Compositing

*Compositing* is the art of combining two or more distinct elements to create a sense of seamlessness or a feeling of belonging.

**Selection Tools**

In the simplest terms, selections help us to cut parts of images from their source. For instance, we would employ a selection to remove a figure from a background in order to composite the figure into another image. Selections are pivotal for compositing and there are many different tools and methods to make them. Presently, the most common digital program for image-making is Adobe Photoshop. This PDF will outline some of the most common tools for making selections in Photoshop. These are not the only tools to make selections, but they are easy to learn and effective. It is suggested to become comfortable with a range of selection tools, as varying images will present different challenges. Making a selection for a human figure is far different to making a selection of a sky. A designer must develop the ability to analyze an image, and identify which tool or tools will be most effective to make a selection.

**Viewing and Hiding Selections**

In Adobe Photoshop, selections are displayed info-graphically by black and white dashed lines in continuous motion. Whatever pixels are contained within the selection can be copied, deleted, or modified. Selections are impermanent and not rendered visually when you output an image. They are used solely to isolate and make adjustments to images. A really useful option in Photoshop is the hide extras command. This command will make those black and white dashed lines that display your selections invisible. The selection will still be active, meaning that you can make adjustments, copy, or delete what is contained within. However, you will not have to look at the moving selection while you are working. Often, the dancing lines of selections in Photoshop can be distracting while you are designing. You can toggle back and forth between hiding and viewing your selections with the following command:

*Hide and View Extras*  
Command + H (Mac) or Ctrl + H (Win)

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Marquee Selection Tool
The most basic selection tool in Photoshop is the marquee selection. You can use it to make geometric selections such as rectangles or ellipses. You can make selections that are perfect squares or circles by holding down the Shift key while clicking and dragging either the rectangular marquee tool or the elliptical marquee tool. The marquee tool is really helpful for simple or precise geometric selections.

Lasso Tool
The lasso tool offers a few options for quick selections. The default lasso tool allows you to quickly draw with a mouse or digital pen a selection directly on an image. This tool is helpful for fast and rough selections to see if a visual element will work in a composite. However, it is very difficult to get precise selections with the default lasso tool. The polygonal lasso tool enables you to make more precise selections using straight lines and mouse clicks. This tool is effective for making rough geometric selections. You can make quick selections and place them in your composite to see if the visual asset is worth investing the time required for a detailed selection.

Magic Wand Tool
The magic wand tool analyzes an image and looks for similarities in color and value to determine a selection. It is very effective if you have an image with a large area of similar color, like a clear sky or a field of grass. You can directly click on that area and the magic wand tool will identify similarities and convert them into a selection. You can use the control panel to adjust the tolerance of the magic wand tool. A higher number in tolerance will result in a wider range of similarity being selected. A lower number in tolerance will reduce the range of what will be included in a selection. Again, the magic wand tool is effective for making selections from images that have large areas of similar colors.

However, if you want to select similar colors that are divided up or really detailed within an image, the magic wand tool can be very time consuming. A better tool for these kinds of selections is color range.

Color Range
Color range allows you to sample specific colors or values to define your selection. It works like the magic wand tool, except you only have to make a single sampling prior to creating the selection. The magic wand tool requires you to click on every area you want to include in your selection. You can access color range through the selection menu in Photoshop and use the eyedropper tool from the color range panel to define your selection. The fuzziness slider allows you to adjust the tolerance of your selection.

Inverse Selection
A really important function of selections is the ability to invert them. Compositing often requires making selections and then
it does take some getting used to. If you do not learn how to adjust handles, the pen tool will be very frustrating. You can move a handle by holding down Command (Mac) or Ctrl (Win) while clicking and dragging the handle’s end. You can also remove a handle from a point on a path by holding Option (Mac) or Alt (Win) and clicking on the point. This option is a great way to nullify any unwanted influence a previously curved line may have on your path as you continue to place points and lines.

**Pen Tool**

The pen tool is very good for making precise selections in Photoshop. It is excellent for tracing organic shapes using paths. Paths are comprised of points and lines that can be converted into selections. The pen tool allows you to manipulate points and lines in an accurate and detailed manner.

With paths, you have two different kinds of points and two different kinds of lines. First, there are corner points, which are linear, meaning that they can create straight lines. There are also smooth points, which have handles that can be manipulated to create curved lines. Handles influence and determine the direction of lines between subsequent points on a path. Straight and curved are the types of lines you can have in a path. The pen tool manages points, lines, and handles very specifically. However,
Using Paths to Preserve Selections

The paths panel in Photoshop allows you to save the paths you create and make the same selection repeatedly. Using paths in this way is part of a non-destructive workflow. Once your path is complete, either double click on the path layer in the paths panel, or click on the drop-down menu in the paths panel and choose save path. Both of these methods will open the save paths panel and allow you to name and save your path.

There are many ways to make a selection from your path. You can Command + Click (Mac) or Ctrl + Click (Win) directly on the path layer in the paths panel. You can choose make selection from the drop-down menu in the paths panel. You can also right click anywhere on your image and open a drop-down menu to choose make selection. Adobe does a great job of giving users options in how to interface with their programs to achieve the same result. Another important note about making selections from paths is the option of applying a feathered edge. When you open the make selection panel, you are given the option to choose a feathered radius. A selection with a value of 0 pixels for the feathered radius will have a clean and hard edge. You may need this on occasion, but a selection without any kind of feather tends to look digital. Even a subtle feather of .5 or 1 pixel will soften an edge and help a selection to feel more believable when placed into a composite. Experiment with applying various degrees of feathering to your selections, as it will change based on the needs of your image.

Feathering

Feathering is a way to control how sharp or blurry the edge of a selection will be. Edges that are either too sharp or too blurry will stand out and look unbelievable. For successful compositing, a designer must learn to analyze and define the degree of softness that the edges in an image possess. This skill is related to learning to see value and how light affects objects. You apply feathering to the edges of your selections by clicking on the select menu / modify / feather. This action will open the feather selection panel, where you can choose a numeric value for the strength of the feathering. You can also open the feather selection panel with the hot-key combo:

Open Feather Selection panel

Feathering also applies to the edges of digital brushes. The brush tool and the eraser tool are useful for compositing as they have a wide range of applications. Knowing how to adjust your brush edges to be either hard- or soft-edged will give you greater flexibility in your compositing skills. You can adjust the hardness of brush edges through the control panel when your brush tool is selected. Or you can use the hot-key combo Shift + [ to soften your brush edge, or Shift + ] to harden your brush edge.
Quick Masks
Another useful method for making selections is the quick mask. Quick masks work with brushes or gradients to define selections. You can enter the quick mask mode by either hitting the Q key on the keyboard or by clicking the quick mask mode icon near the bottom of the tools panel.

Once you enter the quick mask mode, your brush strokes will appear as a semi-transparent red color. Use the brush tool to paint anything you wish to be included in your selection. You can also adjust the transparency of the brush to create a less opaque selection.
Once you apply a mask to a layer, a thumbnail for the mask will appear on the selected layer in the layers panel. The thumbnail will display what is visible, or invisible by displaying the luminance of the composition. In a layer mask thumbnail, white depicts what is visible and black depicts what is invisible. You can use the mask thumbnail on the layer to disable the mask, enable the mask, delete it, or apply it permanently. Right click on the layer mask thumbnail to reveal these options.

Layer Masks
Layer masks are extremely powerful tools that contribute to a non-destructive workflow. Non-destructive describes a process that allows you to undo and/or preserve layer assets. This tool is derived from an analog process of physically creating a mask over a picture to determine what part of the image is visible versus what is invisible. Essentially, layer masks allow you to define what part of an image will be seen and what will not. Once you have made a selection, you can apply a layer mask by clicking on the add a mask button at the bottom of the layers panel.
By default, layer masks are linked to their respective layers. This means that if you select the thumbnail for the layer or the thumbnail for the layer mask, both the image and the mask will move in unison. However, you can unlink your layer masks from your layers to move either the image or the mask independently from each other. It can be useful to unlink your layer mask to shift the parts of image you wish to be revealed. Unlinking is achieved by clicking on the chain icon between your layer thumbnail and mask thumbnail on a layer.

One of the great benefits of layer masks is the ability to modify them. You can add or subtract visibility from a layer mask. Be sure that the layer mask thumbnail is selected, rather than the layer thumbnail. This is important, because if the layer thumbnail is selected and you use the eraser thinking you are removing part of the layer mask, you could end up deleting part of your image. You can tell if the layer or the layer mask is selected by looking to see which thumbnail has a bounding box outline. You can add or subtract from a layer mask by either erasing or painting dark or light value directly on an image while the layer mask is selected. Because layer masks work with luminance, colors will be translated into black and white values when modifying a selected layer mask.

A useful technique is to apply a layer mask to an entire layer, prior to making any selection. This action will place a layer mask over the whole layer, leaving everything visible. The layer mask thumbnail will appear completely white. You can then paint away areas of the layer mask to selectively reduce transparency. A great tool for creating an organic feathering of transparency on layer masks is the gradient tool.

**Gradient Tool**
The *gradient tool* in Photoshop is really useful for compositing. It is designed to paint digital pixels on an image in a gradated manner. Gradations introduce an organic quality to images as they
You can place pixels on an image by clicking and dragging the gradient tool across your composition. This setting will create a gradual fall-off of pixels from opaque to transparent. Additionally, you can select a radial gradient in the control panel that will give your gradients a rounded fall-off. When used in this way, the gradient tool is like a digital paintbrush that can apply areas of color or modify layer masks.

**Duplication**

One of the most astounding aspects of digital tools is the rapid ease of duplicating files, images, or parts of images. With analog materials and assets, there is only one of a kind. Of course there may be many different kinds of a material or asset, but each one is unique. For example, you can never have two exact analog copies of papyrus paper.

However, once that piece of papyrus is digitized you can duplicate it over and over again. You can adjust the digital image in a multitude of ways.
Duplication is part of a non-destructive workflow and can allow you to take chances you may not be so eager to take with analog materials or methods. By making duplicate files and/or layers, you should feel emboldened to experiment during your compositing and design processes. There are many ways to duplicate a layer in Photoshop, but here are a few of the most efficient. You can drag a layer to the bottom of the layers panel and drop it on the create a new layer button.

You can right-click on a layer and select duplicate layer from the drop-down menu, or click the layer menu within the layers panel to select the same option.

Another efficient way to duplicate a layer is to click and hold the Option key (Mac) or Alt key (Win) while dragging a layer in the composition window. This method is for duplicating layers quickly and more tactile and hands on. This method does require the move tool to be active in order to work.

**Basic Transformations**

Basic transformations include scale, rotation, distortion, warping, and adjustments to perspective. These tools are readily available in Photoshop, but can appear heavy-handed if not applied with an understanding of compositing. A basic grasp of perspective will help you to make the correct changes to scale and rotation in an image. Distortions can be used to create the effect of an element being foreshortened or to create a dynamic diagonal. The warp tool is great for making more fluid and organic distortions to elements. Again, like most compositing tools, the key is to have a broad understanding of their varied uses and to know which tool to employ in each situation. Transformations can be accessed through the edit menu / transform drop-down menu.

You can also use the hot-key combo Command + T (Mac) or Ctrl + T (Win) to enable transformation options on a layer or selection. Once you select the transformation option, a bounding box will appear around your layer or selection. For quick transformations, you can hold down the Command key (Mac) or Ctrl key (Win), click on one of the handles around the bounding box of the selection, and drag your mouse. If you click and drag on a corner handle, you will be able to create a free distortion. This function is very useful for creating dramatic perspective changes on a selection. If you click and drag on a middle handle, you can create a free shearing effect. This hot-key combo for free transformations is a time saver and helpful for compositing.
Clone Stamp Tool

Cloning is a powerful digital tool, but it can easily be overused. When this tool is not handled well, it is very evident. Too much exact repetition disrupts the pattern of believability in a composite. Images can very quickly begin to look fake or obviously created in Photoshop.

However, when handled with care, cloning offers tremendous retouching capabilities. This compositing tool allows you to select an area of your image, and paint a duplicate of that selected portion elsewhere on your composite. Proper feather settings on your cloning brushes will make your composites feel more believable. Another important skill of cloning is randomizing the origin point for your clone selections. Cloning is very useful to remove unwanted parts of an image, to clean up blemishes, or to blend the edges of different elements in a composite. The clone stamp tool can be accessed from the tools panel and the settings can be adjusted in the Photoshop control panel. You can select an origin area by holding the Option key (Mac) or Alt key (Win), and clicking the mouse on the desired point you wish to clone. When the clone stamp tool is active, your cursor will be displayed as a target while you hold down the

HOT-KEY COMBO FOR TRANSFORMATIONS IN ADOBE PHOTOSHOP.
Option or Alt key. Once you have selected a cloning origin point, you can begin to paint with the clone stamp tool anywhere on the image. The same pixels from your origin point will be copied to wherever you click the stamp tool. Photoshop will display an info-graphic of a cross to show where the cloning origin point is copying pixels from as you paint.

**Healing Brush Tool**
The *healing brush tool* is very similar to the clone stamp tool. Just like cloning, you define an origin point from which to copy pixels. Brushes are used to paint those pixels onto other areas of an image. However, the healing brush tool applies pixels in a more random manner. The clone stamp tool is perfect in how it copies and pastes pixels, which can have a very digital look and feel. The healing brush tool mixes pixels from the source point selection with the area you are painting. This creates a more organic and believable look and feel. You do need to be careful using the healing brush tool along edges in an image, as the mixing of pixels can have undesired results. The clone stamp tool and the healing brush tool work really well in tandem. The clone stamp tool can help to blend edges and create seamless stitches, and the healing brush tool can introduce a natural look to your retouching. The healing brush tool can be found in the tools panel, and its settings can be adjusted in the control panel. Within the same drop-down menu as the healing brush tool, you will find other retouching tools. The patch tool and the content-aware move tool allow you to draw selections and shift pixels to remove and blend parts of your image. For strong compositing skills, you need to be comfortable with a range of cloning tools.

**Color Correction**
*Color correction* is the art of adjusting the colors of an image to achieve a desired look or feel. In terms of compositing, color correction can help to unify an image into a cohesive pattern.
Again, the goal of compositing is to create a sense of belonging and color can be a powerful tool to do so. A motion designer must be able to analyze the existing color space of the assets they are working with, and define the color pattern of an image. Assets need to be adjusted to match the intended color pattern. These primary art and design principles include value and saturation. Some of the most common Photoshop tools that affect value and saturation are hue/saturation, color balance, levels, and curves. Of course, there are additional image adjustments available in Photoshop, but these are tools used constantly for color correction. These tools can be found under the image menu / adjustments. Each tool also has a hot-key combo that will open their respective panels.

**Hue/Saturation**
The hue/saturation panel allows you to make adjustments to hue, saturation, and lightness. You can quickly shift the color of an image or selection by dragging the hue slider or punching in a numeric value for hue. You can adjust saturation and lightness in the same way, by dragging their respective sliders. You also have the option of colorizing the entire image or making adjustments to specific colors by selecting them independently. In terms of color correction and compositing, the hue/saturation panel allows you to make the adjustments needed for images to feel like they belong in the same space. Often, the needed adjustments to color may be very subtle. However, precision is required for compositing in order to achieve a degree of believability. This requirement is especially true with concrete or photo-realistic images. You may need to boost the saturation of an element very slightly for it to feel like it belongs with the rest of the image. Or, you may need to swing the hue of an element to match the color space you are placing it in. You can open the hue/saturation panel with the following hot-key combo:

**Hue/Saturation** Command + U (Mac) or Ctrl + U (Win)

**Color Balance**
Color Balance allows you to make detailed adjustments to color. It is more specific than the hue adjustment in the hue/saturation panel. The color balance panel allows you to use sliders to shift the degree of color along different spectrums. Alternatively, you can punch numeric values into these spectrums to make your adjustments. You can also adjust shadows, mid-tones, and highlights independently. The color balance panel gives precise control over color adjustments. For compositing, you need to understand and be competent with both broad stroke and finely detailed tools. You can open the color balance panel with the following hot-key combo:

**Color Balance** Command + B (Mac) or Ctrl + B (Win)
diagonal line in the graph. The top right represents highlights and the bottom left represents shadows. By moving points, you make adjustments to value. The default adjustment is set to all the color channels of an image, but you can select specific channels to modify. As you make changes with the curves panel, the diagonal straight line becomes curved. Curves and levels are two excellent tools to make adjustments to value in Photoshop. You can open the curves panel with the following hot-key combo:

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Curves     Command + M (Mac) or Ctrl + M (Win)
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**Levels**

*Levels* is a tool that allows you to shift the value of an image in a broad stroke way. By default, the levels panel is set to affect all the color channels of an image such as RGB or CMYK. You can also limit your adjustments to specific channels through the levels panel. The relative intensity of light and dark values can be adjusted by dragging the sliders for highlights, mid-tones, or dark tones. You can also punch in a numeric value to make the same adjustments. The levels panel is great for making general adjustments to light and dark intensities to an image or selection.

For compositing, you need to be able to analyze and adjust values of light and dark in an image. You can open the levels panel with the following hot-key combo:

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Levels     Command + L (Mac) or Ctrl + L (Win)
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**Curves**

*Curves* also adjust values of light and dark intensities. However, you have more precise control in the curves panel than you do in the levels panel. Value is represented by a graph in the curves panel. You can make adjustments by placing points along the diagonal line in the graph. The top right represents highlights and the bottom left represents shadows. By moving points, you make adjustments to value. The default adjustment is set to all the color channels of an image, but you can select specific channels to modify. As you make changes with the curves panel, the diagonal straight line becomes curved. Curves and levels are two excellent tools to make adjustments to value in Photoshop.
Blending Modes

Blending modes allow you to create depth and visual integration within your composites. They are digital translations of analog methods and techniques. You can change layers’ blending modes to adjust how adjacent layers blend with each other. The default blending mode of a layer in Photoshop is called normal. In the blending modes drop-down menu, modes are grouped together based on similarity of their effects.

Blending modes are very useful for compositing, and you will want to become comfortable with using them. They help to visually merge layers to achieve a sense of belonging. For example, you can place a heavily textured layer like a piece of paper at the top of your layer panel stacking order. When a blending mode such as linear burn is selected, it creates a heavy-handed blending of the paper and everything below it. However, when the paper layer’s opacity is adjusted to 50 percent, the texture becomes a unifying element. The organic qualities of the paper have been preserved and translated into the digital workspace. The image without the paper layer looks very digital and unfinished. It takes practice and finesse to work with blending modes, but they are indispensible for compositing.

The hot-key combo for scrolling through the blending modes of a layer will save you a lot of time. The hot-key combo is
BLENDING MODES IN ACTION IN ADOBE PHOTOSHOP.
Shift + Plus or Minus key on the top of the keyboard. Plus or minus keys will determine which direction you scroll through blending modes. This hot-key combo also works in Adobe After Effects.