

# SESSION 14

## Tone/Value

The first half of this book was devoted to the concept of line. Although many different exercises were employed, line was used in one of three ways: to construct the edges of observed forms, to indicate where planes meet one another, or to describe an object's surface or terrain. Every exercise offered linear solutions for creating the illusion of form in your drawings. The second half of this book will ask you to explore the concept of tone as another way to construct the illusion of volume or form on a two-dimensional surface.

In drawing, the words *tone* and *value* are synonymous. Both words mean the observed lightness or darkness of something. We see tone because of the presence or absence of light. Everything that we observe in the physical world has a tonal identity. Before using tone in your drawings it is helpful to understand the role that tone plays in how we perceive space and form.

Unlike line, tone *does* exist and it functions in three very important ways for the perceptual artist. Tone is:

*How we identify the edges of objects.*

*How we perceive and understand form within an object's boundaries.*

*How we gain an understanding of how a light source is influencing the tones that we see.*

As was pointed out in earlier sessions, when we see the edge of an object it is not because there is a line traveling around its edges but because the object's tone is either lighter or darker than the tone surrounding it. Since we see the world in color it is important to understand that every color that we observe has a tone, or an observed lightness or darkness. For example, if you placed a shiny, new

penny on a white piece of paper, you are seeing the edges of the penny not only because of the coin's copper color but because the color of the penny is a *darker tone* than the area that surrounds it. If you were to place that same penny on a dark purple velvet cloth you would see the penny's edges because the penny's color is a *lighter tone* than the purple cloth. These tonal differences could be easily demonstrated if you were to photograph the penny in both situations in black and white. In both photographs the penny, now devoid of color, would be visible due to its tonal relationship with the area surrounding it. Among the drawing student's challenges is to translate an observed color into a tone or shade of gray. The camera makes this translation for the photographer or filmmaker. As a drawing student you will explore ways to make this translation in graphite and charcoal.

Much of how we perceive volume or form is due to tonal changes. An understanding of tone's dependence on the light source creating it and the surface that it is resting on is very important when trying to represent it in a drawing. Imagine a lemon sitting on a windowsill with bright sunlight pouring in from above. You would see the top of the lemon as a lighter tone and the lower part of the lemon being darker. You may also notice a raking shadow cast from the lemon across the windowsill. Because of the tonal changes on the surface of the lemon and on the windowsill, you would have a sense of the lemon's form and the direction and intensity of the light that was striking it.

Another important concept to consider when analyzing tone is that although we see tones, they are not molecular substances. If you were to walk up to the lemon, close your eyes, and run your finger over the area where the lighter area merges into the shadow, you would only feel the continuous curved surface of the lemon. Your finger would feel no break or change when it moved from the light side of the lemon and then into the shadow. Nor would you feel any difference on the surface of the windowsill if you ran your finger over the area where the cast shadow ended. The area where the cast shadow of the lemon ended and spilled into the sunlit area would feel the same. The areas of lights and darks are visible and *do exist* as visible patterns but they are not a substance. They belong to and are wrapping the surface that they are seen on. Much like the cross contour line, the tone on any object *belongs to and is inseparable from* the surface on which it is resting.

When observing tone on an object's surface it is not only an indication of the form that the tone is resting on, but also the direction and type of light that is illuminating the object. It is fugitive. If you were to leave the lemon described above for a few hours and then return to it, you would find that the shadows or tones on the lemon and sill would be remarkably different. As the sun moved and its relationship to the lemon changed, so would the patterns of tone on the lemon's surface. Likewise if the sun momentarily passed behind a cloud, the shadows would become less distinct and softer in definition.

In tonal drawings the word *contrast* refers to the differences between the shades of gray. A high contrast drawing is one where there are strong differences in tone, containing not only grays, but black and white as well. A low contrast drawing is one in which most of the tones are close to one another and all of the tones in the drawing are housed within either the dark or light side of a value system. An

example of a low contrast situation representing lighter tones would be a white egg sitting on a white piece of paper under soft light. All of the tones present in this situation would fall in the range between mid grays to white. The same soft light illuminating a dark purple eggplant sitting on a black velvet cloth would be a low contrast situation representing only darker tones. If you were to place the egg on the black cloth and illuminate it with strong directional light, a high contrast situation would result. In the following sessions you will be asked to execute both high and low contrast drawings.

## SESSION 14 EXERCISES

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### MATERIALS:

All of Your Graphite Pencils  
Pencil Sharpener  
Eraser  
Window Viewfinder  
1 Sheet of 18"x24" White Bond Paper  
Ruler

### STEP 1: ORGANIZING TONE: THE VALUE CHART

The complexities of observed tone can be confusing and overwhelming for the beginning drawing student. It is helpful to begin organizing these tones into a system before drawing from observation. You will do this by constructing a value chart. Taking a piece of white bond paper, mark a 6"x8" rectangle. On the 6" side, mark another vertical line so that you have a 1" wide strip. Divide this strip into six equal squares of 1" each. You will now develop a tonal chart from black to white so that there is an equal progression from dark to light. You will not draw on the last white square as that tone will be represented by the white of the paper. Earlier you used your different pencils while you explored the concept of line variation. You found that the softer graphite pencils made a darker mark and dulled quickly. The harder graphite pencils made a lighter mark. You will apply this same concept to the construction of the tonal chart. Your softer graphite pencils will be used to build your darker tones and your hard graphite pencils will be used for the lighter ones. The technique that you will be using for this tonal chart is called *crosshatching*. This is done with a very sharp pencil, developing a system of straight marks in a horizontal direction, then a vertical direction and then diagonally both ways. As these marks cross one another, a smooth seamless surface is accomplished. It is important to keep the pencil very sharp and to keep the marks very close together. As you develop each tone it will feel as if you are knitting or weaving over the surface of the paper. When using the crosshatching technique you should avoid smudging or blending the graphite with your fingers or a blending tool. Crosshatching takes patience but if done correctly, smooth beautiful surfaces can be achieved in a drawing. As a suggestion you should use the following pencils as you make the chart:

Black: Ebony Pencil  
Dark Gray: HB  
Middle Gray: 2H  
Middle Light Gray: 4H  
Lightest Gray: 6H

As was the case in your line drawings, the pressure of the pencil will dictate the lightness or darkness of the tone. With graphite it is easier to darken a tone than it is to lighten it, so develop the tones gradually and in consultation with one another. Once a tone is developed you can achieve a smoother texture by “polishing” the paper, using a harder graphite pencil and crosshatching over the existing tone. For example if you would like to create a smoother texture on a tone that was developed with a 2B pencil, you can polish that area with an HB or 2H pencil. Polishing the paper with a progressively harder graphite pencil allows you to smooth the surface without altering the tone. Lighter tones can be polished with the 4H or 6H pencils. A completed value chart using the crosshatching technique is shown in Figure 14.1. Note that the white square is never touched. The surface of the paper provides the white tone.

After you’ve completed your value chart you will begin a tonal drawing. Before doing so it is important to understand the basic terminology associated with tone in a perceptual drawing:

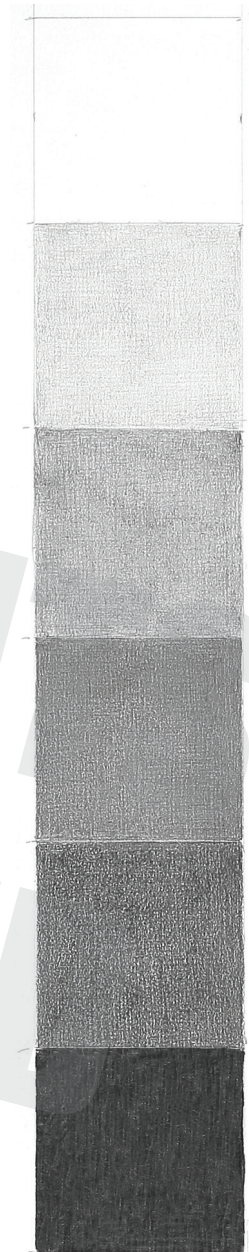
*Direct Light:* This is the area of an object’s surface that is being illuminated by a light source.

*Shadow Area:* This is the area of an object’s surface that is not being hit by direct light.

*Highlight:* This usually occurs on objects with curved surfaces. It is a smaller area housed within the direct light area.

*Core Shadow:* This usually occurs on objects with a curved surface. It is the darkest area within the larger shadow area.

*Reflected Light:* This usually occurs on objects with a curved surface. It is the lightest area within the larger shadow area. It is a result of light reflecting off of the surface that the object is resting on.



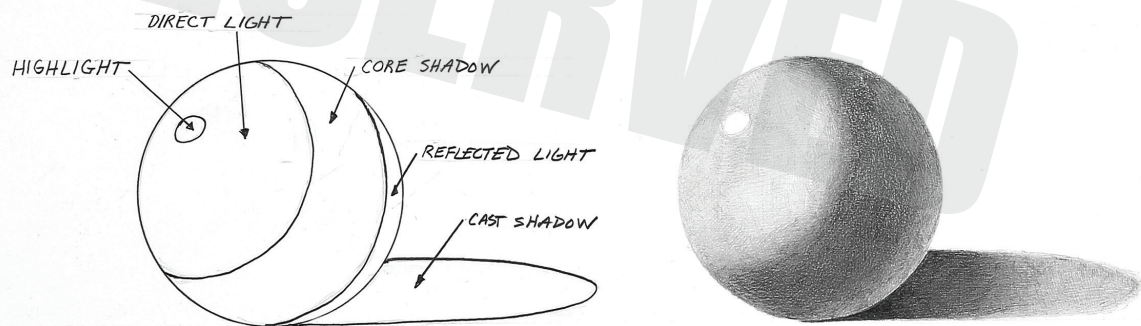
**FIGURE 14.1**

*Cast Shadow:* This is the shadow on the surface that the object is sitting on. It is the result of the light that is hitting the object.

Using a sphere, the terminology defined above can be illustrated (Figure 14.2). This diagram shows a drawing of a sphere being illuminated by strong directional light. You can see a very strong shadow on one side of the sphere's surface. However, housed within this large shadow you can see the core shadow and reflected light. This tonal transition on the shadow side of a curved surface is very important to note and if acknowledged in a drawing will add a stronger implication of form. The other major dark tone that exists in this situation is the *cast shadow*. When any object is being illuminated by strong directional light the cast shadow will be seen on the surrounding surface, typically a table or wall. There are two key characteristics of the cast shadow that are worth noting: First, *the cast shadow is a distortion of the object casting it*. The degree of the distortion is dependent on the angle of the light source. In the diagram you can see that the cast shadow of the sphere is a long narrow shape, quite different than the actual shape of the sphere. Students many times will make the cast shadow too similar in shape and proportion to the object casting it. This tendency is another example of not acknowledging distortions as outlined in linear perspective. Secondly there are two transitions that occur in most cast shadows: *transition of tone* and *transition of edge*. The cast shadow's tone is darkest when it is nearest the object casting it and gradually appears lighter as it moves away. The second transition that occurs is in the definition of the shape's edge. The cast shadow is sharper in definition when close to the object and becomes softer and more defused as it moves away. These two transitions (dark to light and sharp to soft) are essential to creating a convincing illusion of the cast shadow. If these transitions are overlooked and the tone and the edge are left unchanged, the cast shadow appears like a hole, in which the object appears to almost fall into.

**Video 22 (Introduction to Tone):**

<http://kh.grtep.com/index.cfm/angelstudentancillary/page/material>



**FIGURE 14.2** The sphere being illuminated by strong directional light



## STEP 2: THE TONAL DRAWING

On the remainder of the rectangle where you drew your value chart, you will now construct a tonal drawing of the egg under strong lighting. The egg should be placed on a very dark piece of fabric. In this exercise you will layer your drawing in three important steps: *shapes*, *tones*, and *edges*. Read this entire section and review the illustrations before beginning your drawing.

### SHAPE

In earlier sessions, composition was defined as the arrangement of shapes (both object and air) within the rectangle. Think of the egg as your object shape and the dark cloth surface as the air shape. Using your viewfinder find an interesting way of filling the rectangle. Consider the cast shadow as an important compositional component. This will necessitate zooming in and working in a scale that is larger than life size. Once you have found an interesting composition, lightly sketch in the shape of the egg, the shape of the shadow on the egg's surface, and the shape of its cast shadow on the cloth. Think of this light sketch as your first layer. Remember that if you initiate your drawing with a soft graphite pencil, using light pressure, the drawing process is very forgiving and easy to change. Make corrections as necessary until you are satisfied with the proportion of all shapes (Figure 14.3). Don't be fooled by the egg's apparent simplicity. When seen in profile the egg has an oval shape but when turned toward you, it appears more like a sphere. The picture plane can be used to measure the proportion of the egg (its height vs. its width) and angles can be transferred as well.



**FIGURE 14.3** The shape layer of the egg and shadows

### TONAL ASSIGNMENTS

Analyze the tones within the area you've chosen to draw. Using your tonal chart as a guide, see if you can simplify and organize the tones into a six-value system. When first making basic tonal decisions, many artists will "squint" at the setup. Squinting or closing one's eyes slightly so that you can barely see the shapes helps to simplify the tonal range. Many times there may be as many as fifteen different tones in an observed situation. By squinting, many of the subtle tones can be eliminated and the situation can be edited down to four to six tones. This makes the observed area much more manageable and easier to translate. An artist who wears glasses will often take them off so that the observed area appears blurred. This serves the same purpose as squinting: eliminating unnecessary detail so that the observed situation can be organized and simplified. Begin with your darkest tones. Where are they? Since the egg is placed on a black cloth, the cast shadow

ow will be the darkest shape. Where are the lightest tones? The white shapes? These of course will be the highlight or top of the egg's surface. These white areas will remain untouched, the surface of your paper providing this white tone. Using the crosshatching technique begin building tones in the areas surrounding the egg. Consult your value chart as a menu of tonal possibilities. When you select a tone for a particular shape in your composition, think of what pencil you used for that tone when constructing your tonal chart. As you build the area around the egg you will notice that even though the cloth is black, the areas of the cloth being illuminated are much lighter. This is why you can see the black shape of the cast shadow. If you assign correct tones to the air space around the egg, the egg's shape will appear as a result (Figure 14.4). Interestingly, the importance that air shapes were given in earlier compositional line exercises now has equal relevance when using tone. *It's because of the tone of the areas around the egg that we see its edges.* Remember, line does not exist. Next, begin considering the tone on the egg's surface. Since the egg is white, it will not contain a black tone. Even the darkest area of the egg's shadow will be no darker than a middle gray. Because of the egg's white surface its tonal range will be housed primarily in the white to middle gray range. Try to construct the egg's shadow using the harder graphite pencils: HB, 2H, 4H, and 6H. Continue using the crosshatching technique, keeping the marks close together and changing the direction of your lines so that the surface appears smooth and seamless. Pay special



**FIGURE 14.4** Tonal assignments made to the area surrounding the egg





**FIGURE 14.5** Tonal assignments added to the egg's surface

attention to the core and reflected shadows on the shadow side of the egg's surface. As you apply tone try to keep all of your edges softly defined. In other words, don't put a heavy line around any shape in your drawing. *When working with graphite, it's easier to sharpen an edge of a softly defined shape than it is to soften a shape that is defined too sharply.* After completing this step every shape in your composition should have a tonal assignment. The only areas that should not be touched are those areas that are white. They are the tone of your paper (Figure 14.5).

**Video 23 (Tonal Drawing: Shape and Tone):**

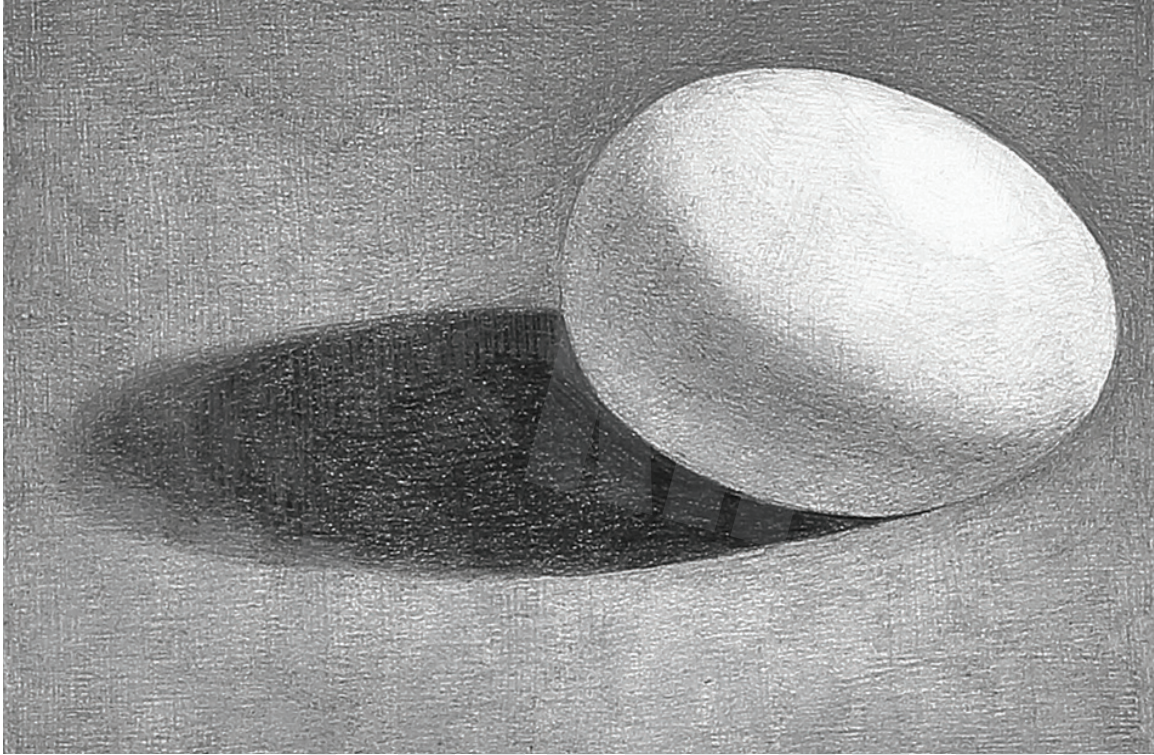
<http://kh.grtep.com/index.cfm/angelstudentancillary/page/material>

## EDGE DEFINITION

If the shapes and tones applied on your drawing are accurate you will have a softly defined representation of the egg sitting on black cloth. However, when you look carefully at the setup you will notice that some of the shapes are more sharply defined than others. The edges that surround the egg are very crisp and sharp. This occurs because you are seeing the edges of a white object surrounded



by a black cloth. The edges of the shadow shapes on the egg and the cast shadow shape beneath the egg appear softer. This softer definition is typical of shadows. This makes sense because as outlined earlier, a shadow is not a thing in itself. It is fugitive, dependent on and conforming to the object that it's resting on and the light source. If you were to turn the spotlight off, the egg would still be there but the shadows would disappear. You will notice that the shape of the cast shadow on the black cloth appears softer in definition in the area furthest from the egg itself. As you sharpen the edges of the egg and soften the edges of the shadows, the drawing will take on more clarity and become more spatially convincing. Begin with the top of the egg. This area is left untouched since it is white and is established by the tone of the paper. Taking the sharpened point of the pencil that you used to construct the tone above the egg (the black cloth), find the edge on top of the egg and sharply define this edge. As you do this, begin taking the pencil point and building a tone as you move away from the egg's edge. If done correctly, you will begin to see a very sharp edge, without leaving an apparent line around the top of the egg. You are achieving this sharply defined edge by creating a dark tone that abruptly "hits" the top of the egg. You can use the same technique on the bottom edge of the egg, where the cast shadow meets the egg's edge. In this area you will most likely use the sharp Ebony pencil to find the egg's bottom edge. As you move along this edge, begin moving the pencil away from the egg shape as you build the tone. The sharpening of both the top and bottom edges of the egg were achieved by taking a sharpened pencil *up to* the outer edge of the egg and working *away* from it. The egg's surface in your drawing was never touched. You can use this technique all around the outer edge of the shape of the egg in your drawing. The key to building the edge of the egg is to *not* leave a line around its shape. The two primary shadows in your drawing, the shadow on the egg and the shadow that it is casting on the table, have softer edges. To soften or diffuse the edge of a shape you must vary the pressure of your pencil. Begin in the central area of the core shadow on the egg. As you move away from the darkest area (the core) either up or down, you should use less pressure. As you release the pressure of your pencil, your tone will lighten and your edge will soften. Also, when you are trying to create a smooth transition from a dark to light tone and simultaneously soften an edge, it is helpful to use a harder graphite pencil. So, for instance, if you began with an HB pencil in the darkest tone of the core shadow, you can change to a harder graphite pencil as you move into a lighter area. The area where the edge becomes very softly defined can be constructed with a 6H pencil using very light pressure. The softening of edges is one of the more challenging aspects of shading or rendering with graphite. You may be tempted to use your finger or a blender to achieve this but be persistent with only using the pencil point and being attentive to pressure. If the beginning student begins smudging or blending before this technique is grasped, the drawing usually appears poorly defined and dirty. Only after the student has the ability to manipulate both sharp and soft edges in a tonal drawing using the pencil point should smudging or blending occur. A finished tonal drawing is shown in Figure 14.6. If compared to the previous illustration you can see how the manipulation of edges (both sharpening and softening) can enhance the illusion of form and space. In this final step the surfaces can be polished as outlined in the instructions for the value chart.



**FIGURE 14.6** The completed tonal drawing with all edges considered

If you refer back to the steps described in the exercise above there were three considerations: *shape*, *tone*, and *edge*. When making any drawing with tone, if this sequence is followed, the process will be easier. Otherwise a student can spend hours carefully rendering the core and cast shadows but if the shape of the egg or cast shadow were drawn incorrectly, the drawing will look awkward and clumsy. Think of these three steps as three layers in any tonal drawing. It is only after the shapes are correctly drawn that the layer of tone is to be applied; and the last layer of edge definition would only occur after every shape in the composition was assigned the correct tone.

**Video 24 (Tonal Drawing: Edge Construction):**

<http://kh.grtep.com/index.cfm/angelstudentancillary/page/material>

## ASSESSMENT

With the setup close at hand, visually sweep through your drawing with the same considerations that were outlined above. First, is there anything proportionately inaccurate when you examine the *shape*

of the egg or the shadows in your drawing? Secondly when you squint at your drawing and compare it to the setup, are the *tones* similar? Is there enough contrast between the cloth and the egg? Is there too much contrast on the surface of the egg? Is there a tonal progression in the cast shadow (dark to light) as the shadow moves away from the egg? Lastly consider the *edges* of the shapes. Were you able to construct a crisp, sharp edge around the shape of the egg, without leaving an outline around it? Were you able to soften the edge of the core shadow on the egg's surface? Or is it still too harsh and sharp, appearing more like a stripe on the egg's surface? Is there an edge progression (from sharp to soft) as the cast shadow on the tabletop moves away from the egg? Any problem that the drawing has will be housed in one of those three considerations: shape, tone, or edge.

## EXTENDED STUDIES

On a white bond piece of paper mark a 1" x 12" rectangle. Within this rectangle create a graded value chart. In other words, represent tones from black to white as you did in your earlier chart but do so without having any visible breaks between tones. Use all of your graphite pencils, considering the density of graphite that would be appropriate for the desired tone. Keep your pencils sharp and use the crosshatching technique. As you finish your chart you can use the harder graphite pencils to polish the tones and make the transitions seamless. The ability to make smooth, seamless, tonal gradations is a necessary skill to develop, especially in the representation of shadows. A finished graded value chart is shown in Figure 14.7.



**FIGURE 14.7** A graded value chart using the cross-hatching technique