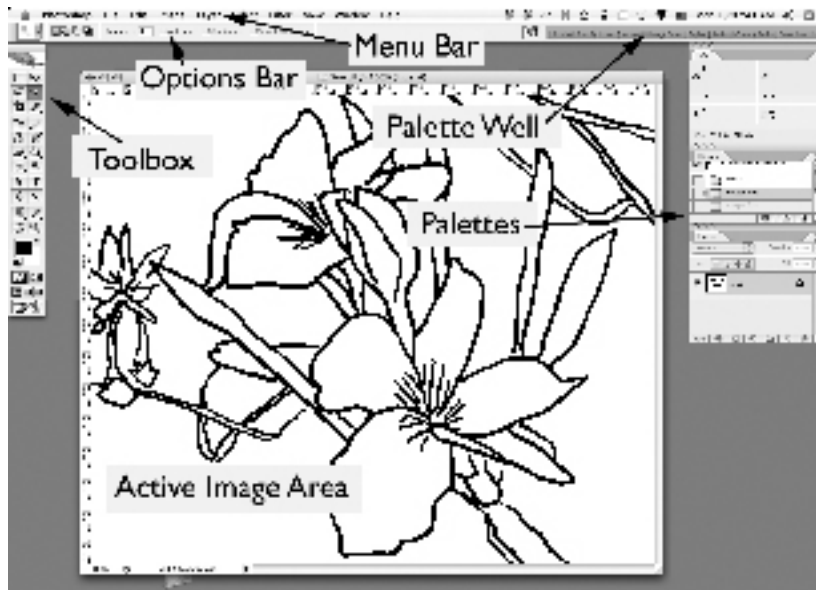
# The Work Area

The basic components of the work area are the familiar Menu Bar, at the top of the screen; the Options Bar just below it, where settings for modifying the tools are found; the Toolbox (usually located on the left, but it can be relocated anywhere), containing tools for creating and modifying images; the Active Image Area, which is the main part of the screen where your working file window will appear; the Palette Well, at the upper right, where palettes are stored and organized; and the Palettes (on the right by default, but moveable and dockable), which help you modify and monitor images.

You can move and resize many of the work area elements to your liking. When you find a particular arrangement which is congenial to your work style, you may save it for later retrieval by **Window>Workspace>Save Workspace**, and giving it a distinctive name, such as *My Jacquard*. Any time you want to retrieve this particular setup, you then go to **Window>Workspace>My Jacquard** and your favorite setup pops into view. There is also a default workspace setup called Reset Palette Locations which will reposition all palettes to–surprise–their default positions when the program is first started.
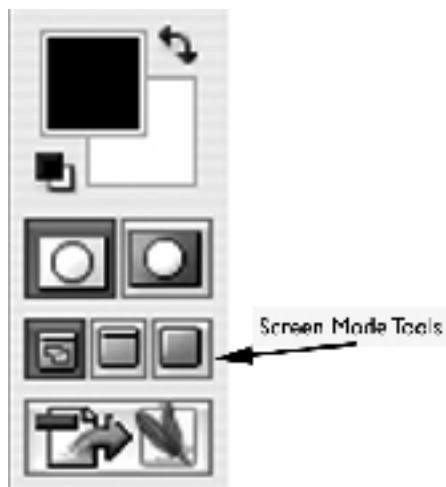
The Tab key is a toggle switch that hides or reveals the palettes. At any time you may hit the Tab key to make all the palettes temporarily disappear. Hitting the Tab key again returns them to where they were before they disappeared.

For further customization, the screen mode tools (second from last on the Toolbar) (See Figure 3-5) are useful. You may toggle among them with the keyboard shortcut <F>. The leftmost screen mode tool is Standard Screen Mode (Figure 3-6), with your standard (and distracting!) desktop visible beneath the image; the middle one is Full
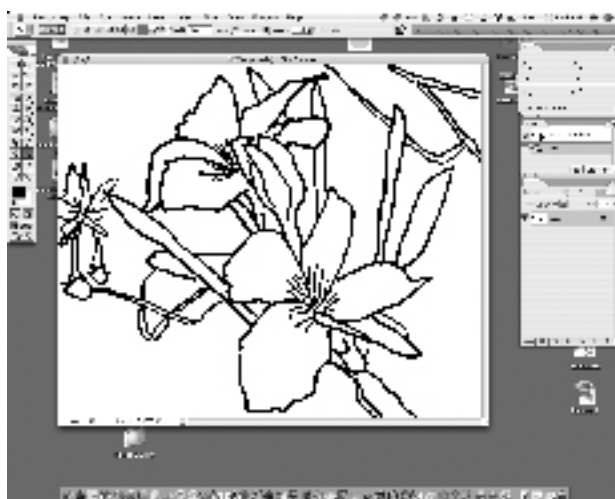
Screen Mode With Menu Bar (Figure 3-7), and produces a gray background behind your image window, with the Menu Bar still accessible; and the rightmost tool, Full Screen Mode (3-8), supplies a black background with no menu visible.

## The Active Image Area

The program opens in Normal Screen Mode by default. This displays your image, all the open palettes, and your computer desktop. For minimum distraction, you may wish to choose Full Screen Mode with Menu Bar or Full Screen Mode.

The file name of the current image and amount of magnification and bit depth are displayed in the Title Bar at the top of the image window . Useful information displayed at the bottom of the window includes the degree of magnification, and one of seven selectable  displays. We tend to leave this on *Document Sizes*, but you may find *Current Tool* or *Document Dimensions* more useful.

## The Toolbox

All Photoshop users are familiar with the basic toolbox set. By pausing the mouse pointer over any item, a brief description can be made to appear in a pop-up window. These Tool Tips can be turned on or off in **Preferences>General>Options> Show Tool Tips**. Particular tool features useful to jacquard design will be mentioned as they occur in context.The Options Bar at the top of the screen has useful controls for customizing the behavior of each tool. The Tool Preset Picker, with its drop-down menu triangle, allows you to choose Presets for any given tool or create new Presets. Other options in the bar are specific to each tool. For instance, the Selection Rectangle, the tool at the upper left corner of the Toolbox, offers choices of New Selection, Add to Selection, Subtract from Selection, and Intersect with Selection, simply by clicking on the appropriate small icon in the Options Bar. The selection style (Normal, Fixed Aspect Ratio, or Fixed Size) may also be specified in the Style drop-down menu, and values for Fixed Aspect Ratio or Size may be entered in the appropriate box. In addition, nested within each tool are other choices, indicated by the small triangle to the right of the tool. Clicking on the triangle activates a flyout menu where other variants of the tool (Elliptical Marquee, Single Row and Column Marquees) are accessed. Also, the behavior of many of the tools can
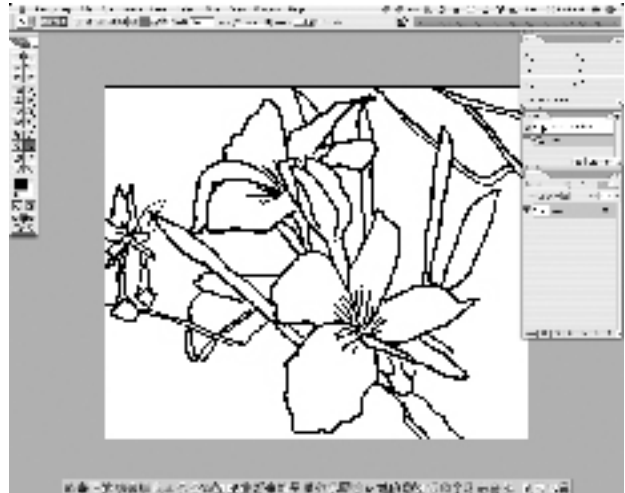


*3-7   Full Screen Mode with Menu Bar*
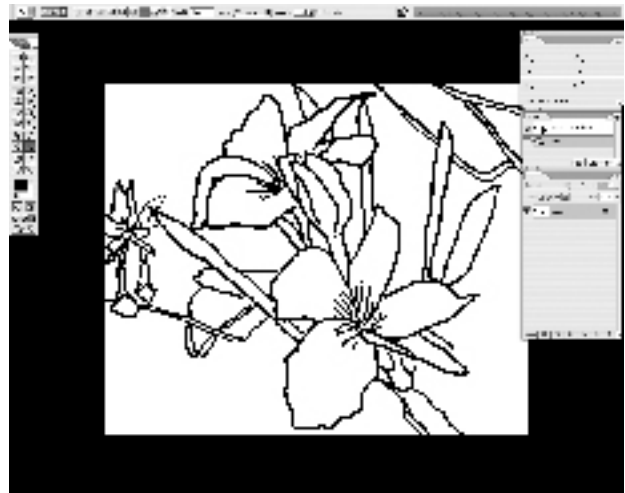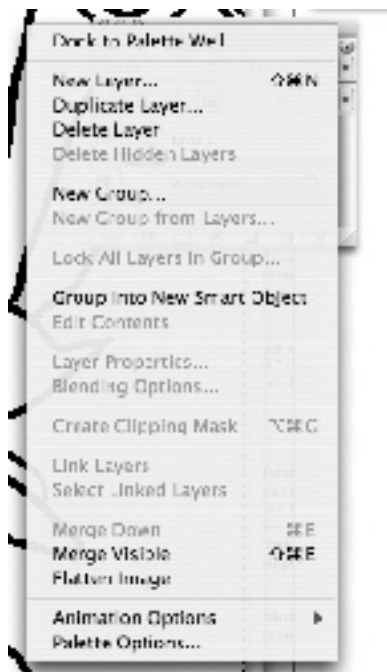


*3-8   Full Screen Mode*

3-9   Ungrouped Palettes



3-10   Grouped Palettes



3-11   Palette Menu accessed via the
flyout triangle on Layers Palette

be guided by additional keyboard modifiers. For a fascinating and useful list of all the keyboard modifiers and shortcuts, go to **Help>Photoshop Help>Keyboard Shortcuts**. We include a list of the most useful keyboard shortcuts for jacquard in *Appendix G.*

# Palettes

Palettes help you modify and keep track of your images. You may use all of them at some time in your work, but you will find that most often you will need only a basic set in jacquard work. The others can be left closed; they are always accessible by going to the menu item **Window** and choosing the desired palettes, or by dragging the palette from the Palette Well on the upper right of the screen.  The ones we generally keep open all the time are History, Layers, and Info. You may have your own favorites. When you have your palette set arranged to your liking, go to **Window>Workspace>Save Workspace** and save it for retrieval at any time.

Palettes can be grouped together. To ungroup a palette, simply drag it by its tab on the upper border (Figure 3-9 ). To group a palette, drag it onto another palette and they will form a group (Figure 3-10).

Every palette has its own set of options. To access these, click on the flyout menu (small triangle) at the upper right corner of the palette (Figure 3-11). Palettes can be resized as required by dragging the lower right corner downward.

## Layers Palette

This is the brains of the operation. Photoshop's layering capability enables us to assemble the parts of our image in advance, and combine and recombine them endlessly. We can combine digital photographs, scanned drawings, clip art, text, and more, and reposition all of these elements, change their stacking order, hide and reveal them at will, and change the character and opacity settings. When the design meets our objectives, we may then flatten it, reduce the number of colors by indexing, assign each color to its own new layer, apply the weave structures to the file within the layers, and the weaves will maintain their integrity and relationship to each other even after the file is resized! Examples of these processes will be reviewed in the chapters dealing with specific techniques.

Starting with an RGB file, 8-bit color mode, and with the Layers Palette open, you will notice that there is a Background layer in place and it is partially locked (padlock symbol visible in the layer). Partially locked means we can't delete it if it is the only layer, and that if there are

additional layers we may delete it, but not move it in the stacking order (You can, however, duplicate it and move the duplicate layer). To the left of the layer name is the eye icon that denotes that the layer is visible. One layer will be highlighted in blue, indicating that this is the active layer and that any painting operations or filters that we apply will affect this layer only.

If we cut information from another file and paste it to our current file, the pasting operation puts the clipboard information into a new layer. It is called Layer 1 by default, but you may rename it anything you like. You may toggle the visibility and invisibility of any layer, including the Background, by clicking on the eye icon next to the layer in question. You may choose which is the active layer (the layer on which you are allowed to make changes) simply by clicking on it. The active layer is always highlighted in blue in the Layers Palette.

The Layers Palette is arranged so that the Background layer is at the bottom, and each new layer is listed above the previous one. You may copy information from the Background and put it on its own layer, and you may also copy the entire Background and put it on a new layer. You may change the stacking order of all the layers except the Background by dragging them around in the palette. The topmost layer in the list will hide the ones beneath it. In Figure 3-12, all layers are visible, and the layer named *black* is the active layer.



*3-12*

You may change the position of the layer contents when that layer is active, by dragging in the image window with the Move Tool (**Command(Control)-V**). And you may change the opacity of a layer when that layer is active, by clicking and dragging on the opacity slider in the upper right corner of the palette (Figure 3-13).



*3-13*

You may delete a layer by highlighting it in the Layers Palette, then clicking on the Trashcan icon at the bottom of the palette. You may also delete a highlighted layer via the Menu Bar: **Layer>Delete>Layer**; or simply by dragging the layer onto the Trashcan icon.

Finally, a critical feature of the Layers Palette is that you may apply a Pattern (weave structure) to a layer via the Layer Styles icon (the little "f" icon at the lower left-hand corner of the Layers Palette) (Figure 3-14). This is an essential application for weave design, and we cover it in detail in Chapter 4.
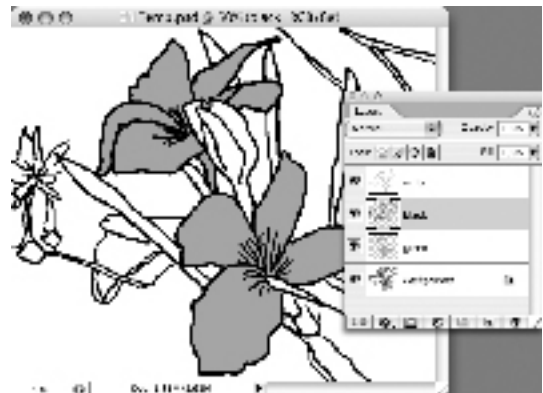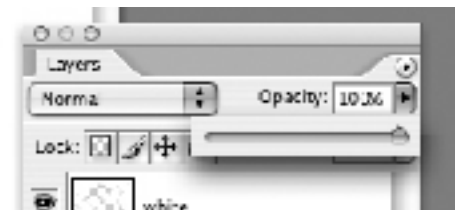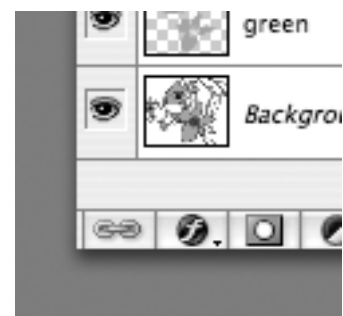


*3-14*

## Info Palette

The Info Palette provides useful information about the file. We find that we frequently check the pixel dimensions of a file here. The W and H fields on the lower right of the Info palette report the dimensions of the current selection. By using the menu item **Select>All** or the keyboard shortcut **Command (Control)-A**, the pixels dimensions of the entire file are instantly

3-15



3-16

*Note: The numbering for indexed colors starts with 0, not 1.*

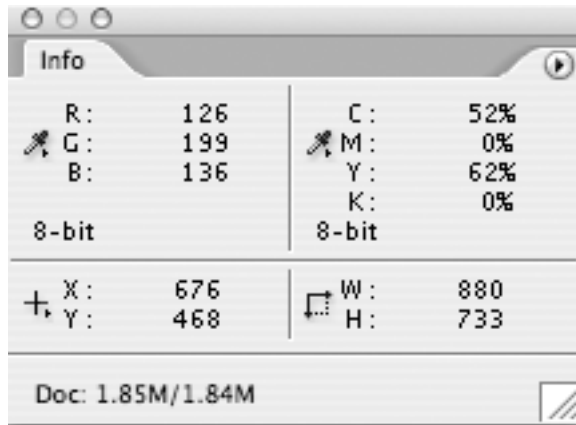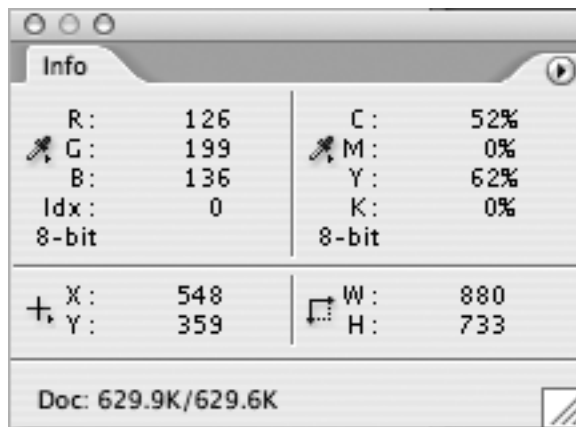displayed. You must be in pixel mode to see the pixel dimensions. To change to pixel mode from inches mode (for instance), do one of the following:

1. Mac: Go to **Photoshop>Preferences>Units & Rulers**, then for rulers choose pixels. PC: **Edit>Preferences>Units & Rulers**, then for rulers choose pixels; or

2. **View>Rulers**, then see that Rulers is checked. On the image window, double-click on the ruler at the top, then in the window that pops up, choose rulers: pixels; or

3. In the Info palette, next to the plus (+) sign at the lower left, choose the tiny triangle to access the flyout menu, then choose pixels.

Another useful feature of the Info Palette in jacquard design is in the identification of indexed colors. Of course you must already be in Indexed Color Mode. See Chapter 6 for more information on Indexed Color. The fourth item in the upper left area of the Info palette, labeled Idx, returns the index number of the color. The index number is linked to the position of the color in the index list. The first number is 0, not 1. The actual palette may be seen in **Image>Mode>Color Table**. Whichever color the mouse pointer is resting over will be identified in the Index palette in the Idx field. The Info Palette while in RGB mode is shown in Figure 3-15, and in Index mode in Figure 3-16.

## History Palette

The History Palette is the greatest invention since erasers. It lets you change your mind and revert to previous versions of your file, but only since the last time it was opened. Once you close the file, the History is gone. You can click on various steps in the History palette to review stages of the design, but once you start working in a stage, you loose the latter steps. If you wish to save various states of your file, you should save each version with its own file name.

# Menu Items

Once again the reader is directed to the Photoshop manual or the Help system for specific information on all the Photoshop Menu items. Items with particular relevance for jacquard designers will be covered here.

# Edit Menu

## Define Pattern

**Edit>Define Pattern** is where we will be saving patterns in sets for later retrieval in our image files. This information can become Pattern Presets (discussed at length in Chapter 4) or other motifs used as Fill items. When you save a selection as Pattern it gets placed by default in the Pattern area of the Preset Manager. It will remain there until it is deleted, even after quitting the program. Since this area can be cleared, we suggest you save all important pattern files to the folder Patterns. You can save as many patterns as you wish. You save them under **Edit>Preset Manager**.

## Preset Manager

Go to **Edit>Preset Manager**, as Preset Type choose *Patterns*, and all the Patterns currently available will be displayed. At this point you may highlight any Pattern and delete it if desired. (We usually delete all the Patterns which appear by default in Photoshop. You may always retrieve them later by choosing **Edit>Preset Manager>Pattern**, click on the triangular flyout menu and choose **Reset Patterns>Reset with Default Patterns**.)

You may also reorganize the order of the Patterns in this window by clicking and dragging any Pattern up or down in the list. You may change the way the Patterns are displayed by clicking and holding on the flyout menu (small triangle on upper right of the Preset Manager window). We favor the option *Large List* because it provides a visual representation of the Pattern as well as its name, but you should customize your display to suit your needs. You may then save the entire set for later retrieval by highlighting all the patterns in the list (the shortcut is **Command(Control)-A**), then clicking on the Save Set... button; or selectively highlight the files you want to save (Command(Control) + click on each file) and then click on **Save Set**. Give the set a meaningful name, such as "*8-End Satins*" and save it to the default folder, which is Patterns. Saving it in the Patterns folder will allow you to access this set in the future through the flyout menu in the Preset Manager window, a very handy feature. If your Pattern Set is saved elsewhere, you may still access it by clicking on the Load button in the Preset Manager window, then navigating to wherever it was saved. When you load Pattern Sets via the Load button, they are appended to the bottom of the list. But when you load sets via the flyout menu, you are given the option of appending the Patterns to the current list (click Append) or replacing the current list (click OK), a nice feature. The words *Set* and *Library* are used interchangeably in Photoshop when referring to groups of Pattern Presets.
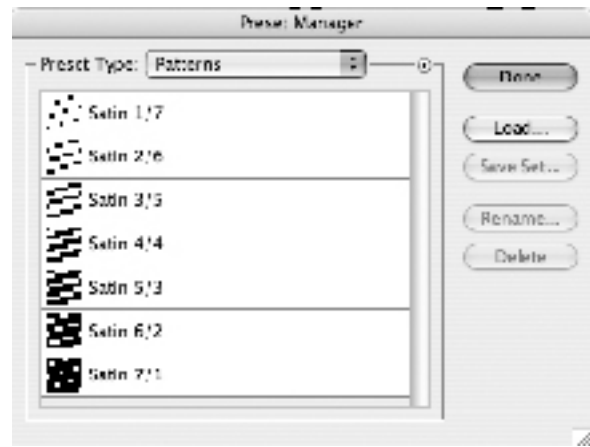
*3-17*

Pattern sets are saved in files with the suffix ".pat " and may be freely shared with other Photoshop users, both Mac and Windows. In the Mac environment, Pattern files are saved in the folder *Applications>Adobe Photoshop CS>Presets> Patterns* and in the Windows environment in *Program Files>Adobe Photoshop CS>Presets>Patterns.* The files are small and may be easily emailed as attachments.

On the CD accompanying this book you will see a folder called *Weave Presets*. It contains all the weave structures used in this book, and then some. If you put this folder into the *Preset Manager* you will have access to these structures. From a Finder Window, go to **Applications>Photoshop CS>Presets>Patterns**. Drag a copy of the Weave Preset folder from the CD into the Patterns folder. You can also save additional structures as Pattern Presets in the same location.

### Fill

**Edit>Fill** floods an image or selection with color or pattern. Although Patterns can be assigned this way, we prefer to apply them as Layer Styles, which are discussed in Chapter 4.

## Image Menu

### Mode

**Image>Mode** is the menu item with perhaps the greatest impact on our design process for the loom. Which mode do we choose? We work in the RGB mode or red/blue/green color space on the computer, as this is the native mode of the computer display. CMYK, or cyan/magenta/yellow/black mode, is relevant for output to commercial printing, which will not concern us here. In addition, within the RGB mode we have the option of using 8-bit or 16-bit color mode. While the 16-bit mode provides a greater range of control over photographic images being tweaked for printed output, it is probably overkill for our purposes, and the 8-bit mode will suffice (and require less file space!). All the filters and other tools are accessible in 8-bit RGB mode. So in general we will work in the RGB mode, 8-bit. At the appropriate time in the process, we will convert to Indexed mode.

The color mode and bit depth are always indicated in the Title Bar of the image window.

### Adjustments

**Image>Adjustments** (Figure 3-18b) opens access to an array of methods of adjusting the appearance of the file. The adjustments

*3-18b*

may be accessed here, or for additional levels of control and tweaking, most of them may be accessed via Adjustment Layers (**Layer>New Adjustment Layer**). When you click OK in an adjustment, it changes the file. You can revert to the file before the adjustment through the History palette, but that will destroy everything else you did since the adjustment. For this reason, we prefer using Adjustment Layers when possible. We will discuss a few of the adjustments NOT accessible via Adjustment Layers here, and the remainder in the section on Layers, below.

## Auto Adjustments

Auto Levels, Auto Contrast, and Auto Color are quick adjustments which may be all your image or design requires. Try all or some of them on an image to see if they meet your needs. For a finer level of control, you may need to go to Levels, Curves, or Color Balance or Brightness/Contrast, all of which are better accessed through Adjustment Layers.

## Desaturate

Desaturate is a quick way of changing an image from RGB to Grayscale. It is destructive. If you wish to retain the option of going back to the original color image, do the desaturation in an image Adjustment Layer or in a duplicate file.

## Shadow/Highlight

Shadow/highlight is a very powerful adjustment tool, and one that is not available through Adjustment Layers. It is especially useful in enhancing the contrast of an image before going to Indexed Color mode. To use it you must work through the menu: **Image>Adjustments>Shadow/Highlight**. In the dialog box that appears, the default settings are generally sufficient, and you will immediately see improvement in the brightness and contrast of your image (be sure the Preview button is checked). Experiment with the sliders. Check the **Show More Options** box, and try tweaking the Midtone Contrast slider for additional improvement. To use Shadow/Highlight nondestructively, perform it on a duplicate layer, and you may adjust the opacity of this layer.

## Equalize

Equalize is a destructive tool (you ARE working on a duplicate of your original file, aren't you?) and admits of no fine tuning after it is applied, with this exception: if you duplicate the layer, and equalize the duplicate layer, you may then show or hide the equalized layer, and use the opacity slider in the Layers palette to dial down or up the effects of the equalization. Equalization spreads the brightness of the image over the entire range from brightest white to darkest black, and can sometimes be used as a quick fix on an image that

lacks contrast. But for infinitely more control, it is preferable to use Adjustment Layers to adjust contrast.

## Pixel Aspect Ratio

Photoshop allows a pixel to appear as an elongated rectangle in either the height or the width. A square pixel has a Pixel Aspect Ratio of 1, that is, equal height and width. The formula for Pixel Aspect Ratio in Photoshop is height divided by width. Access this command via **Image>Pixel Aspect Ratio**. We will discuss this important feature and how it is used in woven design in detail in Chapter 4.

## Layers Menu

The Layers Menu introduces infinite levels of control over the many Photoshop image adjustments and opens an avenue of access to the Pattern fills. Most of the Layers operations are accessible either from the Layers menu or from the Layers palette. It is essential to keep the Layers palette open while you work, so that you have visual clues as to what is happening.

Save your working file in Photoshop format (.psd) to preserve all the layers and layer options. It is also possible to preserve Layer information in .tif files, but we prefer to reserve the .tif format for loom-ready files.

Adjustment Layers allow many of the same modifications found under **Image>Adjustments**, except they are non-destructive and can be turned on or off to test changes, and they can be modified at will. They can have their opacity level varied, and multiple Adjustment Layers can be used on the same file.

For each change you wish to make to an image, open a new Adjustment Layer: **Layer>New Adjustment Layer**… then choose the desired adjustment type. If the adjustment isn't available from this menu (for instance Shadows/Highlight), then it is still possible to put this operation in its own layer by choosing **Layer>New>Layer via Copy**, keyboard shortcut **Command(Control)-J.** Then perform the adjustment on this new layer. By isolating each adjustment on its own layer, you can easily make changes by turning Layers on and off (click on the eye icon on the Layers palette), by adjusting the opacity of a layer (enter new values in the opacity box in the upper right corner of the Layers Palette, or tweak the slider by clicking and holding the triangle immediately to the right of the opacity box). You may even change the order of each adjustment by highlighting a layer on the palette and then dragging it up or down to a new location in the stack.

## Layer Comps

It is much easier to keep track of the changes and potential changes to each file by saving the file with all its layers, active and inactive, rather than saving many separate files. If there is a particular state of a file you wish to preserve, i.e., with certain layers active and with particular opacity values,

you may preserve this state by opening the Layer Comps palette, accessing the flyout menu by clicking and holding on the little triangle on the upper right corner of the palette, and choosing *New Layer Comp.* Give this comp a meaningful name. Check all three option boxes: Visibility, Position, and Appearance. You may save multiple Layer Comps and switch between them by clicking the small icons in the leftmost column of the Layer Comps palette. Figures 3-18 and 3-19 illustrate two different states of an image, with their associated Layer palettes and Layer Comps palettes.



3-18

## Useful Adjustment Layers

Which Adjustment Layers to choose depends on the nature of your image: full color photographic images will benefit from changes in the Color/Balance and Selective Color adjustments, for instance, and scanned black and white drawings may do better with Levels and Curves. Experimentation will tell you the best set of adjustments to apply to your particular file. The final output of your weave file will also determine which adjustments you
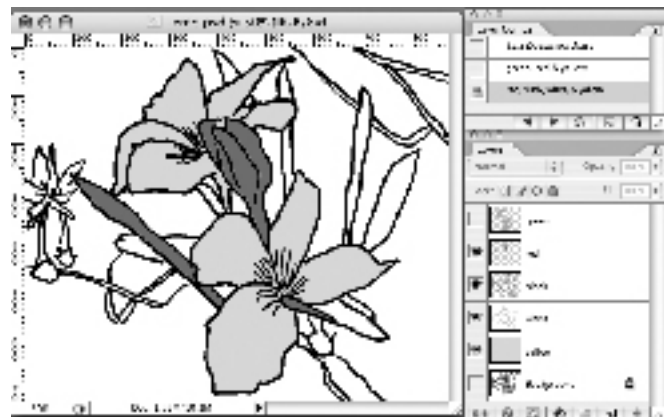


3-19

use: a nine-tone shaded satin interpretation of a photograph will point you in one direction and a three-color lampas interpretation of a scanned charcoal drawing with superimposed text layer will require a different treatment. The extra time you spend learning the potential of each Adjustment Layer will reward you handsomely in the amount of control you ultimately achieve over your image files.

A rough guide for which adjustments to use and in which order to take them is to follow the sequence as they appear on the Adjustment Layers menu. For instance, first Levels, then Curves, then Color Balance, and so forth. Even if you will ultimately be converting your file to grayscale before you assign weaves, try to get the best possible color image first. You will find you have superior results with issues of contrast and tonal value this way.

These are recommendations for jacquard and other weave designers only. For full instructions on all of the options, refer to your Photoshop manual or the Photoshop Help menu.

### Levels

To access this dialog, go to **Layer>New Adjustment Layer>Levels**, and In the New Layer dialog box which appears, give the Layer a meaningful
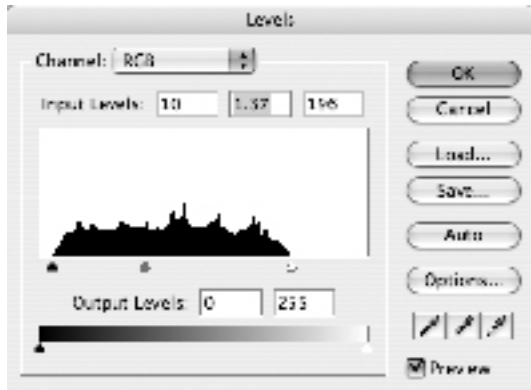
3-19b



3-19c

name or leave the default name, leave *Use Previoius Layer to Create Clipping Mask* unchecked, Color is None, Mode is Normal, Opacity is 100%. Click OK.

In the histogram which appears, you may adjust the highlight slider (white triangle) leftward to where the "mountains" begin, if they do not extend to the right border, and adjust the shadows slider (black) to the right if the "mountains" do not extend all the way. The grayscale slider in the center may be adjusted right or left to improve the contrast in the midtones. Be sure the Preview button is checked so that you may observe the changes live. When the adjustment pleases you, click OK (Figure 3-19b).

Now notice that your new Adjustment Layer is highlighted in the layers palette. You may change the opacity of this new Adjustment Layer by clicking and dragging on the opacity slider triangle just to the right of the opacity box on the palette (Figure 3-19c). This opacity setting may be changed at any time, even after the file is saved, closed, and reopened. So you can see that by working in Adjustment Layers your changes are nondestructive permit tweaking your file ad infinitum without altering the underlying image.
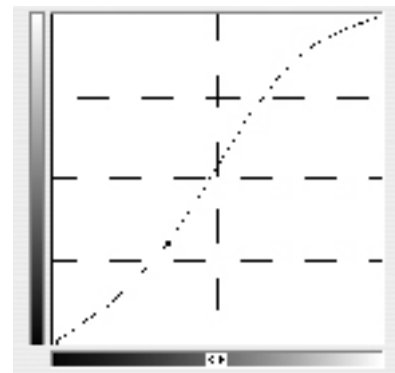
## Curves

Curves are very powerful in your Photoshop arsenal; curves controls are not present in Photoshop Elements.

**Layer>New Adjustment Layer>Curves.** In the New Layer dialog box which appears, give the Layer a meaningful name or leave the default name, leave *Use Previoius Layer to Create Clipping Mask* unchecked, Color is None, Mode is Normal, Opacity is 100%. Click OK.

In the Curves dialog box which appears, the channel should be RGB (although by all means experiment with other channels). The graph represents
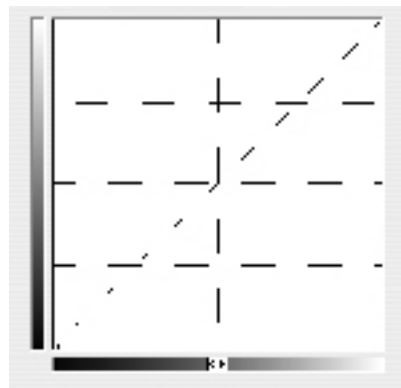


3-20a



3-20b

input on the horizontal scale and output on the vertical scale. The default curve is a diagonal straight line (Figure 3-20a), or a one to one correspondence. By adjusting the curve into an S-shape (Figure 3-20b), most photographic images will be improved. Try it.

## Brightness/Contrast

This Adjustment Layer is self-explanatory. More subtle control of brightness and contrast is achieved in the Levels, Curves, Shadow/Highlight, and Channel Mixer adjustments, but by all means experiment with this too.
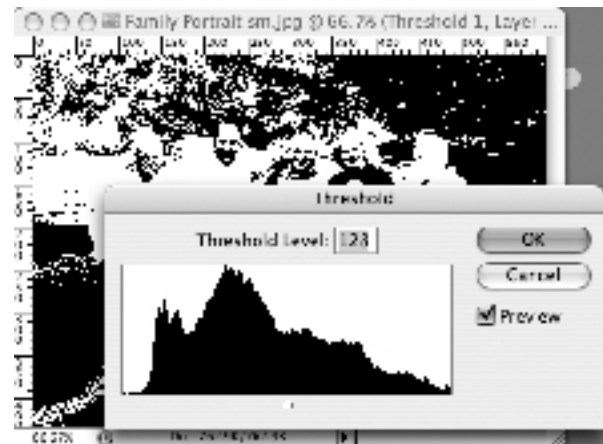
## Hue/Saturation

**Layer>New Adjustment Layer>Hue/Saturation**. In the New Layer dialog box which appears, give the Layer a meaningful name or leave the default name, leave *Use Previoius Layer to Create Clipping Mask* unchecked, Color is None, Mode is Normal, Opacity is 100%. Click OK.

A really useful application of the Hue/Saturation control is converting a file to grayscale. Simply slide the Saturation slider all the way to the left. In this way, you can preserve the original color file in the background. Your conversion to gray through this Adjustment Layer is nondestructive and may be turned off at will.

## Threshold

**Layer>New Adjustment Layer>Threshold**. In the Threshold dialog box, a histogram of the luminosity values in the image appears. Be sure the Preview box is checked. Move the slider beneath the histogram left and right until the black/white balance in the image is to your satisfaction, then click OK. This is an excellent way of preparing a file for two-color structures such as double weave or reverse twill. It offers much more control than simply converting the file to grayscale then to bitmapped (which uses the default Threshold level of 128, halfway between black and white). Moreover, by using the Threshold Adjustment Layer, the changes are non-destructive and may be altered or reversed at any time (Figure 3-21).



*3-21*

## Posterize

**Layer>New Adjustment Layer>Posterize**. In the New Layer dialog box which appears, give the layer a meaningful name or leave the default name,

*3-22*


*3-26*


*3-23*


*3-27*


*3-24*


*3-28*


*3-25*


*3-29*

leave *Use Previoius Layer to Create Clipping Mask* unchecked, Color is None, Mode is Normal, Opacity is 100%. Click OK.

You will be given the opportunity to enter the number of levels of posterization. If you know the word posterization from surface design applications, you will assume that using posterize to 4 levels will reduce the image to 4 hues, and only 4 hues. However, Photoshop interprets levels as families of a hue, and you will have more than 4 colors in your posterized image. For this reason we tend to avoid posterization in favor of indexing, unless the special effects of posterization are part of the plan. Try both and see which you prefer.

### Selection Menu

A useful item in this menu is **Select>All** (the keyboard shortcut is **Command(Control)-A**), which then supplies the dimensions of the image in the Info palette if it is open. If the entire image is selected, you may copy it to its own layer by the keyboard shortcut **Command(Control)-J**; the changes you apply to the new layer will be specific to that layer and will not affect the base image.

Another useful item is **Select>Color Range**, which then opens the Color Range dialog box. In this box, you may specify a color to drive your selection, or if you choose **Sampled Colors**, you may then click the eyedropper provided on the parts of the image containing the color you wish to select, and if the selection button (rather than the image button) at the bottom of the box is highlighted, you will immediately see the results of your selection. If it is what you want, you may save the selection, or simply click OK to work on the selection. The Fuzziness slider allows you to increase or decrease the range of the selection, and the plus and minus eyedroppers allow you to add to or subtract from the selection.

## Filter Menu

It is the Filter menu which contains the showy bells and whistles of Photoshop. The Filters are powerful, dramatic, and lots of fun to use. They are so seductive that you may find yourself losing entire days playing with them. Self control should be your watchword here. You want the viewer seeing your work for the first time to say, "What a wonderful weaving," not "Oh, I see she uses Photoshop."

But having said all that, we have our favorites among the array of Photoshop Filters, and will discuss the ones we find most helpful in preparing files for the loom. You are urged to explore the filter set on your own and identify which ones appeal to you.

As you already know from the section on Layers, it is best to create a new layer (**Layer>Duplicate Layer** or **Layer>New>Layer via Copy**) and apply the desired Filter to this new layer. This operation is non-destructive, as the base image remains untouched.

Filter>**Filter Gallery** opens a composite menu from which any of the other filters may be accessed. You can also access filters individually from the Filter menu.

For the following examples, the original image is shown in Figure 3-22.

## Filter>Artistic>Poster Edges

This filter (surprise!) applies posterization and outlines the edges of image elements. Use the sliders to adjust Edge Thickness, Edge Intensity and Posterization (Figure 3-23).

## Filter>Blur>Gaussian Blur

One of Alice's favorites. Use the Radius slider in the dialog box to adjust the amount of blur, and be sure the Preview box is checked. Alice often applies a one or two pixel blur to an image which is too busy, before converting it to Indexed Mode. Despite the name blur, this yields larger areas of contiguous color and simplifies the image (Figure 3-24).

## Filter>Noise>Add Noise

This is useful when an image has areas which lack detail. You may add noise to an entire image, or only to the selection. The amount may be adjusted with the slider. Noise can be full color or monochromatic. Try adding noise before you apply the Gaussian blur for another simplifying effect (Figure 3-25).

Too many stray pixels can be problematic in certain textile images. Use **Noise>Dust & Scratches…** to eliminate single pixels and conglomerate scattered pixels.

### Filter>Distort>Shear

Shear is a timesaver when designing patterns for dobby. Start with a file whose pixel width equals the number of shafts on the loom (which is set up for straight draw), draw some vertical stripes in black and white, then apply the shear filter with preview box checked. This is a quick way of doing undulations. See Chapter 15 for more detailed information on this filter (Figure 3-26).

## Filter>Pattern Maker

Some weavers may find the Pattern Maker filter useful, but we have found it disappointing, as it does not afford much user control. We like to know what is happening under the hood!

## Filter>Sketch

The various filters in the Sketch category produce more or less realistic simulations of familiar graphics techniques, such as pencil or charcoal, and depend for their effects on the foreground and background colors current in the Toolbox. Set colors to default black and white before using this filter. Our favorite in this group is **Filter>Sketch>Stamp**, which reduces an image to a severe black and white simplification with a bit of verve. There is considerable variation possible by adjusting the sliders on this filter (Figure 3-27). Figures 3-30a and b also show an original digital photograph and the image after using the Stamp filter.



*3-30a*



*3-30b*

## Filter>Stylize>Find Edges

Many designers find the Find Edges filter useful. After the edges are found, they may be backed off to black and white by dialing down the saturation (**Layer>New Adjustment Layer>Hue/Saturation**). This filter is good for turning an image into coloring book style outlines (Figure 3-28).

## Filter>Other>Offset

Buried deep in the filter set is one of the most useful filters: **Filter>Other>Offset**. In the Offset dialog box, be sure the Preview box is checked, and highlight the Wrap Around button. You may then see how your image repeats at the edges by manipulating the horizontal and vertical sliders. If you want a motif or image in repeat, this is the filter to use. This filter is especially useful in dobby work (Figure 3-29). It is also an essential tool for putting designs in repeat for looms that have repeats in their loom setup.

# Window Menu

The Window menu is self-explanatory–here is where you may customize your screen arrangement and hide and reveal the palettes.

## Help Menu

Do not underestimate this menu! **Help>Photoshop Help** brings up the entire Photoshop manual, which you can access through contents or index. We find it most useful by clicking on the Search item in this menu, and then typing a problem word in the *Find pages containing* box. Most likely the problem will be solved in one of the options that pop up. Remember the old RTMS jokes (Read The Manual, Stupid)?