

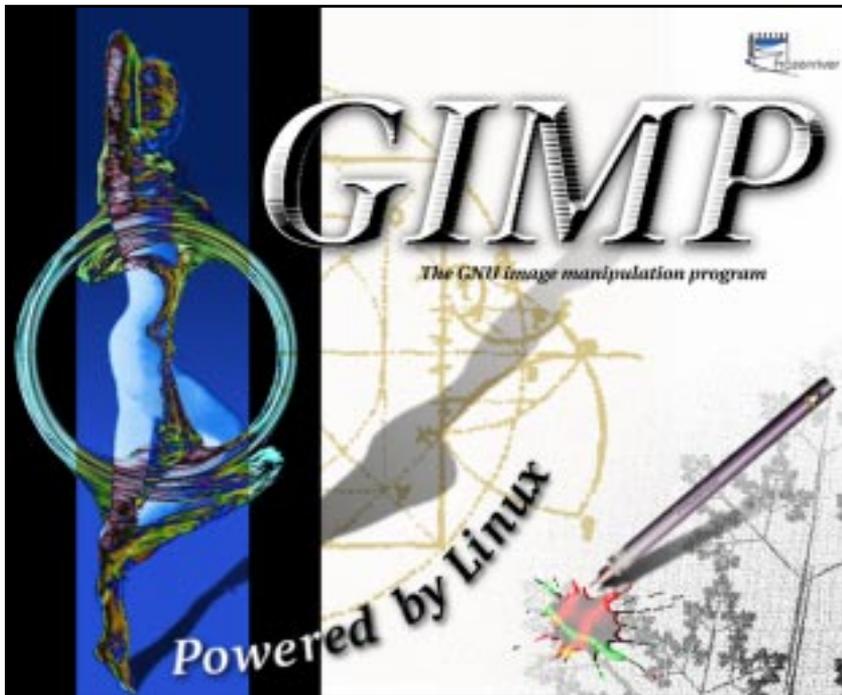
COLOR SECTION





THE GALLERY

Creating objects: You can easily create different versions of the same basic design by using different color modes, or by applying a gradient map.



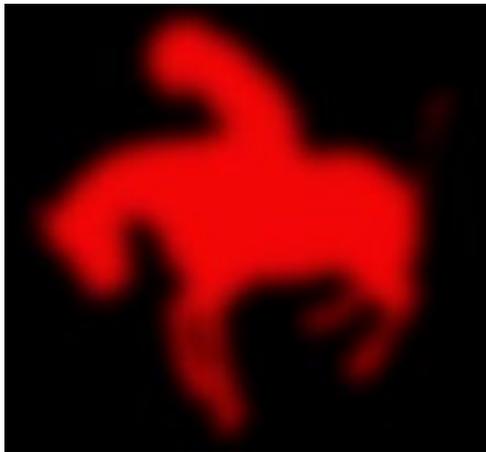


Creating the illusion of glass, water and reflection using 2-D image manipulation requires some skill and planning. The main difficulty lies in making the composition convincing in the areas where water meets an object, and in keeping the balance between reflection, glitter and shadow.

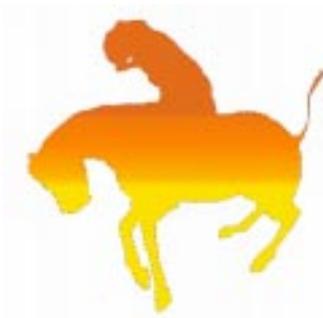




Transforming a photo into a drawing is a simple way of creating stunning graphics. A sketch is also much more personal than an ordinary photograph. To achieve this end, there are many different techniques ranging from cartoon style to crayon drawings. Just remember that you are the artist, and not the computer.



As you can see, the different red, yellow and white layers really make the horse glow. *The key, as usual, is to create several layers and combine them.*



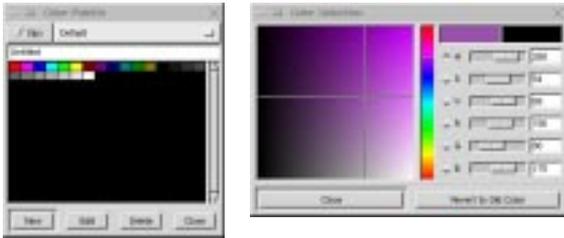


FX is another favorite. Light effects are powerful eye catchers and sometimes you may want to maximize your image as in our “wild ride” image. To make things a bit more surreal, we have turned a horse into a leopard. Layers is the key to creating images like this one. All effects are created by combining a multitude of layers in different ways.



The Chevelle photo montage is a classic poster art work. The technique of making montages is commonly used by graphic designers in advertisements. The method of blending two or more images using layers and layer masks is the tool that makes this possible. The standard procedure when you create this kind of design is to work with a combination of an illustration program and an image manipulation program. If you use both program types you can easily change type face and other objects that are better represented as vector drawings. We wanted to show that you can do all of that within Gimp.

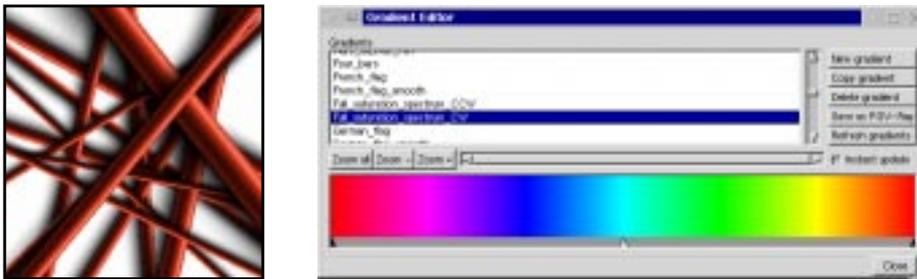
PAINT TOOLS



When it comes to color tools, the *color palette* is among the more useful. Think of it like the palette that you use for making ordinary paintings. Choosing colors from the color dialog is much too ineffective, and you can't be that sure that you get the same color each time.

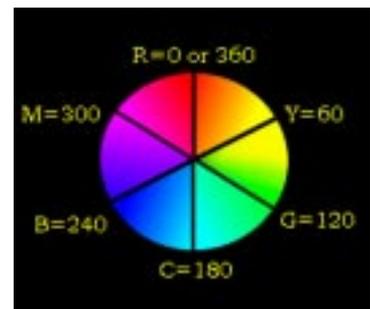
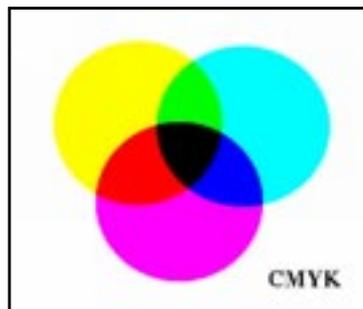
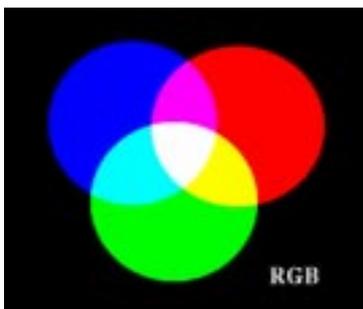
GRADIENTS

The *Gradient Editor* is the key to making smooth color transitions, and it is used as a base for many kinds of important operations in Gimp. You can use gradients to blend two images through layer masks, or as a distort map image. The Gradient Editor allows you to create your own gradients where you'll have absolute control over all parameters, so this is a very useful tool for advanced image manipulation.



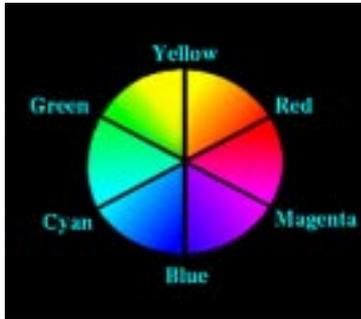
COLOR

If you want to learn to use an image manipulation program like Gimp to its full capacity, you must learn how colors work in the digital world and to understand the different color models. These pictures will help you understand the *Color Models* and *Pre-press* chapters.





NCS color model



*Complementary colors,
RGB model*



*Complementary colors,
Natural model*

It is essential to understand that different color models/devices have different gamut areas. An RGB monitor can display many more colors than a printer (CMYK) can. Finally, you can perceive more colors with your eyes than a monitor can display. The image below visualizes these facts.

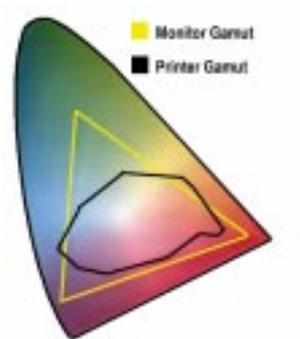


IMAGE MENU

The Image menu commands execute most operations in either RGB or HSV color space.

The *Equalize* command can be used enhance contrast and to find “hidden” colors in old, fading photos.



Dark input



Output after equalize



Light input



Output after equalize

Invert will make a color image look like a photo negative. This means that if you have a slide scanner, scan the negative film and “develop” it to positive images using the Invert command. With the **Posterize** command you can reduce the number of colors/shades in an image, making it less naturalistic.



Invert



Posterize

Color balance is a useful color correction tool if your image has distorted colors, or if you want to change the colors, like we have done with the blue duck.



Color Section

Hue-Saturation is perhaps an even better tool for correcting color problems. It's also a great tool for changing colors. As you can see, our yellow truck has turned blue without any change in the other colors in the image. **Curves** is another color control tool. Here, we have turned day into night, or is it the other way around?



Hue-Saturation



Curves

Levels is an excellent tool for enhancing 3-D effects by adding highlights or shadow. You can also use it the other way around and make the image flat, using less contrast when it comes to color, highlights and shadows. **Desaturate** takes away the color information, but you are still in RGB space. Desaturate is excellent when you want to accentuate a certain part of the image. If the surroundings are desaturated, the colored part will catch the viewer's focus.



Levels



Desaturate

Normalize, *Contrast Auto-stretch* and *Auto-stretch HSV* are three ways of enhancing faded or dull color photos.



Normalize



Contrast Auto-stretch



Auto-Stretch HSV

Color Section

Compose and **Decompose** in the Image/Channel Ops menu let you compose and decompose images to and from different color models. The RGB original to the left has been used for all decompose operations. All decomposed images are grayscale images, because they are representation of the color models' different channels.



RGB original



Value composed as Hue



C



M



Y

The printed result of each CMY plate.

MODES

The color images shown here are a necessary complement to their black-and-white counterparts, which are shown in the *Modes* chapter.



Normal Mode



Dissolve Mode



Multiply Mode



Color



Screen Mode



Overlay Mode



Difference Mode



Value



Addition Mode



Subtraction Mode



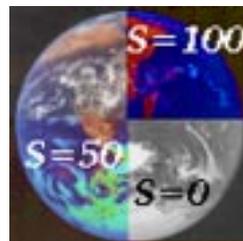
Darken Only



Lighten Only

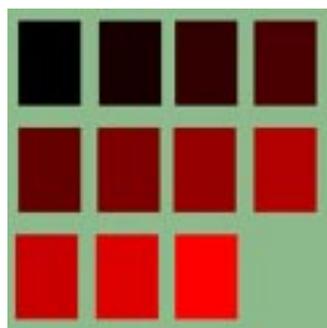


Hue

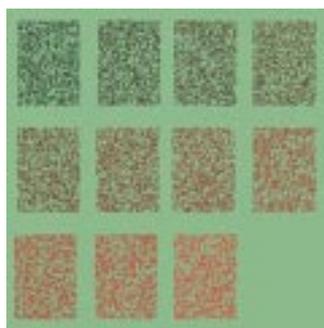


Saturation

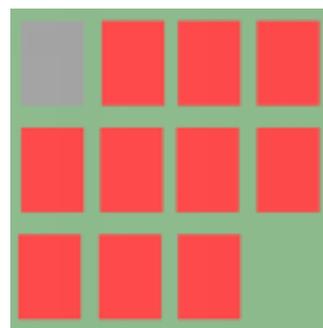
Comparing Modes



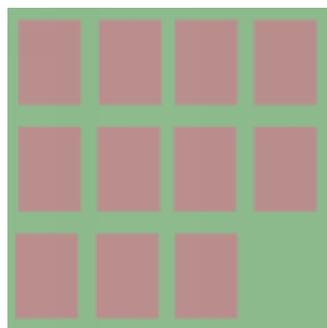
Normal Mode (color)



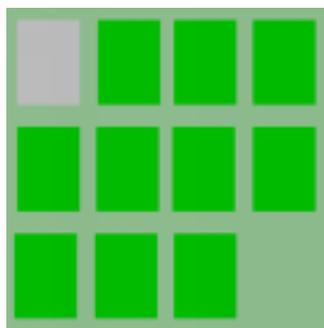
Dissolve Mode (color)



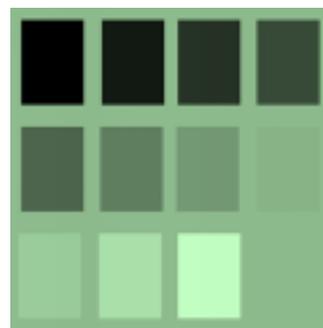
Color



Hue



Saturation



Value

A layer containing a green leaf pattern was combined with the portrait layer. These images show the difference between *Color* and *Hue* mode.



Color



Hue

CHANNELS

These figures show the result of adding color to a channel. The yellow channel would look like the black-and-white image to the right if you copied and pasted it to a new image. If the yellow image had been a regular layer, it would look like the gray image (after desaturation).



This duotone image was created using a blue and a yellow channel.



PLUG-INS

Plug-ins, commonly referred to as *filters* are an important part of Gimp. Many filters use color transformation, or affect the colors in the image in other ways.

Artistic Filters



All of the artistic filters affect color. However, only the *Newsprint* filter changes the way that color is used. The Newsprint filter separates colors either to RGB or to CMYK mode in order to build the half-tone pattern of an AM-screening printer.

Color Filters



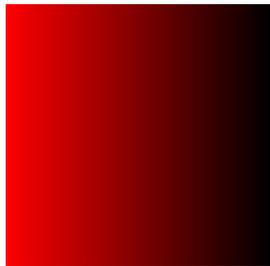
Naturally, color filters must be shown in color. This section should be your companion when you read the color filters chapter.

Adjust Fgrd. - Bkgrd is a simple color-rotating filter

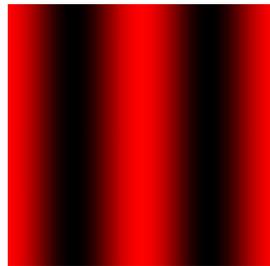
Alien Map is a psychedelic color-rotating filter that rotates and phase displaces colors using cosine and sine functions. Alien Map only works in RGB color space.



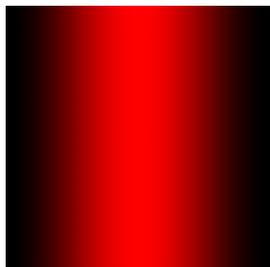
Alien Map



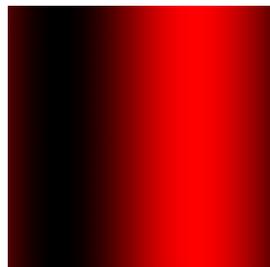
Original



Frequency = 2



Cosine



Phase disp = 1.25

Color Section

Alien Map2 has nearly the same functions as Alien Map, but this filter also works in HSV color space. Here we have aged a green spring leaf prematurely.



Color Mapping is a more “advanced” implementation of Adjust Fgrd. - Bkgrd.



Color Exchange lets you exchange one color to another. You can set the width of the desired color spectrum, i.e. how many shades should be exchanged for the specified color.

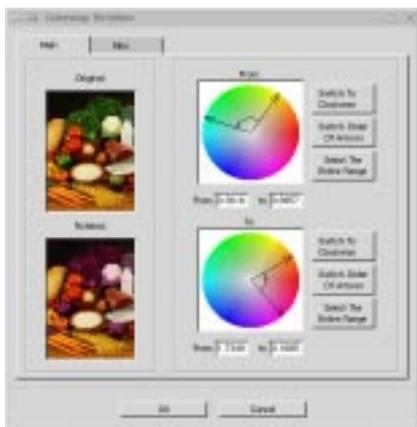


The ***Colorify*** effect is like putting a transparent color slide on top of your image.



Color Section

Color Map Rotation is a powerful color exchange filter.



Original



Rotated

Filter Pack is the darkroom filter. It's perfectly suited for adjusting miscolored photographs.



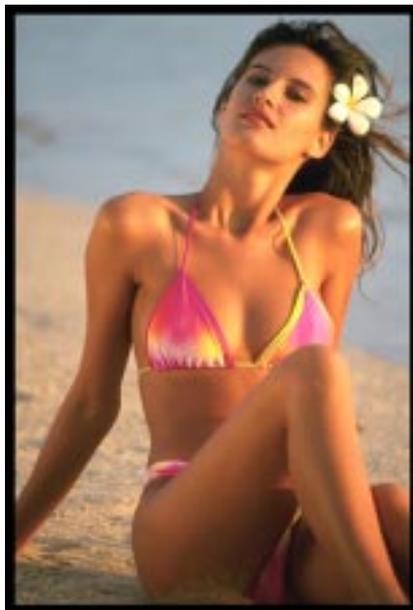
Original



Adjusted

Color Section

The *Gradient Map* filter will map an image against a gradient in the Gradient Editor.



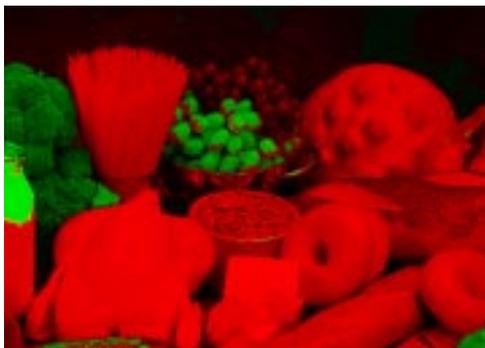
Max RGB will only display the color that has the highest or lowest value.

Original



Min

Max

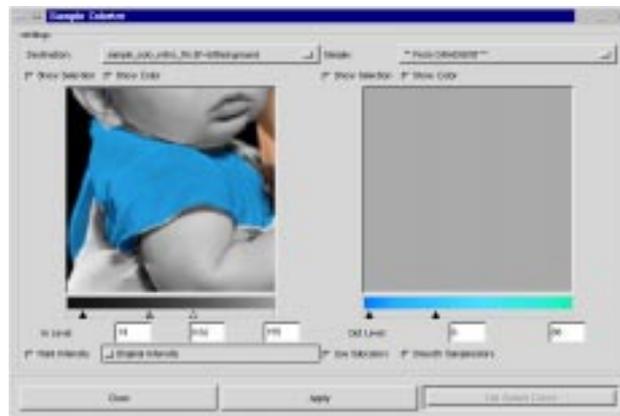


Color Section

If you want to colorize an old black-and-white photo, then *Sample Colorize* is the tool to use. You use a sample (a color photo) as source for colorizing an old black-and-white photo.



But you can also use a gradient, as we have done by coloring the baby's shirt.



Color Section

Scatter HSV adds color noise to the image.



Instead of inverting the colors like in the `right-click|Image|Colors|Invert` command, the *Value Invert* filter will invert the brightness value of each pixel.



EDGE DETECT

All of the edge detect filters produce colorful edges.



Edge



Laplace



Sobel

Color Section

And with the *Log* filter you can make instant cartoon pictures.

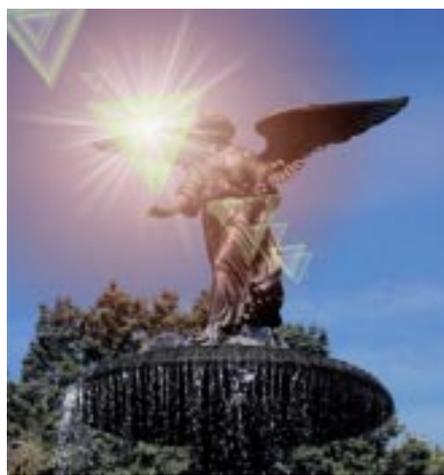


LIGHT EFFECTS

Most of the light effects such as *Flare FX*, *GFlare* and *Super Nova* produce color lens/light effects.



FlareFX



GFlare



Super Nova

RENDER

Most of the render filters affect color in one way or another. Here are some examples of the outcome of the fantastic *IFS Compose* filter.



Color Section

