"Page-O-Links"

- Watts Digital Home Page *(Products & Services)*:

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- "Not Just Another Photoshop Book":

    http://www.amazon.com/dp/B07HNLS1Q2

- Free Useful Downloads:

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- Free "Photoshop 101" Videos:

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- Free Photoshop YouTube Videos *(Don't forget to subscribe & "like")*:

    https://www.youtube.com/user/wattsdigitalvideos

- Small Group Workshop Meetups:

    https://wattsdigital.com/small-group-workshops

- Blog Home Page *(Educational)*:

    https://blog.main.wattsdigital.com

- *Blogpost:* What is a Master File, and why do I need one?

    https://blog.main.wattsdigital.com/photoshop-master-file-creation/

- *Blogpost*: Photoshop vs Lightroom? Wrong Question! *(Link to Part 2 & 3 in this blogpost)*

    https://blog.main.wattsdigital.com/photoshop-vs-lightroom-wrong-question/

- *Blogpost:* The Philosophy of RAW: *(with link to new v 12.3 features video)*

    https://blog.main.wattsdigital.com/the-philosophy-of-raw/

- *Blogpost:* Layer Mask Concepts & Basics, Part 1:

    https://blog.main.wattsdigital.com/?p=2283

Control your Contrast and Color

When it comes to a good color print, it's essential that you know what you're aiming for before you can properly use the tools in Photoshop. *I mean, what IS color, anyway?? Get ready to find out…*

I'm going to show you how to use **Levels** and **Hue /Saturation** to take care of your **Contrast** and **Color** needs, both globally and locally, using the acronym **K.I.S.S** *(Keep It Super Simple)* to drive home my point:

> • *With a well-exposed image,* **these 2 tools may be all that you need** *to properly optimize your image for Contrast and Color, both globally and locally.*

As I mentioned in Class 1, think of my teaching method / philosophy as being analogous to **a "Manual Transmission" (vs. an "Automatic Transmission") in a car.** A manual transmission is mechanically simple, but will give you tons of control & higher performance over your automobile (they don't use automatic transmissions in NASCAR, after all!).

But it comes with a price: a "learning curve" – hand/eye/foot co-ordination, and so on. After a time, using a manual transmission becomes instinctive, and you don't even think about "stalling the car" anymore.

What I'm going to show you in Photoshop is the same way – **simple, but tons of control & high performance!** *And don't worry; you won't "stall the car" nearly as much while learning this* ☺

The Master File and Workflow

If a picture is truly worth a thousand words, then here's an overall visual representation of the **Workflow Chart** from my Photoshop book (& Class 4) – notice that your Workflow centers on creating a **Master File**.
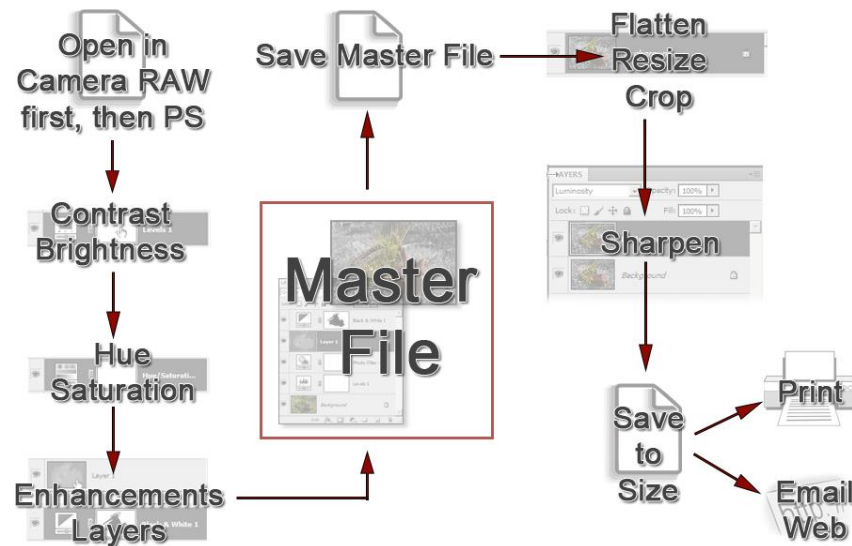
Creating a Master File is NOT for every image: it's for those images that you want to spend time with, doing all that's necessary to make your image "pretty". Here's where you pour your artistic "blood, sweat and tears" into your image, using the methods shown in my Photoshop book & these seminars.

What is a "Master File"? It's a 16-Bit, un-flattened, un-sharpened, un-cropped, un-resized file, designated as such in its file name, and saved as a .PSD or .TIFF (all of this is discussed in various Classes).

Why create a Master File?

- *It's Multi-purpose:* Use it to create separate files for a specific print size or printer, for the Web, for magazine output, etc. and you'll stay consistent between those files.

- *It's easily correctable:* for color, contrast, cropping, enhancements, etc. non-destructively (loss of digital information).

- *Sharpening is applied according to your print size*: Let's say that your Master File is created from a RAW file – It might be around 12"x18" at 300 ppi – If you sharpen for this size and reduce the file to prep for an 8x10 print, it will be over-sharpened.

> By the way, my Photoshop book is arranged in a manner similar to the chart above**: Sections 1 through 4** focus on the "left" side of the chart *(consider this the "creative" side)*, and **Sections 5 through 8** dig into the right side of the chart *(consider this the "procedural" side, except for cropping)*.

Basic Elements of a Good Color Print

**So, what makes a good color print
and how do you use the basics of Photoshop to achieve it?**

There are **eight basic elements necessary in the making of a good color print**, listed below, followed by the tool(s) in Photoshop to control that element - I**f you make proper use of these elements, then you end up with a good print.**

A few definitions and explanations are in order:

Contrast:

Contrast is the difference in brightness between the light and dark areas of an image.

A high contrast image has a harsh look, typically having a lot of dark areas and a lot of light areas and very little mid-tones. A low contrast image, by comparison, is flat, bland and lifeless -- mostly mid-tones with very few dark areas and light areas.

What is color?

The dictionary defines it as *"the quality of an object or substance with respect to light reflected by the object, usually determined visually by measurement of **hue**, **saturation**, and **brightness** of the reflected light."*

Basic Elements of a Good Color Print	Corresponding Basic Tool(s) in Photoshop
■ Contrast	■ Levels
■ Luminance/ Brightness	■ Levels
■ Hue/Color Balance	■ Levels ■ Hue/Saturation
■ Saturation	■ Hue/Saturation
■ Sharpness	■ Unsharp Mask
■ Crop/Composition	■ Crop Tool
■ Touch Up	■ Cloning Tool ■ Healing Brush
■ Impact/Feel/Creativity/ "WOW" Factor	■ N/A (Intangible/ Uniqueness)

So, the 3 main attributes/components of color are: **Hue, Saturation,** and **Luminance (Brightness).**

- **Hue** -- Hue is a single color cast or color name. *Green is a hue, Orange is a hue, and so on.*

- **Saturation** -- Saturation is the intensity, purity or amount of a hue. *A pastel red is less saturated than a fire-engine red, lime green has more saturation than chiffon green, etc.*

- **Luminance (Brightness)** -- Luminance is the amount of perceived brightness of a color*. The color black has no luminance, whereas the color white has the highest luminance.*

By the way, in this Seminar, we're only going to be spending time with the first four elements, with the other elements covered in other "Photoshop 101" seminars & Small Group Workshops.

What Makes a Photograph unique?

You'll see that we'll be able to control all of these elements in Photoshop, with the exception of the last one - **Impact/Feel/Creativity**. *This is up to your skill and artistic interpretation as a photographer.*

I like to call this the **"WOW" Factor**, because as you look at a strong image with impact, you want to say, "WOW!". It is my opinion that Photoshop, used properly, will take a good image and make it a very good image - - It will take a great image and make a "WOW" image.

So, how do you your increase your **"WOW Factor"** in an image?

Increase its uniqueness!

Ask yourself: What makes a photograph unique?

Here, according to John Szarkowski, are the 5 essential characteristics of Photography – concentrate on these, and you'll increase your image's uniqueness:

- **Subject (The Thing Itself)**

- **Detail**

- **Frame**

- **Vantage Point**

- **Time**

For more resources on this subject, search for: "John Szarkowski – 5 Characteristics"

Color Correction and the Color Wheel

"The color in my print doesn't look right..."

How many of us have heard this from friends and other photographers, or have said this about our own prints? Let's go over some basics of **Color Correction**-- then you can color correct with more confidence and accuracy – *know what you're aiming for in your final print!*

- **Color Correction** is correcting an imbalance in the color cast of the image.

- Use the **Color Wheel** to help you determine the proper **color balance**.

> ***When judging for proper color balance in your image***, *look for "neutrals", such as white or gray – Correct for those neutrals, and the rest of your colors generally will fall into place.*

Correct using the Color Wheel

The "Color Wheel" will help you visualize how the **Primary Colors** -- *Red, Green, and Blue* -- and their corresponding **Complementary Colors** -- *Cyan, Magenta, and Yellow* -- interact with each other to achieve proper **color balance.**

> ***To correct an image with an improper color cast***, *add its complementary color to bring the color balance back to where it needs to be.*
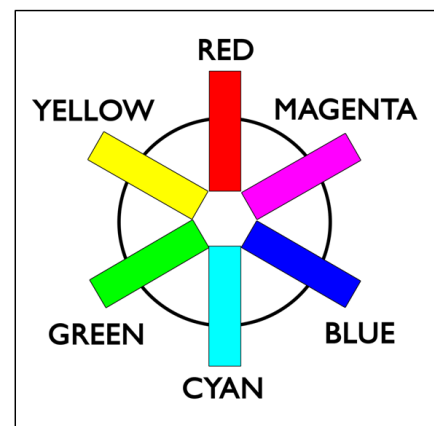
Here's how it works:

1. **Opposite the Primary Colors in the wheel is their Complementary Color,** such as *Blue* being the Primary Color, and *Yellow* being its Complementary Color.

2. **You can describe a color by adding the two surrounding colors in the wheel** -- for instance, Yellow + Magenta = Red.

3. **Here's an example:** let's say that by looking at the "neutrals" in an image, the color cast is too magenta; add green to correct the improper color balance.

4. **However, this is over-simplifying things a bit**, because in the "real world" true primary colors don't exist: Bottom line, you'll probably need to use two colors in your RGB settings in Photoshop to correct your image. As an example, let's say your image has an orange cast (which is Red + Yellow) – you would add a combination of Blue + Cyan (the complementary colors) to correct (we'll work on"real world" examples shortly).

5. Rules are made to be broken, so you should know that the **"Neutral rule" doesn't always apply** - - a sunset is a perfect example, as it needs to stay nice and warm.

*For a **free printable JPG** of the **Color Wheel** (and other free "post-processing" resources for photographers), go to* https://wattsdigital.com/free-useful-downloads *(or use the QR Code below)*

*To watch a **3-minute YouTube video** on this chapter, go to:*
https://blog.main.wattsdigital.com/photoshop-quick-tip-color-correction-the-color-wheel/

Layers Basics

What's a Layer Mask, and why do I need it?

- **Layer Masks give you the ability to make "Adjustments" to your image** *locally***, not just** *globall***y, by hiding or revealing portions of your Adjustment -** *you can pinpoint specific areas to change.*

- **What "Adjustments" can you localize? Virtually anything you can do in Photoshop, such as** *contrast, color, sharpness, brightness, etc.*

- **You don't visually "see" a Layer Mask in your final output, only the results –** *it's invisible, and works in the background.*

Adjustment Layers:

You'll work with Layer Masks through Adjustment Layers, such as the Levels or Hue Saturation Adjustment Layers (*discussed in this seminar).*

Think of Adjustment Layers as "***clear plastic overlays***" that are stacked and sandwiched on top of your original image, with each Layer giving you the "global" or "local" ability to control an adjustment to your image. They're depicted two-dimensionally in the Layers Panel.

Image   Layers Panel   3-D Illustration
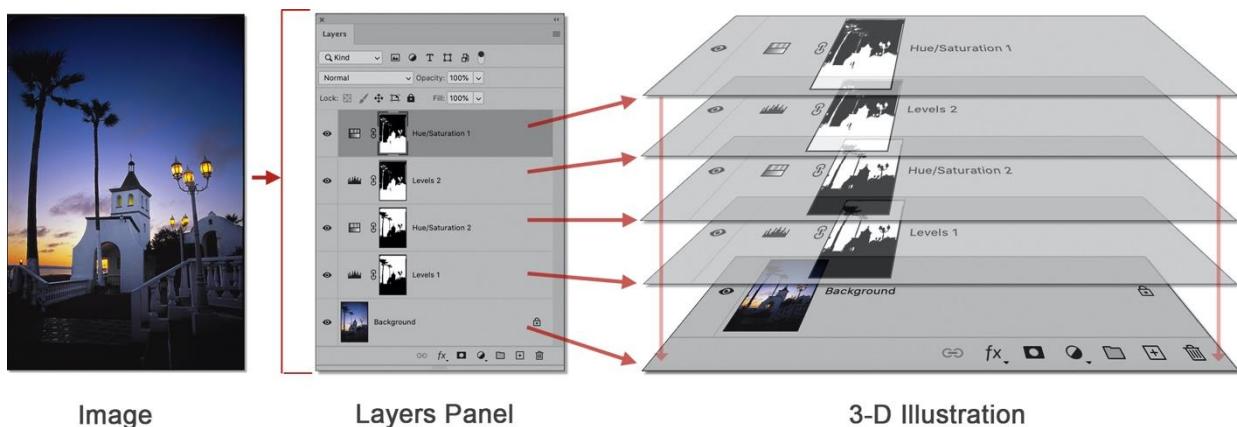
Local vs Global Adjustments:

One of the main purposes of **Adjustment Layers** is to allow you to make "Adjustments" to your image, *both globally and locally*, basically in a non-destructive manner. *This is one of the more powerful features in Photoshop.* By the way, "destructive" is defined as causing pixelization and posterization to your digital image, resulting in loss of critical information (same as "*Clipping*").

"Zones" Blogpost

The Layers Panel Basics

The Layers Panel is where you'll manage all of your Layers, including Adjustment Layers. As mentioned previously, think of this as a 2-dimensional "side-view" of your original image (the *"Background Layer"*), with your Layers ("clear plastic overlays") stacked on top of it.
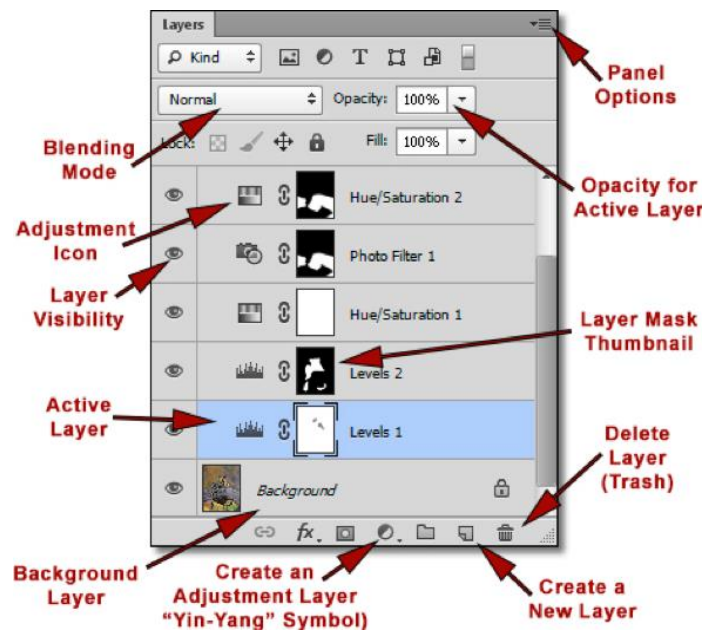
- A **Background Layer** is the image you bring into Photoshop - - This layer should generally be left alone - - Most of the time, no work should be done to it.

- The **Active Layer** is the layer that you are working on, and is highlighted in a darker /different color.

- You can control your **Layer Visibility** by toggling the *"Eye"* icon on and off - - This will help you see the effects of a particular layer on your image.

- The **Blending Mode** lets you control the way pixels are blended together. The various blending modes that are available can be seen in the drop-down menu. In the spirit of K.I.S.S., we will only be working with a few Blending Modes – *The vast majority of time, your Blending Mode will be "Normal".*

- To access the **Layers Panel Options**, click on the drop-down list (shown in the diagram above). Here you can quickly delete a layer, duplicate a layer, flatten your image, and so on. If you go to *"Panel Options"* at the bottom of the drop-down list, you can change the size of the thumbnails displayed in the panel (A personal favorite, as my eyes are getting older!). *By the way, each Panel (not just this one) has a different set of options.*

The Properties Panel Basics

The **Properties Panel** has two "Views", both tied to the **active Adjustment Layer** in the **Layers Panel**:

1. *The Adjustment Properties View*

2. *The Mask Properties View*

There are two ways to switch between the Views:

1. Click on the appropriate Icon in the **Properties Panel**

2. Click on **Adjustment Icon** or **Layer Mask Thumbnail** in the **Adjustment Layer** (in the **Layers Panel**)
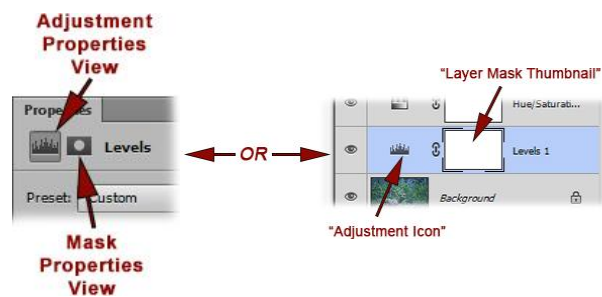
An explanation of some of the functions in the **Adjustment Properties** View *(Levels shown)*:

- **Toggle Layer Visibility** – This shows and hides the visibility of the layer – *when this is toggled, the Layer Visibility button in the Adjustment Layer (in the Layers Panel) will show the same results.*

- **Reset to Default** – This returns the adjustment to its default settings - *rarely used.*

- **Delete Layer-** This discards the current layer in the Adjustment Layer - *rarely used.*

- **Clip to Layer -** Most of the time, it's best to leave this one alone. Otherwise, click it to affect only the layers below it in the Adjustment Panel - *rarely used.*

- **Previous State -** Click to view the previous state (one step back) of the adjustment - *rarely used.*
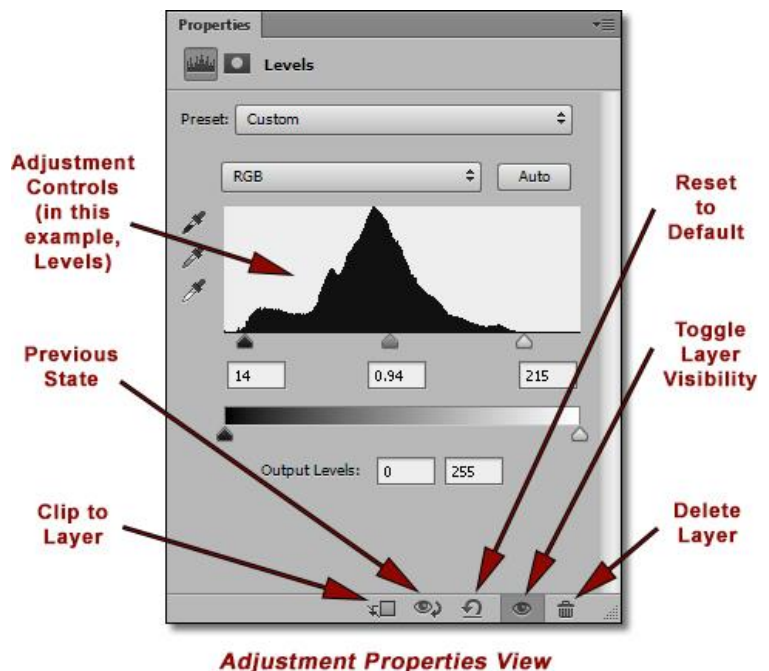
Adjustment Properties View

The Levels Adjustment Layer

Purpose:

The **Levels Adjustment Layer** is used for *contrast control* and *color correction*, both in the same **Adjustment Layer** - - *more on Layers & Adjustment Layers in Section 4 of my Photoshop book, as well as the upcoming "Small Group Workshops".*

It's an extremely versatile tool: if I only had one function available to me in Photoshop, this would be the one!

In an exceptionally well-exposed image, it's entirely possible that with a few simple adjustments in Levels (& Hue/Saturation, discussed soon), your image will be ready to print.

Where to Find:

- The easiest way to create **a Levels Adjustment Laye**r is to click on its icon in the **Adjustments Panel**. Once created**,** it shows up in the **Layers Panel (***discussed earlier*).

- In addition, you can also click on the *"New Adjustment Layer"* button (the "Yin-Yang" button) in the **Layers Panel**, and choose **Levels** from the drop-down list.

- You'll view its properties and controls in the **Properties** *Panel (discussed earlier).*

- In the spirit of K.I.S.S, you'll only need to use **5 basic controls** (shown to the right), and you can ignore the rest: *Drop-down Menu, Layer Visibility Button, Shadows Slider, Midtones Slider, & Highlights Slider.*

- Please note that you'll NEVER need to adjust the *"Output Levels"* at the bottom - it's designed for CMYK output.

- Also, note that there are two places you do NOT want to work on a Levels Adjustment: The *"Image"* menu → *"Adjustments"*, and the *"Speed Keys"* that are shown in that menu. *The reason? If you choose either one of these locations, a proper **Adjustment Layer** is not created - which defeats the whole purpose of Layers.*

Drop-down Menu

Layer Visiblity

Shadows   Midtones   Highlights
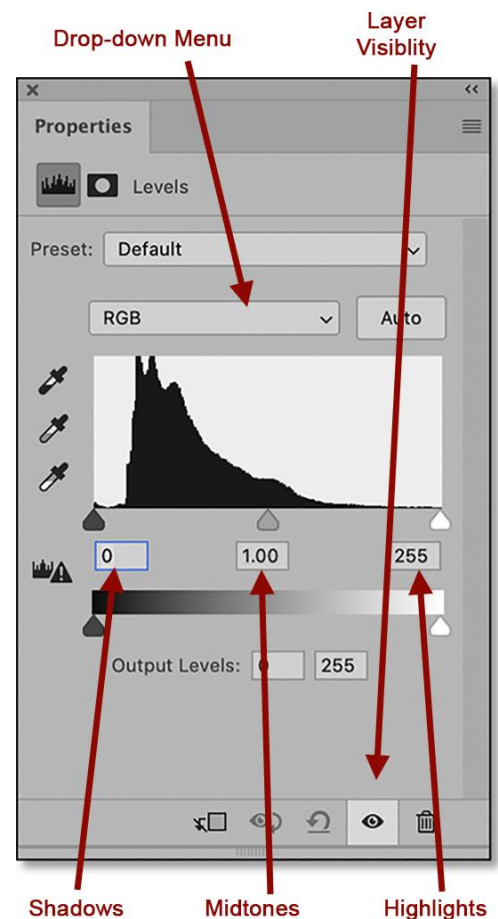
The Histogram:

The **Histogram** is a graph that represents the tonal range of an image, as measured in pixels. It basically tells you how your image is exposed. *The higher the graph for a particular value, the more information there is at that level.*

- o The **left** side of the histogram represents *"dark"* pixels, with *"0"* being *Black*.

- o The **right** side of the histogram represents *"light"* pixels, with *"255"* being *White*.

- o The **middle** of the histogram represents *midtones*, with *"1.00"* being right in the middle*. By the way, don't let the midtones' numerical value confuse you – it's different because it's technically "Gamma", which is midtone contrast.*

- • The **Histogram** also shows those captured pixels currently available in the **"visible spectrum"** of light. The more values that are shown in the Histogram between *"0"* & *"255"*, the more they're in the *"visible spectrum"* - which will avoid digital "Clipping". If values go beyond the Histogram on the left- or right-hand side, "Clipping" occurs. *Remember, "Clipping" is the unwanted elimination or usage of digital information.*

- • **Generally speaking**, an image that is *under-exposed* will have more values on the left side of the histogram (similar to the diagram on the previous page), an image that is *over-exposed* will have more values on the right side of the histogram, and an image that is **"nominally" exposed** will have values evenly distributed throughout the histogram. However, you'll learn later that you should be slightly *under-exposing* your images anyway. This concept is called *"Expose to the Left",* and discussed in Class 3.

- • Note that I said *"generally speaking"* in the above sentence -- there are always exceptions to the rule. For example, a scene of snow may print well, but its histogram will be weighted with more "light" pixels on the right, whereas a night scene may also print well, but its histogram will be weighted with more "dark" pixels on the left.

- • In my opinion, it's easy to place too much emphasis *strictly* on what a histogram shows you. It's important, to be sure, but you should use it as a critical guide, and not let it become your "gospel". How your final image looks should be the deciding factor in what works and in what doesn't. *No one looks at a print and says, "Oh, that's a great print, but the histogram looks terrible!".*

## What's with the Drop-Down Menu?

Remember, you can control both *contrast* and *color balance* in **Levels**, and here's where you do it:

- • **Contrast** is adjusted using the *default composite RGB Channel.*

- • The overall **Color Balance** is adjusted using the three individual *Red, Green and Blue* **Color Channels**.
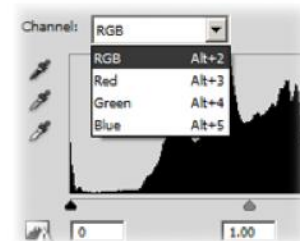
Always Start with Contrast *First*:

- As you'll recall, the definition of **Contrast** is the difference in brightness between the light and dark areas of an image. *As our eyes generally like "snappy" (higher contrast) prints, you are trying to achieve the maximum "snap" or high contrast without blocking up shadow areas, while at the same time retaining detail in the highlight areas.*

- So, using the RGB Channel first, **adjust your Contrast BEFORE adjusting your Color** – *If you adjust your color first, then adjust your contrast, you'll get unrealistic and unexpected color shifts.*
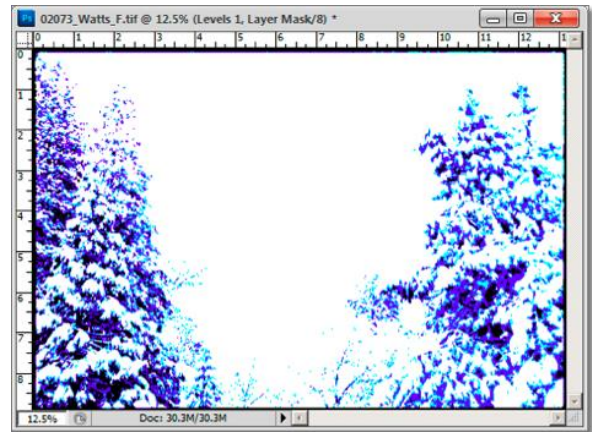
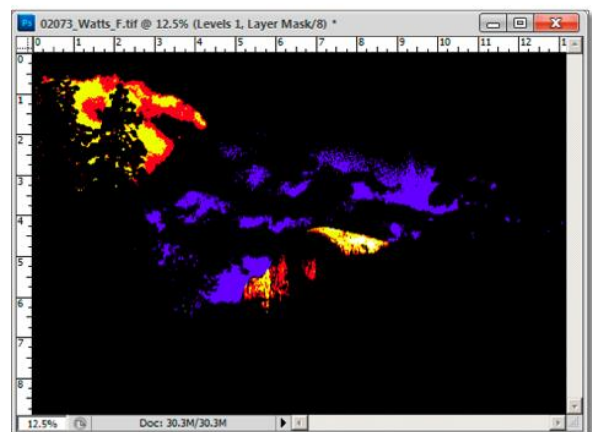**Shadow Clipping Warning**

White Point /Black Point and Clipping:

Set the **White Point** and **Black Point in your RGB Composite Channel:** this gets you on the road to proper contrast. *It allows you to set the brightest parts of your image as close to pure white as possible and the darkest parts as close to pure black as possible,* without "Clipping".

By moving the sliders properly, you'll take advantage of the full range of tonal values available to you in your image. Put another way, *doing this critical step properly utilizes the full range of dark to light which can be displayed on your monitor and print.*

Original Image

- You'll be using the **Clipping Warning** quite a bit to get the most out of your image, and this is an important feature. To see the **Clipping Warning** (the unwanted elimination of pixels), hold down the *"Option" key* in Mac *("Alt" key* in Windows) as you move the *"Shadows"* and *"Highlights"* Sliders (*There is no Clipping Warning in the "Midtones" Slider, of course*).

- **When using the Clipping Warning***, it should be used as a critically important guide, but a guide nonetheless*: What your eyes see is still the best judge of how your image should look. It's possible that you may sacrifice the "greater good" of the image and live with a bit of clipping, or control it with a **Layer Mask** – *let your eyes decide.*

Highlight Clipping Warning

To Adjust Contrast *(see diagram on previous page):*

As discussed earlier, you can control the values of **Shadows**, **Midtones**, and **Highlights**. *Start by adjusting your white and black points first (no particular order on which one is first), then adjusting your "Midtone" slider.* By the way, I've gone "too far" on the *Clipping Warning* examples shown on the previous page, to show you what it looks like – they aren't necessarily "correct".

- Move the *"Shadows"* Slider to the right to increase contrast in the shadow areas. ***Adjust until clipping just starts to occur.*** Check this by using your *Clipping Warning* described above. This sets your initial **Black Point.**

- Move the *"Highlights"* slider to the left to increase contrast in the highlight areas. Be very careful with this one -- you don't want to lose any highlight detail. You can avoid this by not dragging the slider so far to the left that it starts clipping. ***Adjust until clipping just starts to occur***. Check this by using your *Clipping Warning* described above. This sets your initial **White Point.**

- Move the *"Midtones"* Slider to the left (or increase the numerical value) to decrease the contrast in the midtones, and to the right (or decrease the numerical value) to increase the contrast in the midtones. *Too many folks forget to do this, and it makes a world of difference in the "pop" of your image.* By moving the slider to the right, you can darken your midtones and brighten your highlights, and vice versa, giving your image extra "pop". I call using the *"Midtones"* slider *"Ye Olde Magic Move"* - Try it, you'll like it!

- Notice that these are all "initial" values, and can be "fine-tuned" to the desired level of Contrast.

Color Channels:

A **Color Channel** stores information about color elements in the image. You will note that in the **Drop-Down menu**, you have four choices: **RGB**, **Red**, **Green**, and **Blue**. Each one of these is a "Color Channel", with RGB being a composite of all three colors. *Think of the **Red, Green, and Blue** Channels as being analogous to adding a color filter in front of your camera lens.*

To Globally Color-Correct:

1. Click on the **Drop-Down Menu**, and pick the **Color Channel** where you desire to add a color cast (or subtract, using the Complementary Colors).

2. Starting with the *"Midtones"* Sliders, move the appropriate **Sliders** to make your desired color correction.

3. Move the appropriate sliders to the left to add the **primary colors** *(RGB)*, and to the right to add the **complementary colors** (*CMY*).

Example: If you need to add "Red" to your image, go to the **"Red" Channel** in the **Drop-Down Menu**, then move the *"Midtones and/or Highlights"* Slider to the left to increase the red cast. Conversely, if you desire more Cyan (The complementary color of Red), you would move the *"Midtones and/or Shadows"* slider to the right to increase the Cyan cast.

## The Hue - Saturation Adjustment Layer

Purpose:

The **Hue – Saturation Adjustment Layer** is used for color correction. More specifically, it allows you to control **Hue**, **Saturation** and **Luminance** for each Color Channel (discussed earlier). *If Levels is a "Hatchet", then Hue - Saturation is a "Scalpel"".*

- **Hue - Saturation** is great for changing the characteristics of a particular color, not your overall "global" color (Levels is great for that). When you make changes to a particular color, *none of the other colors in your image are affected.*

- For instance, if the Reds in your image are too saturated, you would simply choose the *"Red"* Channel from the **Drop-Down menu**, then change the *"Saturation"* slider to desaturate your Reds to the desired level, *without affecting any other colors in your image.*

- Or let's say that the Greens in your landscape shot are too Blue/Green: Choose the *"Green"* Channel from the **Drop-Down menu**, then change the *"Hue"* Slider to bring your Greens back to a more realistic color, such as Forest Green, again *without affecting any other colors in your image.*

Where to Find:

- The easiest way to create **a Hue/Saturation Adjustment Laye**r is to click on its icon in the **Adjustments Panel**. Once created**,** it shows up in the **Layers Panel (***discussed soon)*.

- In addition, you can also click on the *"New Adjustment Layer"* button (the "Yin-Yang" button) in the **Layers Panel**, and choose **Hue/Saturation** from the drop-down list.

- You'll view its properties and controls in the **Properties** *Pane**l*.

- In the spirit of K.I.S.S, you'll only need to use **5 basic controls** (shown above), and you can ignore the rest: *Drop-down Menu, Layer Visibility Button, Hue Slider, Saturation Slider, & Lightness Slider.*
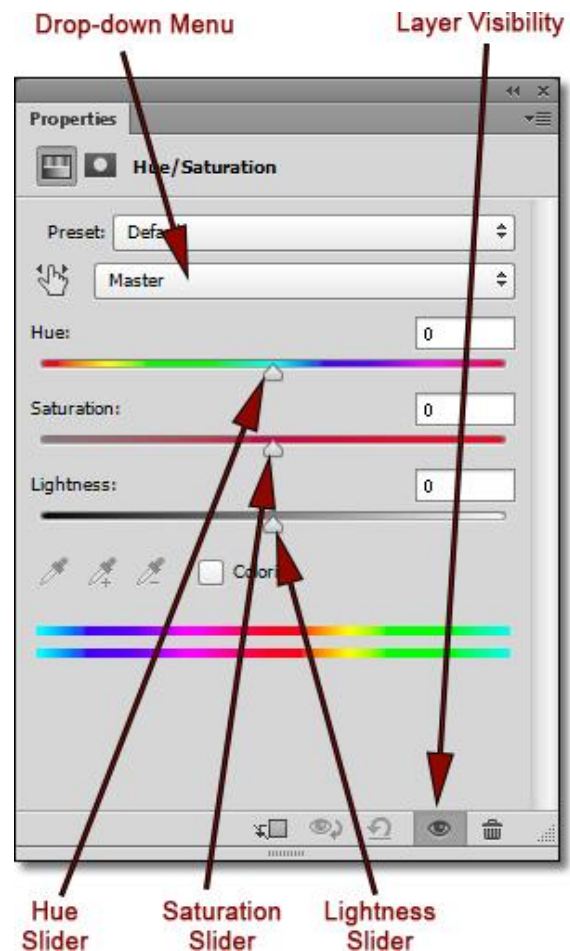
How Hue – Saturation Works:

The **Dialog Box** for **Hue – Saturation** (in the **Properties Panel**) is very intuitive:

1. Choose the **Color Channel** that you want to adjust from the **Drop-Down menu**. *You have 6 colors to choose from – The 3 Primary Colors, as well as the 3 Complementary Colors.*

   By the way, I never adjust the **"Master"** Channel - - I find that I have lots more control by choosing a single Color Channel to make changes *(like a "Color Scalpel").*
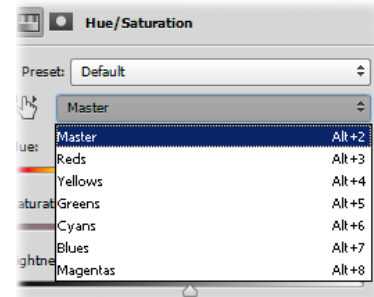
2. **Adjust the Hue**: As an example, choose the *"Green"* channel from the **Drop-Down menu**. *Remember the Color Wheel from earlier? Now you'll see it in action:*

   ■ As you move the *"Hue"* slider to the left, you will see the green values in your image go from a green cast to a yellow cast, then to a red cast, and finally end up with a magenta cast.

   ■ As you move the *"Hue"* slider to the right, you'll see your green values go from a green cast to a cyan cast, then to a blue cast, and finally to a magenta cast.

3. **Adjust the Saturation**: Again, using the *"Green"* channel as an example, move the *"Saturation"* slider all the way to the right and you'll see the effect of way too much saturation. Conversely, if you move the slider all the way to the left, your green values will turn to shades of black and white.

4. **Adjust the Lightness**: I rarely use this slider; I personally find it ineffective. It is more effective and less destructive to adjust your Lightness with **Levels**.