By Marina Fridman

The Elements of Realistic Drawing

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of
Realistic Drawing

Written by Marina Fridman of
www.TheDrawingSource.com

Disclaimer:

Please note that the methods presented in this publication are based on the author's experience and education in representational drawing. They are by no means the only way to draw, or learn to draw. It is natural that some will take to methods and teaching styles other than the ones presented in this E-Book.

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Introduction

Thank you so much for subscribing to receive your copy of The Elements of Realistic Drawing!

When I decided to become an artist, I craved an education in which I could be immersed in classical drawing and painting. However, this kind of education was difficult to find and simply didn't exist where I was living at the time. My pursuit of it led me to move to three cities in two countries, attend two universities, three private art schools, and countless workshops and classes, all within five years. And that has just been the beginning.

I am passionate about making drawing education more accessible to those for whom it may be difficult to find, but who love drawing as much as I do.

It is a life-long process to become fluent in the visual language of drawing. I would like to share with you what I have learned so far in my journey, and hopefully encourage you in yours.

Since beginning The Drawing Source, I have often been asked to clarify what makes a drawing look realistic or believable. This is such a great question, and one that I could not answer in just a page or two. My reply turned into this book, in which you will learn:

- the five elements crucial to the realism of your drawing
- how to achieve a likeness of whatever or whomever you are drawing
- techniques of "efficient looking" to see specifically what you are looking for on your subject instead of getting lost in the overwhelming detail
- techniques to simplify the complicated information in any drawing scenario
- how to draw convincing, three-dimensional forms

- how to create the illusion of depth and atmosphere
- how to create a focal point in your drawing
- how to prioritize and streamline your drawing process (which can be frustrating and overwhelming when you aren't sure what is most important to pay attention to!)
- 10 common mistakes that detract from the realism of your drawing
- a checklist to go through when your drawing is not looking as convincing as you would like (this should help identify which of the elements essential to realism you are missing and should return to)

This book is, of course, not all there is to drawing! There is much to learn that is specific to a particular subject (for example, construction and anatomy for figure and portrait drawing).

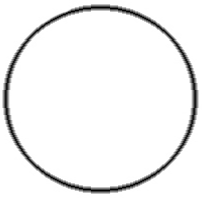
This is also not a "how-to" book that will take you through every step of your drawing (although you will get many practical tips and techniques to apply right away). **The purpose of this book is to address the five elements that *any* drawing of *any* subject requires in order to be recognizable, believable and realistic.**

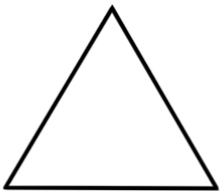
I hope that it will help you achieve the effects that you want in your drawing, and create believable illusions with pencil on paper!

Let's begin with the first of five elements of realistic drawing:

Chapter 1: Shape

If I asked you to think of a basic shape, you would probably picture a circle, a square or a triangle. The circle is probably perfectly round, the square has four 90 degree angles, and the triangle is most likely equilateral.





In nature, perfect shapes like this don't exist. For example, there is no such thing as a perfect circle in nature. The sun and moon are probably closest to this idea, but even though they may appear to be perfect circles from a great distance, when the surface is inspected up close (thank you, Google image search!), it becomes evident that they are far from it.

Similarly, if you look at any natural, rounded area on a figure or portrait, you will notice that the human form is never as constant and equidistant as a sphere.

Equidistant curve of a sphere

Uneven curve of a human form

Instead, a curved human form always looks more like a sin curve. You can see this in the curves of the belly, buttocks, chest and trapezius muscle in the sketch to the left.

What does this tell us? That **shapes are *ideas* meant to simplify visual information.**

It would be much easier to draw the figure and portrait if they were made up of “perfect shapes”. Perfect spheres are much easier to draw than the subtle, uneven curves of human forms, none of which are ever even the same. That is one of the challenges (and part of the fun!) of drawing figures and portraits: finding and portraying the subtle characteristics that belong to each specific person.

Perfect shapes are illusions, and that is exactly what we deal with as representational artists: creating believable illusions.

The Importance of Shape in Drawing

In drawing, shapes are a way of organizing and simplifying the complex information in front of us.

For example, looking at a model's face in preparation for a drawing can be very intimidating. It is much easier to begin with, say, the shape of the head. Then separating the shape of the hair from the shape of the face…

And continuing to find incrementally smaller shapes such as the features of the face and shadow shapes. Working from the largest, most general shapes to the smaller and most specific ones is a very helpful drawing strategy.

Besides giving us an easier way to approach drawing, shapes are important because:

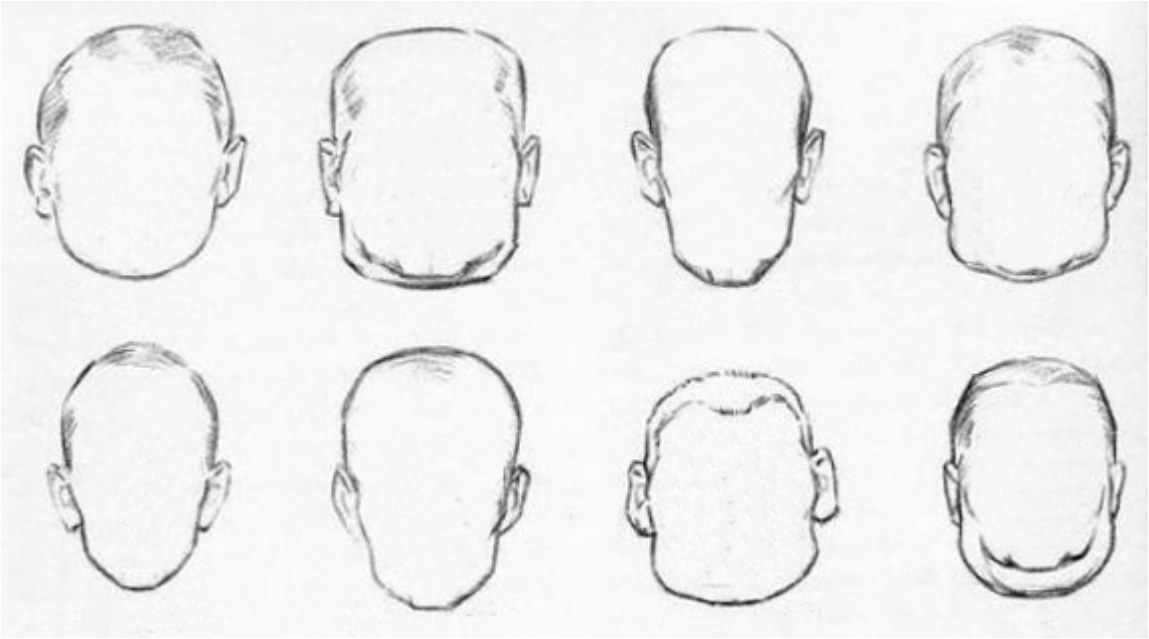
Shapes are the key to achieving a likeness of whatever you draw.

What is the point of a realistic drawing that looks nothing like our subject? We don't just want a realistic drawing; we want a realistic drawing that ***looks*** like our subject!

Drawing the shapes specific to your subject is what creates a likeness. This is true no matter what you draw, whether it is a still life, portrait, figure, or landscape.

Let's look at a few examples that illustrate how specific shapes create likeness:

Creating a Likeness



Example 1: Look how distinctly different all of these head shapes are! The shape of the head is the crucial outline with which we usually begin our portrait drawings. (Shapes can be a starting point for any drawing!)

Notice how much character something as simple as the shape of the jaw gives each of these faces! If we were to incorrectly portray this shape in a portrait drawing, we would lose a large part of the model's likeness *and* character.

Example 2: Take a look at these silhouettes.
Which one is the old man and which is the young girl?

It's fairly obvious that the old man is on the left and the young girl is on the right. Silhouettes are incredibly descriptive.

We can learn how someone holds themselves, the clothes they wear, their body shape, the mood they're in, even elements of their character, all from looking at a silhouette!

We can also **recognize** someone simply by looking at their silhouette. And what is a silhouette? A shape!

Drawing the shadow shapes

Completed drawing

Example 3: Finally, let's look at a drawing example.

(The complete step-by-step tutorial for the above drawing can be found here.)

In the above left image, I was at a stage in my portrait drawing where I had found the shadow shapes in the face and filled them in with a value (which we will talk about in chapter 3).
Because likeness relies on the specificity of shapes, at this point in the drawing it should already resemble the model (or scenario, depending on what you are drawing.)

When you have filled in your shadow shapes,
your drawing should already begin to resemble your subject.

If you get to this stage and your drawing *does not* resemble your subject, you need to take a step back and correct the shapes that are drawn incorrectly. No amount of shading or rendering will create a likeness if the shapes are inaccurately depicted.

The specificity and individuality of shapes creates likeness. Our unique shapes make us look distinctly like ourselves. Shapes also create realistic believability:

Shapes and Realism

Shapes can describe curves of form.

In the drawing to the left, I filled in the large shadow shape on the figure with an even shade of gray (a value). Notice how the shadow is already describing the forms of the figure. From this minimal information, we can tell, for example, how the muscles in the arm and calf curve subtly.

Shadow shapes show us the forms, structure and anatomy beneath them. This is another reason why they are so important!

It is easy to accidentally depict incorrect form and anatomy by drawing incorrect shadow shapes.

We have an innate sense of what looks correct and what looks distorted, especially when it comes to the figure and portrait. This is why shapes are important to realism as well as likeness. If we draw shapes that show incorrect forms underneath, our drawings may look anywhere from “slightly off” to “not even remotely convincing”.

It is important to complement your attentive observation of shapes with knowledge of anatomy. Anatomical knowledge will help you see, draw and design shapes accurately.

Drawing Complex Shapes

Drawing by Abbott Handerson Thayer

The shapes of the face and figurative silhouettes we looked at in the earlier examples are clearly very different from the basic circle, square and triangle we talked about initially.

These are **complex shapes,** created by combining many basic ones to form much more intricate and specific ones.

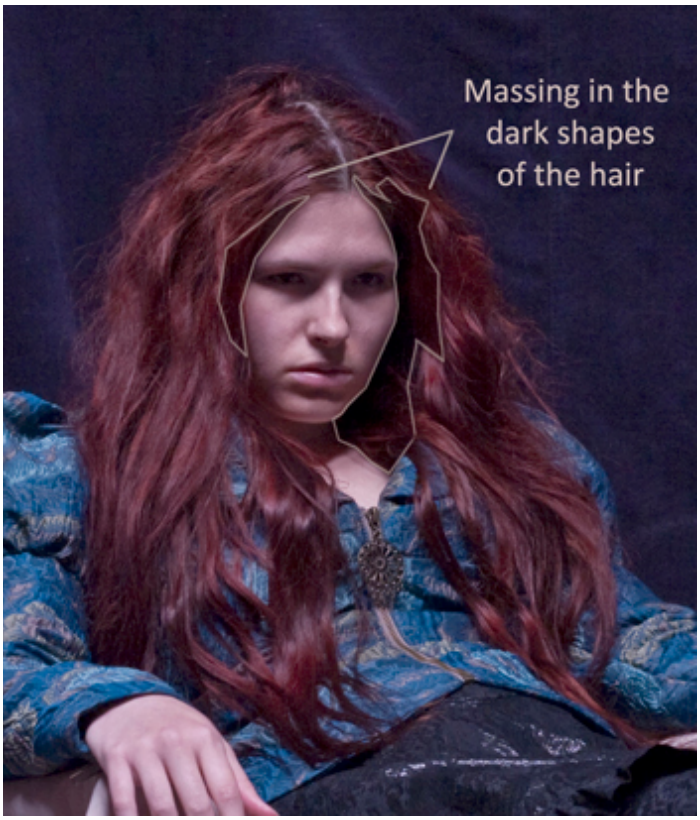
When we draw, we constantly come across **irregular shapes** such as these. That is one of the challenges of drawing:

How do we draw these shapes as specifically and accurately as possible?

Shape Exercise

To draw accurate shapes, we first need to learn to *see* them accurately. This may sound obvious, but it can be trickier than you might think. Shapes are not always clear on our model or scenario.

For example, the hair in the scenario below has more shapes than you could possibly count. Where do you begin?



You can begin by ***squinting*** at the scene, which is one of the most effective ways of simplifying the information in front of you.

(I drew this pose for a hair drawing tutorial that you can view here.)

Squinting heightens the contrast of the scene, helping you see shapes more clearly. For example, squinting helped me isolate the dark shapes in the hair that I have indicated to the left. Now, how to draw them accurately?

Try this exercise:

Look at the larger dark shape in the photo above. Instead of thinking of it as just an abstract shape, ask yourself ***what else could it be***? Try to find a familiar shape within it. When I look at the shape I see a cartoon dog sliding off the side of the model's face. Do you see that? His head and outstretched paw are at the top, his tail is sticking out about half-way down, and the bottom of the shape slightly resembles a drumstick chicken bone.

It may seem ludicrous, but perceiving a shape *as something else* will often help you draw it more accurately. Perhaps this is because the process of finding something else

to associate the shape with requires us to observe it that much more attentively. Challenge yourself to come up with five "other specific things" that the shape could be!

When you first start practising this, your mind might be completely blank. This is completely normal, and the more you do this, the easier it will become. This exercise is challenging because we have to "forget" what we're actually looking at, and let go of the notion that there is one correct answer. There is *no wrong answer*. Anything you come up with that makes you observe the shapes more attentively is correct.

Creative Observation

In the book "A Whack on the Side of the Head: How You Can Be More Creative", author Roger von Oech recollects how one of his early teachers drew a chalk dot on a blackboard and asked her classroom of high school students what it was. Only one spoke up and said that it was a chalk dot on a blackboard.

The teacher, surprised, told them that when she had posed the same question to a kindergarten class, they had thought of fifty different things that it could be! For example: an owl's eye, a cigar butt, the top of a telephone pole, a star, a pebble, a squashed bug, a rotten egg and several others.

This is exactly what we should strive to do with this shape exercise. To turn off our "internal filters", exercise our imagination and turn observation into play. Much of drawing is learning to see in new ways, and noticing that which you previously had not.

The shape exercise is wonderful for developing your "seeing muscle" as well as your imagination. Like any muscles of your body, these atrophy when you do not use them and gain strength with regular exercise, so I highly recommend practising this!

Checking the Accuracy of Drawn Shapes

Once you have drawn a shape, an effective way of checking how accurately you have depicted it is to line up your drawing with your subject, and then move your eyes quickly and repeatedly from one to the other. If you pay attention to the shape in question, this technique will make any differences in the shape on the subject and on your drawing

much more evident. You can then adjust the shape in your drawing as needed.

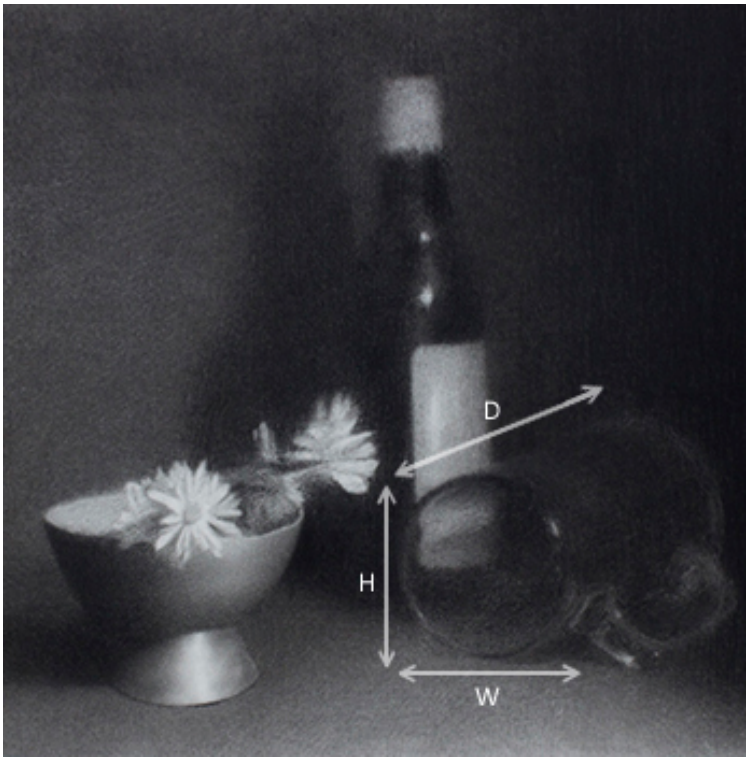
Chapter 1 Summary

- shapes allow us to simplify complex information
- creating a likeness depends on the specificity of shapes
- shadow shapes describe the forms beneath them

Chapter 2: Proportion

Proportion is directly related to shape. In fact, it is difficult to discuss shape without mentioning proportion, and vice versa. In the previous chapter we analyzed the importance of carefully observing and drawing shapes specific to our subjects. But what makes shapes themselves so specific? Their unique proportions!

What *are* proportions?



Everything that we draw has at least a **height** and a **width**. Having only a height and width, however, makes shapes two-dimensional, such as the silhouettes we saw earlier (which had no depth).

To draw believable images we need the third dimension, **depth**, to create the illusion of form.

Proportions are the ratios between the dimensions: height, width and depth.

For example: in the above drawing the height and width of the mug are about equal, and the depth is about a width and a half. These are the proportions specific to *this* mug in *this* particular scenario.

What would happen if we altered these proportions? The mug wouldn't quite resemble the mug I was observing, but it could still be believable – after all, nobody knows which mug I was drawing! However, in the case of a figure or portrait, accidentally altering proportions could create very noticeable distortion detracting from the believability of the image. **To create an accurate drawing, we need to draw the proportional relationships (the ratios between height, width and depth) as they appear on our subjects.**

The height, width and depth of a subject are usually the measurements that we begin our drawings with, for a few reasons: They are the largest proportions of our subject, and can be used to establish the boundaries of the subject on the page. Also, as with shapes, it is much easier to work from the largest, most general proportions to the more specific ones, and often results in a more accurate drawing.

All of the parts *within* a subject also have ratios to one another.

Within that largest height, width and depth, all of the smaller elements also have specific ratios to one another. (For example, the height of the nose compared to the height of the forehead, or the width of the mouth compared to the width of the shadow around the eye.)

Proportions are everywhere you look, and while this may seem intimidating, it's actually great news because it means that we have many points of reference and comparison. The more we have to compare to, the easier it is to find the true proportions.

Drawing is a game of comparison. We constantly check where something is in relation to something else; how far it is from something else; how wide it is compared to something else on the subject.

Proportion and Realism

We have an innate sense of what looks believably "real", "convincing" or "true", however you choose to define it. Our experiences observing the world and each other give us a sense of what looks normal or familiar.

This means that we can be quick to pick up on **distortion** in images, even if we can't quite explain what looks "off". This is particularly true when drawing portraits, because we constantly observe each other's faces and have an expectation of what they look like.

"Intelligent perception finds only truth convincing." – Andrew Loomis

Every line you draw on your picture has a unique proportional relationship to the rest of the lines on your drawing. If these proportions mimic the proportions on your subject, you will achieve a likeness.

Finding Proportions with Comparative Measurement

When we draw, we search for a balance between accuracy and interpretation.

We need a certain amount of "analytical data" in order to draw accurately, so we conduct "research" by observing our subjects carefully. In all honesty, proportions are probably the driest of this data that we collect. They are the area where you should be the most accurate and least interpretive if you want to create a believable drawing and accurate likeness. The other elements of realistic drawing that we will discuss can be a little bit more open to interpretation.

We look for a balance between accuracy and interpretation because paying attention solely to accuracy often results in a very rigid-looking image, while relying purely on interpretation can result in a non-representational (abstract) drawing. Striking a balance between the two can result in a recognizable yet flowing, dynamic and engaging picture.

To collect our “visual data” (proportions), we can use a process called **comparative measurement**, which is exactly what it sounds like: using comparison to find specific measurements.

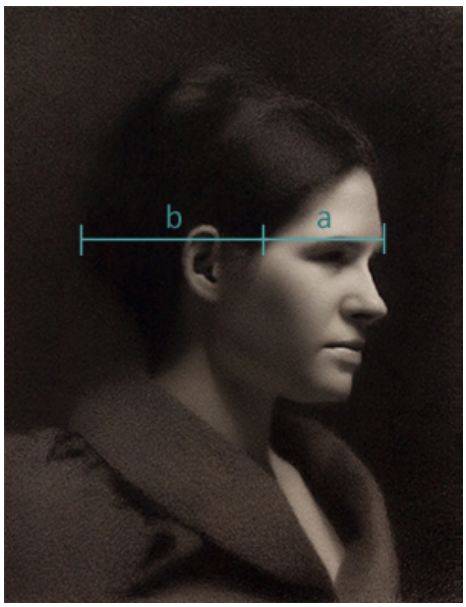
In the image to the left I want to find the height and width of the sphere by comparing the two dimensions. I begin by measuring the width with my pencil.

As I measure, my arm is completely straight (having a bend in my elbow can skew my results). I measure everything from the same spot with one of my eyes closed. The pencil tip shows me one end of my measurement, and my finger marks the other end of the measurement.

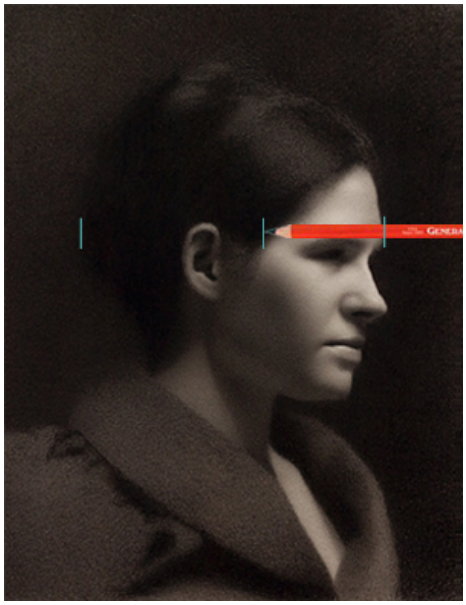
Now, without moving my finger from that spot, I hold up the width that I measured and compare it to the height. I can see that the height is slightly smaller than the width.

When using comparative measurement, we are not looking for the **size** of what we will draw. What I mean is: if the sphere is two inches wide in life, our drawing of the sphere *does **not** also have to be* two inches wide. Our drawing can be any size and still be accurate, as long as the proportions are the same as they are on the subject. For example, in the above image the sphere is slightly wider than it is tall. That means that in my drawing, it doesn't matter if I make the sphere two inches wide or ten inches wide: as long as the sphere is slightly wider than it is tall, it will accurately represent the sphere that I am drawing.

Using comparative measurement, we look for the *relationship* between one proportion and another. Let's look at one more example:

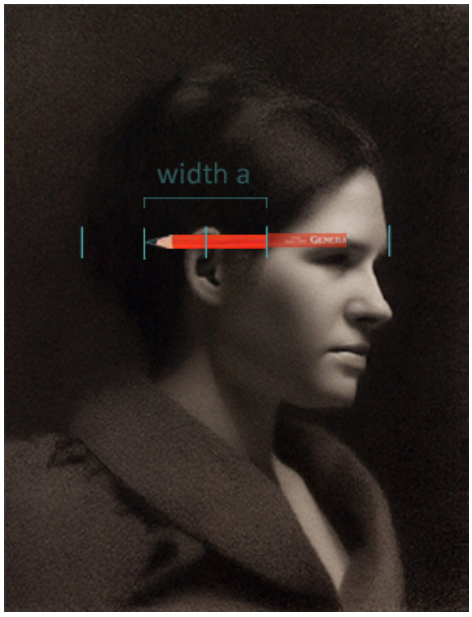


In the image to the left I want to check how wide the face is at the eyebrow line (Width A) compared to the rest of the head (Width B).



First, I measure width A on my subject with my pencil, "marking" where the width ends by holding the pencil there with my finger.

Clearly width B is going to be wider than width A, but how much wider? And how can I easily draw the proportions that I find accurately?



Here I have moved my pencil over to width B. Look at Width B as a whole measurement, and notice that the pencil is taking up 2/3 of it. To complete width B, I would need another half of width A.

Now no matter what size I make my drawing, as long as width A is two thirds the size of width B, I will have the correct proportions.

Instead of asking "how much larger" is proportion b, you could also ask "how much more of the pencil would I need to complete width B?" In this case, I would need another third of the pencil. Now, once I choose a size for width A, I can easily find width B. It will be the width of A, plus another half of width A. Or vice versa: if I have width B, two thirds of it will be width A.

When measuring comparatively, remember to:

- Stand or sit in the same spot when measuring all proportions
- Hold out your pencil with a straight arm (having a bend in your elbow can skew your measurements)
- Only look through one eye (close the other) during the measuring process

Chapter 2 Summary

- proportions are the ratios between the dimensions: height, width and depth
- to create an accurate drawing, we need to draw the proportions as they appear on our subjects
- we can find accurate proportions using comparative measurement

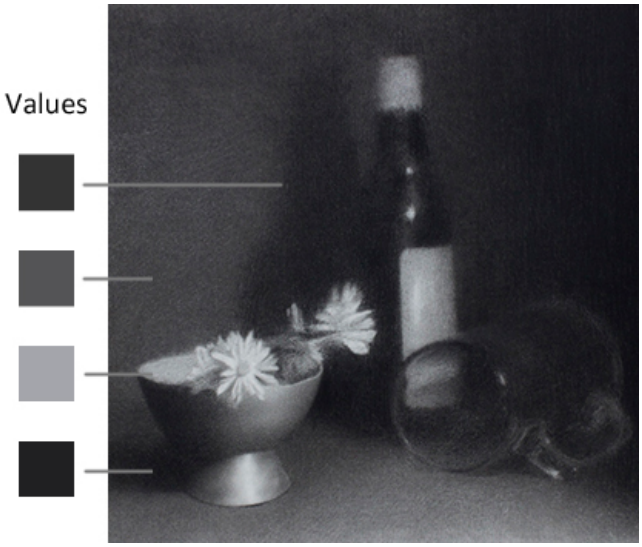
Chapter 3: Value

Value drawing can be used to create a picture that feels so real and spacious that it seems like you could reach right into it. Value helps us create believable space, mood, atmosphere and various "special effects" in our pictures. It is an incredibly versatile tool when understood and used correctly!

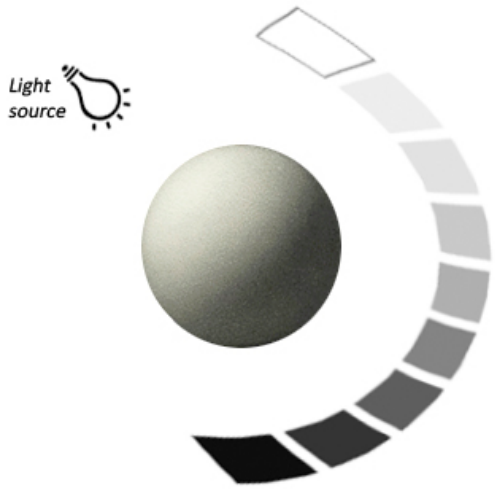
So, what *is* value?

"Value" simply means how light or dark something is.

A drawing is said to be a value drawing when it is in black and white, when it has no color. Black, white, and the many shades of gray in between the two are called values, or sometimes tones.



Value and Light



Value has everything to do with light, which is why it has always captivated me. Light is absolutely fascinating. Without light, frankly, everything would be dark. Our entire visual experience and perception of the world depends on light!

Whenever we see *anything* it means that it is being illuminated by a light source. As an object turns away from the light source, it gradually darkens as less and less light reaches it. Eventually the object falls into shadow. This incremental darkening of an object turning away from light creates a **range of values**.

We see form through these differences in values (or differences in lightness and darkness). It is this range of values that makes objects look three-dimensional. For example, take a look around. Are you sitting at a table? What is making it look three-dimensional? The side plane and top plane of the table are two different values, right? One plane is most likely lighter, and the other is darker.

When we draw with value, we mimic the way that light falls on form to create the illusion of three-dimensionality.

To create a realistic drawing, we must mimic the way that values appear in life.

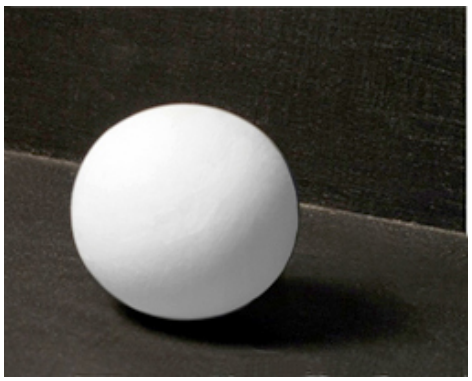
The Importance of Value Relationships

We know that values create the illusion of form and three-dimensionality. But more specifically, it is the **relationships between the values** of an object that make it look convincingly realistic. "Value relationships" simply mean how dark or light one value is compared to another. For example, the top half of the background in the image below is a few shades darker than the bottom half of the background.

To draw a believable object, the value relationships in our drawing must mimic the value relationships that occur in life.

Let's use this photograph of a sphere as an example.

What happens if I change the value of only *one* element in the image (therefore changing the value relationships in the scene)?



Here I have drastically lightened the shadow area on the sphere only, without changing any other values in the image.

The result is that it looks unnatural, defies logical sense, and loses much of its three-dimensionality.

(It looks as though there is a very strong reflected light illuminating the sphere's lower half, but where could it come from if the surface on which the sphere sits is unaffected?)

Additionally, lightening *only* the shadows caused the sphere to *lose much of its three dimensionality.* If you were to make this same mistake in a drawing, it would have the same effect: your drawing would not look realistic because its value relationships would not mimic the ones occurring in life.

If you don't accurately represent the relationships between the values of an object, you will not create a convincing drawing.

In this lies the importance of learning about and becoming comfortable with value drawing.

Value and Illusion

To draw is to create illusions. After all, we are using charcoal (which is basically a burnt twig) and paper to represent the skin, hair and clothing of a person, or the brick, glass and metal of a cityscape.

When we draw with value, we attempt to create an illusion of the values found in nature. **We can't truly recreate the exact values found in nature for several reasons:**

1. There are an infinite number of values in nature. Our human vision is relatively poor, making it impossible for us to even see the full value range that exists in nature.

2. Our drawing tools have limited capabilities, restricting the value range that we can create using pencil and paper.

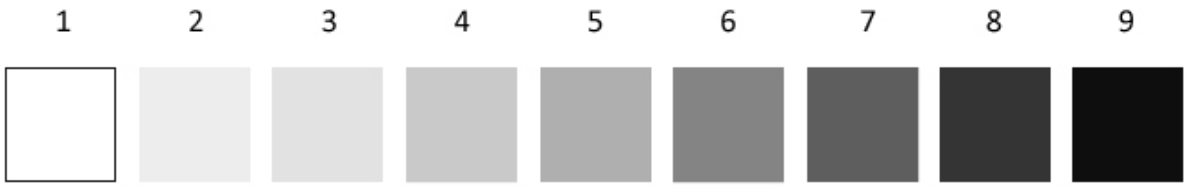
However, none of this hinders our ability to create realistic illusions of form, because we don't *need* an infinite range of values to create convincing drawings!

We can depict what we see most effectively by simplifying our observations.

Simplifying values produces a much more cohesive, believable drawing than recording every value and minute detail that you see. Artists realized this hundreds of years ago and created a system of simplifying and organizing values called...

The Value Scale

Artists use a system of nine values ranging from white to black, called a value scale. The scale consists of four light values (values 1 to 4), a middle value (also called a **half-tone**), and four dark values (values 6 to 9). Learn how to draw a value scale here.



A value scale is essentially a simplified gradation.

In drawing, the values on the value scale become your visual alphabet.

You can think of each value as a letter. On its own, one letter may not convey much, but when combined with other letters to form words, they create a language through which we can communicate.

In a similar way, we combine values to create a drawing: a visual form of communication.

Simplifying Values

We have established that **simplifying values** produces a much more cohesive, believable drawing than recording every value and detail that you see. But how, when you are overwhelmed with all the values in the scene that you are drawing, do you begin to simplify them?

Squinting is one of the most effective ways of simplifying information. As simple as it sounds, squinting at the scene in front of you will change it significantly.

(You may remember that I mentioned squinting in Chapter 1 as an effective method of seeing shapes. Squinting is like a magic wand when you're drawing. Throughout this book we will use squinting often to isolate and view different elements on our subjects.)

Try it! Look up from your computer and squint at the room in front of you. Squint considerably: your eyes should be half closed or more. Notice:

- how much detail is lost when you squint (this is a good thing!)
- how much the contrast of the scene heightens (light areas seem lighter, dark areas seem darker)
- which areas merge together: which half-tones merge with the dark areas and which half-tones merge with the light areas
- what stands out when you squint vs. what stands out with your eyes wide open
- how much duller colors become, making it easier to see values instead

Draw what you see when you squint.

Squinting effectively eliminates any unnecessary detail. It also helps us separate value from color. Really what we're trying to do when drawing with value is to see our subject in black and white. The color of an object can make values seem lighter or darker than they actually are, and squinting helps us "mute" colors to see values more accurately.

Finally, squinting helps you see whether a tone falls into the "light" category (values 1 to 4) or "dark" category (values 6 to 9) on the value scale. I'm surprised by this constantly! I often think that a half-tone I'm looking at will fall into the light category, but squinting at it reveals that it completely masses with the dark shapes in the scene, which is very helpful.

There are, of course, times when it's necessary to look at your subject with your eyes wide open. For example, when you are drawing the features of the face or the subtle contour of the portrait or figure.

However, when it comes to value: less is more, which is why squinting is so helpful.

For example:

I drew this thumbnail sketch before beginning a long-pose figure drawing. I used only three values: a light value (the white of the paper), a half-tone and a dark value. With no gradations or even the nine values of the value scale, look how readable the image already is. You can already recognize the figure in the scene and it has a degree of dimensionality.

From there, all I had to do to get to this stage was add a few gradations to the background and the figure. This was fairly simple after getting to the three-value stage because I already had my value "extremes", white and black, and simply had to create gradations between them to achieve the half-tones.

When you begin adding values to your drawing: simplify them. Begin with three values, even: a light value, a half-tone and a dark value. Then you can add more sparingly, beginning with those that you feel are absolutely necessary for your drawing. Near the end of your drawing you can step back and analyze where you may want to add selective detail.

Once you get to that stage, a good rule of thumb is to simplify the shadows and add more detail in the light areas of the drawing.

Chapter 3 Summary

- values are black, white and the shades of gray in between
- the realism of our drawing depends on how accurately we can mimic the value relationships on our subject
- simplifying values results in a more cohesive, believable drawing
- one of the most effective ways to simplify values is to squint at your subject

Chapter 4: Form

Just as shape and proportion are tethered to one other, so are value and form.

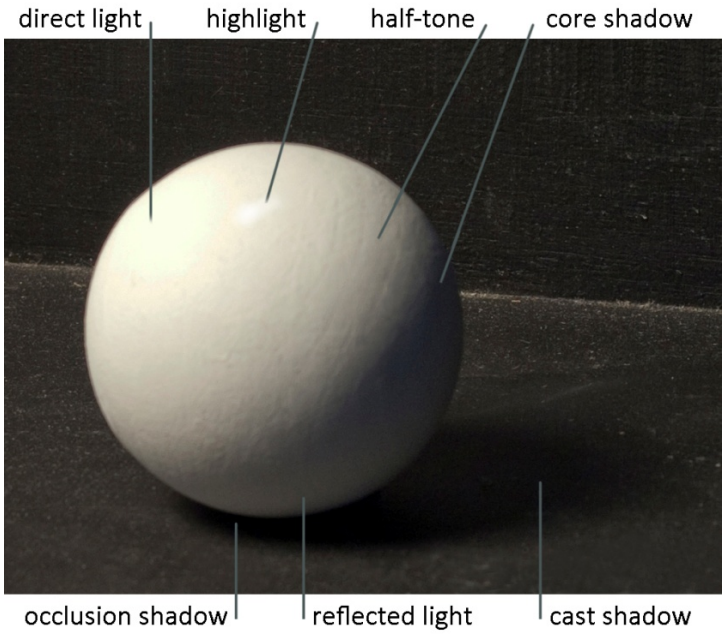
Understanding value is almost synonymous with understanding light and form, because one cannot exist without the other two. The combination of light and shadow creates a range of values, which then creates the illusion of form (as we saw in the image in Chapter 3).

Because value and form depend so much on light, we need to know how light behaves when it illuminates form. The good news is that when light falls on form, it acts in predictable ways. One of the best ways to learn to "predict" the behavior of light is to study how light falls on basic forms, such as a sphere.

The Elements of Light on Form

When forms are lit by a direct light, similar patterns of light and shadow occur. First, we get two "families" of values: the **light** family, which receives the most light from the light source, and the **dark** or **shadow** family, which is the area of the subject that light cannot reach and is therefore in shadow.

Within these two families are smaller, more specific elements of light on form:

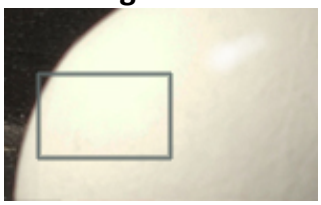


Elements of Form in the Light family:
1. Direct Light
2. Highlight
3. Halftone

Elements of Form in the Dark family:
4. Core shadow
5. Reflected light
6. Cast shadow
7. Occlusion shadow

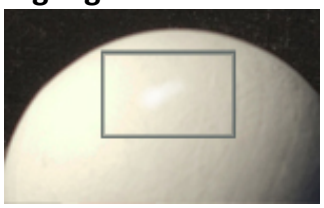
Elements of form in the light areas:

Direct Light



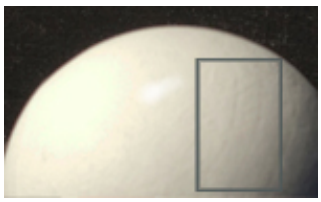
The direct light (also called the center light) is the lightest area on the form aside from the highlight, because it faces the light source and therefore receives the most direct light.

Highlight



The highlight (a little bit tricky to see in this particular scenario) is a *reflection* of the light source. It moves depending on where *you* are in relation to it, so it should be the last element of form that you concern yourself with in your drawing.

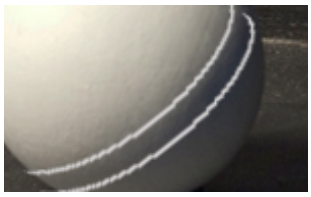
Half tone



The half-tone is the gradation between the direct light and the core shadow.

Elements of form in the shadow areas:

Core shadow

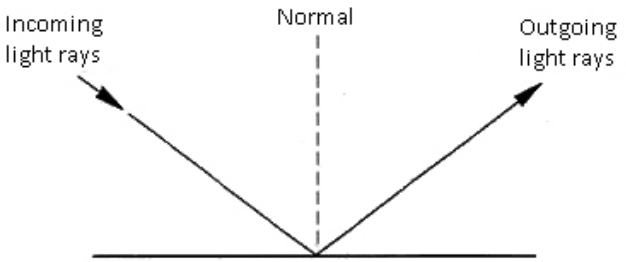


The core shadow is the dark band visible where light and shadow meet. It is the point at which light can no longer reach the form to illuminate it. It is the darkest part of the **form shadow** (which is the shadow *on the sphere itself)* because it is least affected by reflected light.

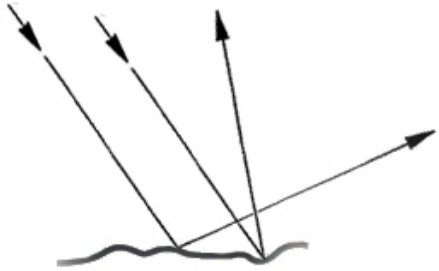
The core shadow is sometimes called the terminator, rather dramatically, because it is where light ends, causing the form to fall into shadow. The core shadow is very important because it defines the form. Drawing it incorrectly (for example, not showing the correct curvature of the sphere using the core shadow), can result in the form looking flat and much less dimensional.

Reflected light

If an object does not emit its own light, it must reflect light in order to be seen. Reflection simply means that light bounces off of an object. Reflection involves two rays: an incoming ray from the light source, and an outgoing, or reflected ray.



Light reflecting off of a smooth surface


Light reflecting off of a rough surface

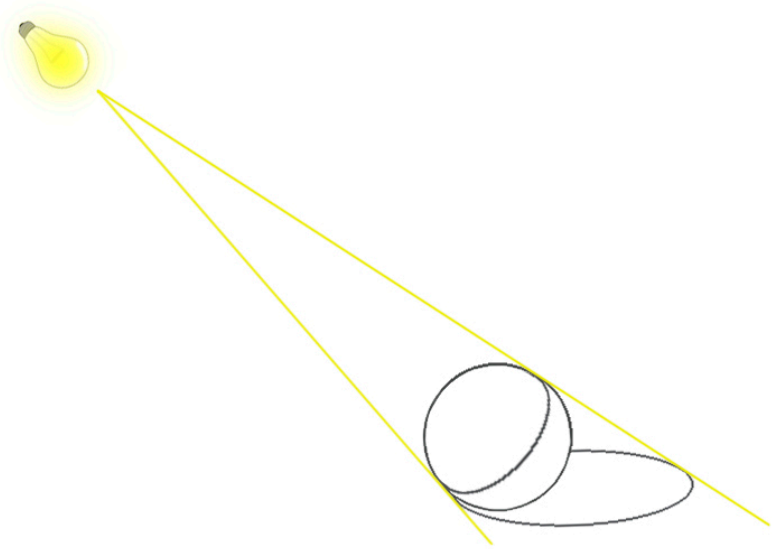
Light is always reflected at the same angle as the incoming ray, no matter if it hits a smooth or rough surface. The difference is that when it hits a rough surface, it can be reflected in many different directions.

In this case, light directly from the light source cannot reach the underside of the sphere, but it does light the surface on which the sphere sits. The light reflecting off of that surface bounces up into the underside of the sphere, lightening its value.

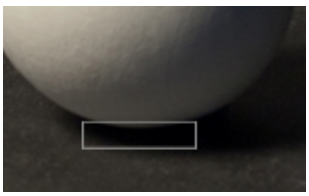
Cast shadow

The cast shadow is the shadow on the surface that the object rests on. It is created by the object itself blocking the light from the light source.

There is a useful trick to finding the shape of the cast shadow. Imagine two light rays projecting from the light source to the **core shadow** on the form. Continue those lines until they hit the surface on which the object rests, and they will show you the boundaries of the cast shadow.



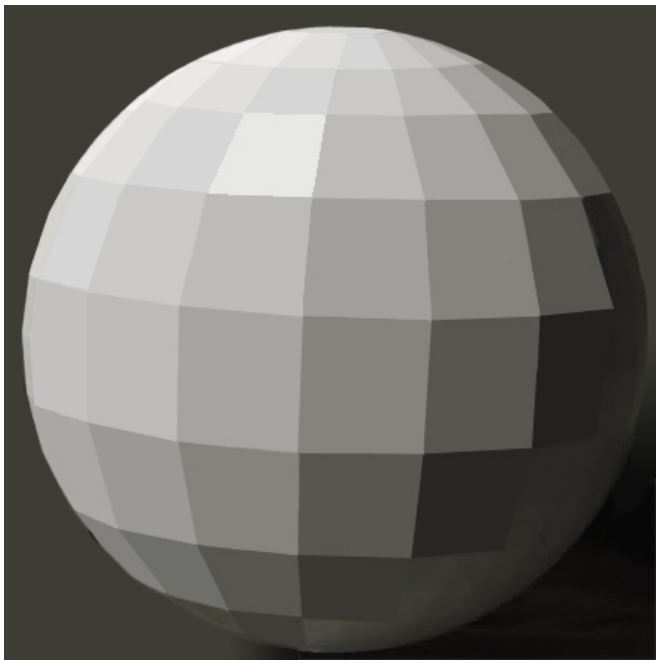
Occlusion shadow



Part of the cast shadow, the occlusion shadow, is found immediately below the form. It is the darkest part of the cast shadow because it is least affected by reflected light.

Planar Forms

Another way to understand how light illuminates form is to think of a sphere (or any form) in planes. Especially when you begin drawing the figure and portrait, analyzing and drawing planes will become a very important and helpful exercise. Understanding how light falls on planar forms will help you invent and draw from your imagination (convincingly!), which is a freedom that not many artists have.



The planes facing the light source receive the most light. Because the lightest planes (aside from the highlight) are at the top left of the sphere, we can approximately guess the location of the light source.

As we travel from the planes receiving direct light to the core shadow, we can see how incrementally less and less light can reach the planes. We finally reach the core or terminator, where the form falls into shadow.

Remember that the highlight moves depending on where you stand in relation to the subject/object. It is the last element of form that you should concern yourself with because it is the least important when it comes to describing the form. I could have moved the highlight over one plane (either up, down, or to the side) or removed it altogether, and the diagram would still seem accurate.

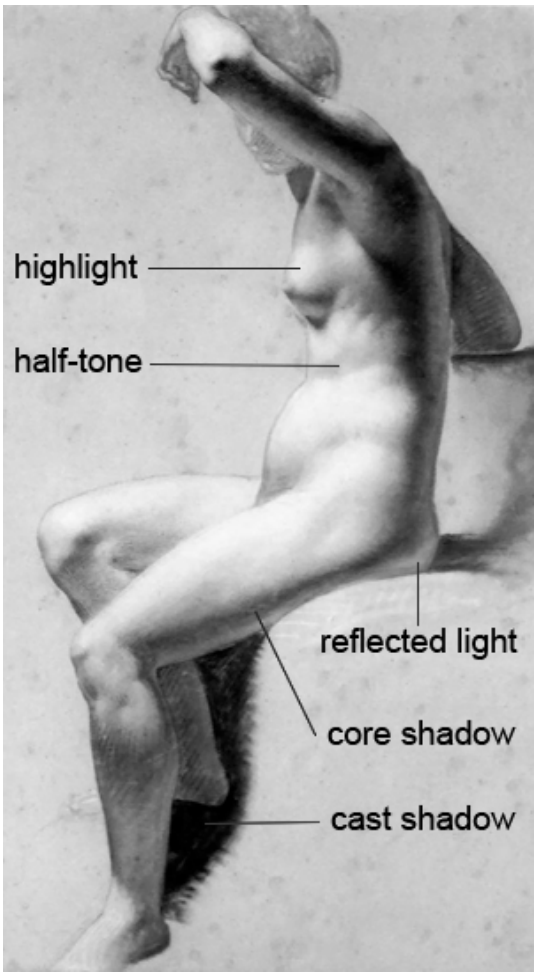
The Elements of Light and Shadow on the Figure

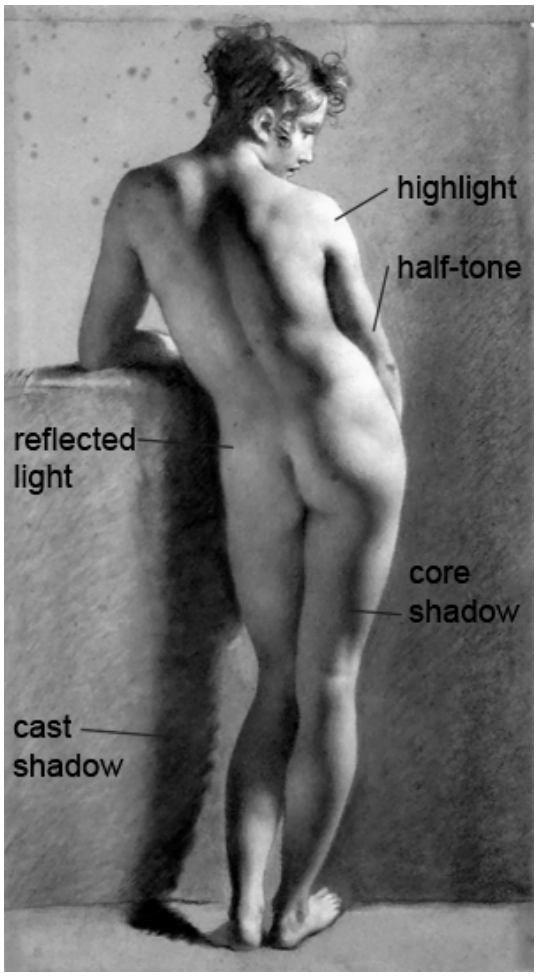
Why do we need to know how light behaves when it falls across a sphere, a cylinder, and the like? Because everything that we draw can be thought of as being made up of these basic forms, whether it is an object, a face, or a figure.

When we draw the figure and portrait, we combine many basic forms to create the intricate, complex forms of the human body.

An egg becomes a ribcage. A sphere becomes a cheek or the ball of a foot. A cylinder becomes the framework for an arm or a leg.

These parts of the body are drawn in a similar way that you would draw the basic forms that they consist of. So, when you study basic forms, you learn much of what you need to know to draw the figure and portrait!





The above drawings are by Pierre-Paul Prud-hon

Chapter 4 Summary

- becoming familiar with the behavior of light will improve the realism of your drawings by leaps and bounds
- when light illuminates form, the resulting combination of light and shadow creates a range of values, which then creates the illusion of form
- to draw form convincingly we must mimic the way that light illuminates our subjects
- the elements of form in the light areas are the highlight, direct light, and half-tone
- the elements of form in the dark areas are the core shadow, reflected light, occlusion shadow and cast shadow

Chapter 5: Edges

Last but ***definitely*** not least, we come to the idea of edges. This concept is absolutely crucial to achieve illusions of depth and dimensionality in your drawing.

When I say the word “edge”, probably the first thing that comes to mind is the contour of a form. While that *is* what I am talking about, in drawing forms are not the only elements that have edges.

In terms of drawing, an edge is a transition in value.

Anywhere a value becomes lighter or darker, you have an edge.

This means that edges are everywhere when we draw with value!

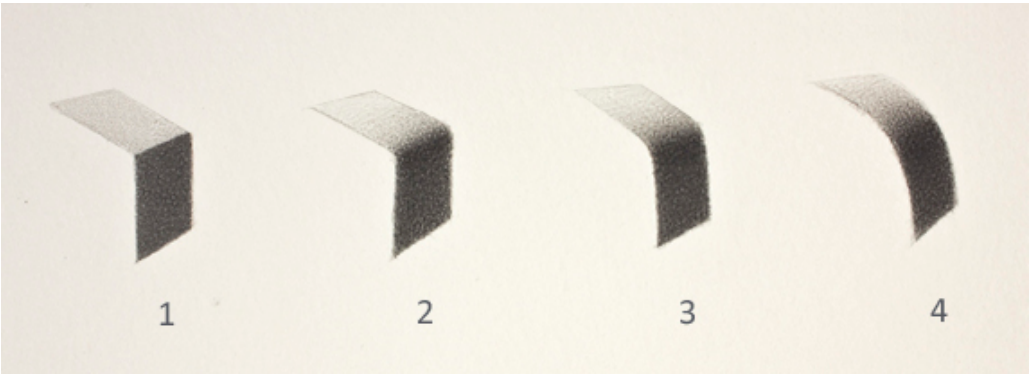
As soon as we begin adding tone to our drawings, we must start considering edges.

Even our lines are technically edges because they are drawn with value, and can be soft, sharp, or any degree between the two, as shown in the left image.

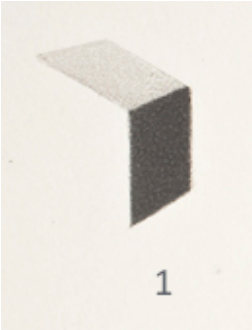
So, we know that edges are transitions in value.

But when do values transition?
When there is a plane change or when a form turns.
We can conclude then, that:

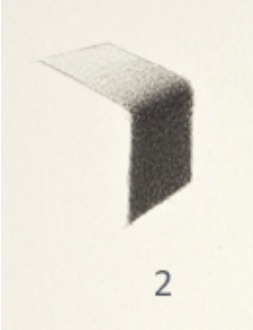
Edges show us how quickly a form turns.



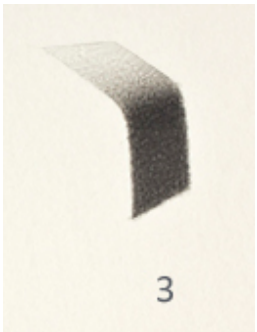
Let's analyze the edges in the diagram above.



Edge 1: A sharp edge shows us a sudden plane change. This edge is sharp because two planes are meeting with no curvature in between. The top plane is one value and the bottom plane is its own, darker value. There is no transition value between them, only a sharp edge indicating where one plane ends and another begins. You would see this kind of edge on a door, a table or other manmade object.



Edge 2: As soon as there is a slight curvature between the planes, we immediately start to see a core shadow. The edge is softer here than Edge 1, but the form still turns very quickly, so we are still able to clearly define where the two planes meet and where the core shadow is.



Edge 3: The form turns more slowly here and the edge continues to soften. The core shadow itself is longer, as is the half-tone that it gradates into. The gradation is more gradual because the form turns more slowly and the angle between the two planes increases.

Edge 4: By far the softest edge, Edge 4 is one that you would find on a gradually curving form such as a sphere. There are no "planes" here, just a soft gradation from light to half-tone to core-shadow, and then a slightly lighter area of the shadow at the bottom where some of the light from the environment reflects back into the shadow (reflected light).

Having analyzed these four edges, do you see that if you were to draw an edge incorrectly, you would completely change the curve of the form?

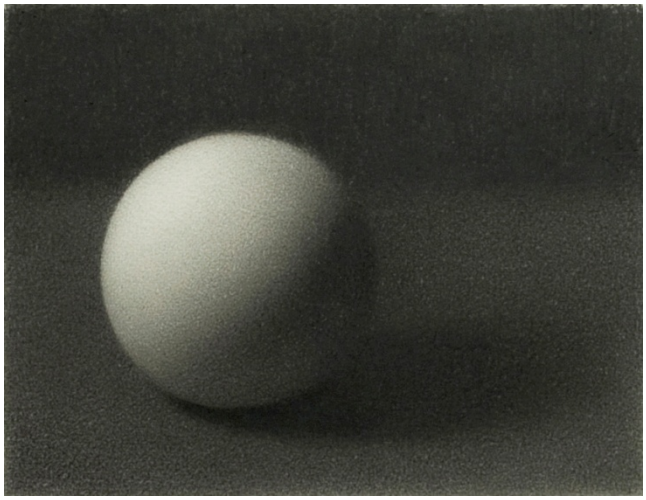
Remember that:

The slower the form turns = the slower the value transition = the softer the edge
The faster the form turns = the faster the value transition = the sharper the edge

Creating a Focal Point

Let's think about the way our vision works for a moment. Whatever you look at directly appears the sharpest and clearest to you.

From that point of focus, as you move towards the periphery of your field of vision, everything becomes softer and fuzzier until your field of vision ends.



In a sense, whatever you look at directly (the area of your utmost attention) becomes the focal point of whatever scene is in front of you.

In drawing, in order to bring a viewer's eye to a specific area of your picture, you can sharpen an edge, bringing it "into focus". In this way you can use edges to create focal points.

In a drawing: the sharper the edge, the more it attracts the eye.
The softer the edge, the less it attracts the eye.

Makes sense when we compare it to our vision, right?

Soft edges create the illusion of atmosphere, or the effect of something receding, while sharp edges come forward.

Sharp edges come forward; soft edges recede.

Creating Dimensionality

As with shapes and values, we should first and foremost figure out which edge qualities to draw by carefully observing our subject. However, there must always come a point at which we step back from our drawing, look away from the subject and analyze how the image is working as a picture in itself.

When we step back and analyze the edges we have drawn, we should be asking ourselves questions such as:

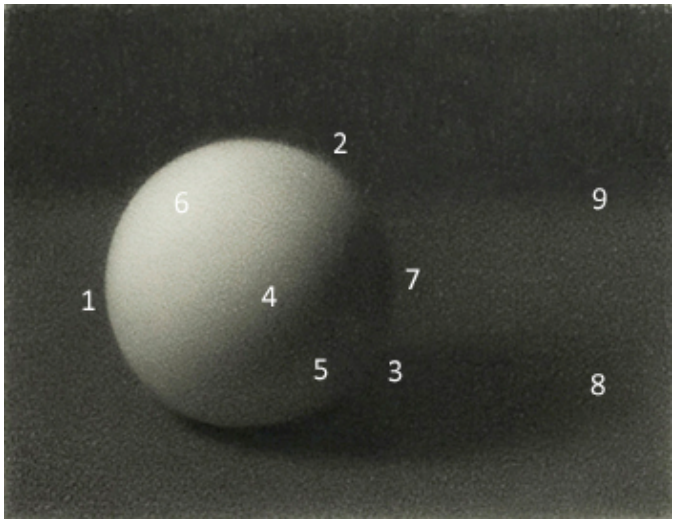
Where have I drawn the sharpest and softest edges? Is that where they *should* be?
For example, if you have drawn the sharpest edge where you have observed it on your subject, but you actually want the focal point to be elsewhere – you have a discrepancy. At that point it is your artistic right to "modify" reality to suit your drawing, and create the sharpest edge not where it exists on the subject, but *where you want it to be* to attract the viewer's attention.

You should only do this if you have a good reason, of course, and mindfully so that you don't create a drawing that differs so much from reality that it's no longer believable.

Is there enough variation in edge quality in my drawing?
Variation in edge quality creates the illusion of dimensionality. You should have sharp edges that come forward, various degrees of soft edges that recede, and, depending on your scenario, maybe a few lost edges. Lost edges are undefined edges that blend into the background. This occurs most often in shadow areas.

Analyzing Edges

Let's look how everything we have learned about edges comes into play in this drawing:



Beginning with the edge of the sphere: Notice that if you follow the edge of the sphere all the way around, its quality changes. It is much sharper at point 1 than it is at point 2. Point 7 is even softer, and there is an area at point 3 where the sphere's edge is lost completely and merges with the cast shadow.

Looking at the core shadow: The core shadow is not a single edge. Both sides of the core need to be considered because you have to create two transitions: one from the core into the lighter half-tone (at point 4), and one from the core into the shadow area (at point 5).

The light area of the sphere: The whole light area of the sphere can be considered an edge because it is a slow gradation from the half-tone (point 4) to the area receiving the most light (point 6).

The back of the sphere: At point 7 I kept the edge soft because the back of the sphere is already quite busy with information. There is the core shadow, then the area of reflected light in the shadow, and then a darkening of the sphere as it gets to the edge, which differentiates it from the background.

Sharpest and softest Edges: The sharpest edge on the sphere is probably at point 1, while the softest edge is at point 8. At point 9 there is the plane that separates the surface on which the sphere rests from the background. *Notice how soft this edge is, and how much farther in the distance it looks than the sphere's edge at point 1, which seems so much closer to us. It is the difference in edge quality and value that gives the sphere this sense of depth.*

How to Decide on Edge Quality

To summarize, we can use edges to create a sense of dimensionality and depth; to make objects in our drawing seem closer or farther away from us, creating a realistic illusion of space. To round out this chapter on edges, here are a few tips on how to decide how soft or sharp to make an edge:

First, find the "extremes" of your edges: **the sharpest and softest edges**. Then you will be able to compare the rest of the edges in the picture to those two, knowing that the remaining edges will be somewhere between those two extremes.

Squint to find the sharpest and softest edges. The edge that disappears completely when you squint at your subject is the softest edge. The edge that remains most clearly in focus when you squint is the sharpest edge.

Chapter 5 Summary

- edges show us how quickly a form turns. You can find an edge wherever there is a change in value.
- a slow turn of form causes a slower value transition and a softer edge
- a more abrupt turn of form causes a faster value transition (or no transition at all in the case of two planes meeting) and a sharper edge
- variation in edge quality creates the illusion of dimension and depth: sharp edges come forward and soft edges recede

Streamlining Your Drawing Process

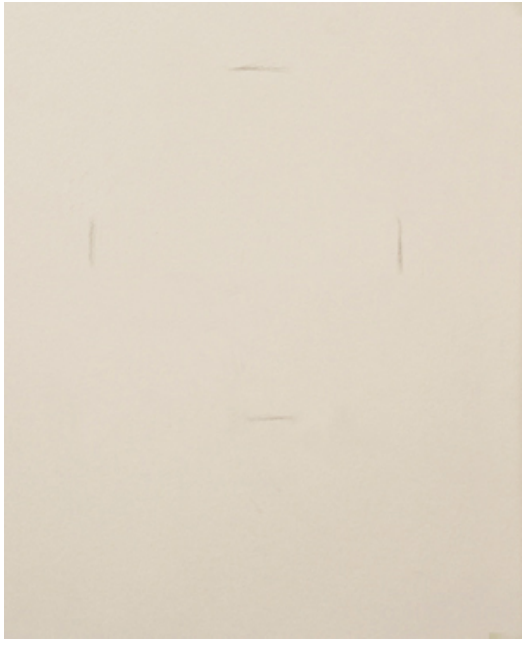
Using the Elements of Realistic Drawing

To recap: the five elements upon which the realism of your drawing heavily depends are **shape, proportion, value, form and edge**.

Every drawing scenario is different. Even two sittings of the same model in the same pose are not identical! This is why there can't be a "formula" for drawing. However, **we *can* create a strategic, efficient drawing process**. If you look at any of my drawing tutorials at The Drawing Source, you'll notice that my drawing process is based on these five elements of realistic drawing.

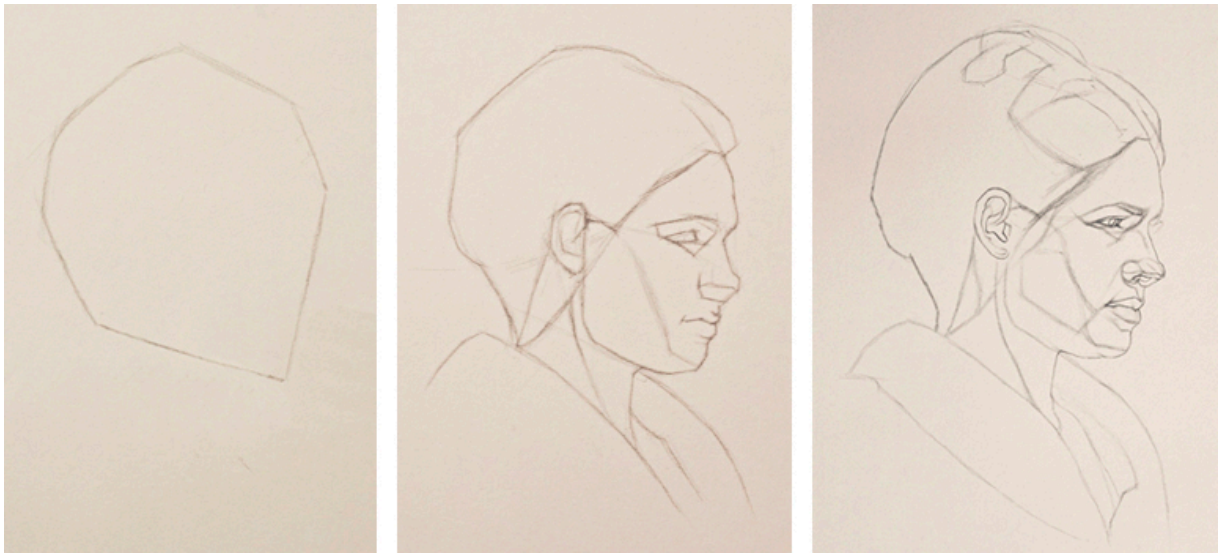
They even appear in my drawing process in a similar order as was discussed in this book: Shape and Proportion, Value, Form and Edge. Let's look at an example of how to streamline your drawing process by viewing the elements of realistic drawing as stages.

(View the complete step by step tutorial of this drawing here.)



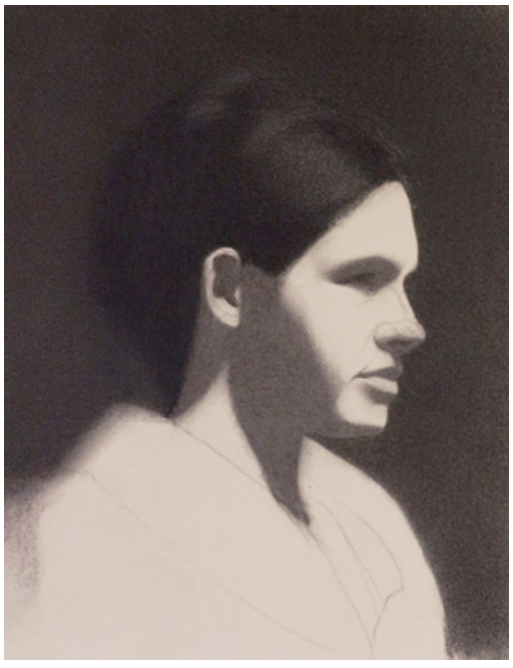
Proportion Stage

We know now that without shape or proportion we don't have likeness or believability. So this is where we begin! Shape and proportion are interchangeable in the drawing process. If the subject is a fairly simple shape, it may be easier to begin by sketching in the shape and then checking how accurate your proportions are. In this case, I chose to begin with the height to width proportion, so that I could create boundaries in which to draw the general head shape.



Shape Stage

I moved on to the shape stage when I was confident that I had found enough proportions that would make it easy to draw the general shape of the head. (I drew the height to width proportion of the head and maybe a few others, such as where the hair separates from the face.) No matter which stage you're in, work "from general to specific". In the shape stage that means finding the largest shape first (the head shape), and then dividing the large shape into smaller and smaller shapes, as shown in the image above. Throughout the shape stage you should also be checking your proportions. After all, it is specific proportions that create unique shapes!



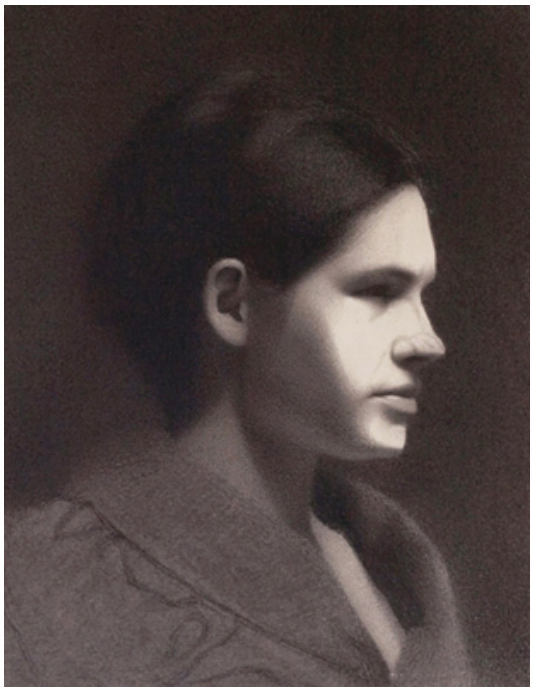
Value Stage

When you are confident in your block-in of the subject (aka. the shapes and proportions), you can begin applying value to your drawing. To work "from general to specific" in the value stage means starting with the values that cover the largest area, and that are easy to draw with a single value (such as the background or the majority of the hair in the scenario to the left). Then move on to the largest shadow shapes such as the ones on the cheek and neck. Notice that I have massed in those two shadows as one because that is how I see them when I squint.

Form Stage

The values in the previous stage were flat and two-dimensional. In the form stage you continue to use value, but the goal is now to create the illusion of three-dimensionality.

Once I have established accurate value relationships, I can begin creating the illusion of form by drawing the **elements of form**. I begin with the shadows and then move to the half-tones and light areas. Remember the elements of form in the shadows? They are the core shadow, occlusion shadow, reflected light, and cast shadow.



Edge Stage

Similarly to proportion and shape, form and edge are tethered to one another. It's difficult to work on one without the other because all that separates the elements of form from each other are edges!

Once you are happy with the forms in the shadows, you can slowly begin to gradate from the shadows into the half-tones on the face. Remember to take note of the location of the lightest value on the face so that you can compare your half-tones to it!

And here is the finished drawing!

That was, of course, an overview of the drawing process, but one that should help you prioritize what to focus on, and in what order. To streamline your drawing process, think of it in stages:

- shape
- proportion
- value
- form
- edge

These stages are a structure or guide to follow throughout your drawing.

What to do When You're Stuck

Finally, if you ever feel stuck in your drawing or unsure of how to continue, ask yourself:

Which drawing stage am I in? Am I confident in the <proportions, shapes, values, forms, or edges> that I drew in this stage? If not: do not move on to the next stage! Especially when learning to draw, it is a good idea to complete one drawing stage at a time so that the elements essential to the success of your drawing are not overlooked.

Once you gain confidence in the separate steps, they will eventually begin to meld together in your drawing process. This will happen organically and is not something you have to try to do. Separating the steps takes much more discipline, and is much more challenging than putting them back together! When they do finally come together again naturally, it will be with a new ease and a whole new level of understanding, having observed, analyzed and drawn the stages separately for some time.

10 Common Mistakes

that Decrease the Realism of your Drawing

Drawing is comparable to a juggling act. There is so much to pay attention to that even when we know what to do, it's easy for something to slip past us without realizing it! Here are ten common mistakes to watch out for on the path to creating a realistic drawing.

Common Mistake 1: Not defining the light and half-tone shapes

I often see students begin shading before defining shapes. Shapes are not just the areas in shadow. You should also look for light and half-tone shapes, as I did in the drawing below. Not doing so can result in poor value structure, incorrect forms, and a "muddy" looking drawing.

Most of the drawing below is just the white of the paper. There is minimal information in the face, making it even more important for me to design the few shadow shapes that there are. Notice that a likeness can be achieved just by drawing these few dark and half-tone shapes, using one value.

Common Mistake 2: Incorrect Proportions

Even if we have drawn the shapes of the features perfectly, we won't get a likeness or the illusion of realism if the spacing between them is incorrect. Make a habit of checking on the proportional relationships in your picture often throughout the drawing process. Even if you start out with the correct proportions, they often mysteriously "migrate" during a drawing while you are paying attention to other areas of the subject.

Common Mistake 3: Not clearly separating light and shadow

Because we see form through the contrast of light and shadow, establishing a clear separation of these two value families is necessary to create a believable image. This basically means that the values in the light family must be noticeably different from the values in the shadow family.

You run into problems when, for example, a half-tone is the same value as a shadow shape, or the reflected light is the same value as a lighter half-tone. Generally speaking, **a half-tone should be lighter than the lightest shadow value.**

An easy way to check whether a value is a half-tone or a shadow value is to squint at your subject. The value in question will either blend in with the light shapes (making it a half-tone) or the dark shapes (making it a shadow).

Not clearly defining the light and shadow value families can cause your value structure to quickly fall apart, and your image to look much less convincing. Another strategy to avoid this problem is to begin your drawing with a small, three-value sketch. This will force you to separate the light and dark value families before even beginning your drawing.

Common Mistake 4: Adding too much detail where it shouldn't be

Drawing is a balancing act. Aim to create areas of detail and areas of simplicity. Detail everywhere is very busy and uncomfortable to look at, while simplicity everywhere does not create enough interest to look at for very long. The ideal balance should provide enough detail for the eye to inspect for some time, and areas of simplicity where the eye can "rest". If you are ever in doubt, squint at your subject: if the detail disappears instantly, rethink whether or not it is necessary in your drawing.

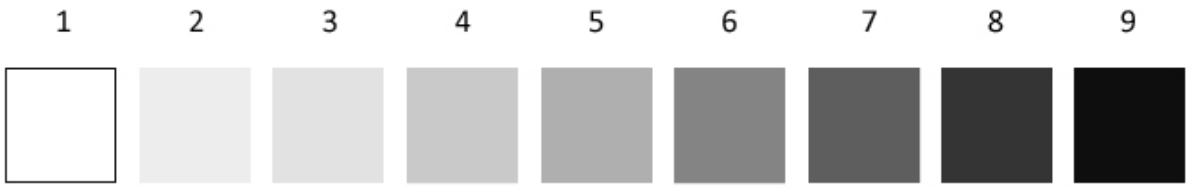
Generally, artists draw more detail in the light areas and simplify the shadow areas. Think of it this way: light represents clarity, knowledge and understanding. That which is illuminated is clear to us, while often that which is in shadow is a mystery: the darkness of a cave, for example, the depths of the ocean, the darkness of outer space. What is in shadow is unknown. Just following this general pattern of light being clear and shadow being less defined can help us create more convincing drawings.

Common Mistake 5: Not enough contrast

A very common mistake that has a huge effect on the realism of an image is simply not drawing the darkest areas dark enough, or the lightest areas light enough. In other words: there is not enough **contrast** in the image. A lack of contrast will **flatten** your drawing and rob it of its three-dimensionality. To avoid this, ask yourself:

- where is the darkest area in the scene? Is it dark enough in my drawing?
- where is the lightest area in the scene? Is it light enough in my drawing?

If you are having trouble determining how dark or how light a value in your drawing should be, comparing it to a value scale may help:



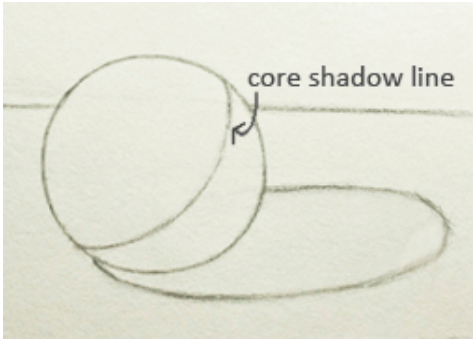
Common Mistake 6: Making the reflected light too light

Reflected light that is too light can break the illusion of a three-dimensional form. It can also attract too much attention and be very distracting. Generally: **Reflected light should be darker than the half-tone on the subject.**

It's entirely possible to find a drawing scenario that turns this statement upside down, but in general: it is easier to create the illusion of three-dimensionality when reflected light masses with the shadow and is darker than the half-tone.

Common Mistake 7: Core shadow not following the form

When drawing core shadows, observe them closely. The core shadow defines the form. If not drawn accurately it can make a form appear flat, no matter how accurate the values and edges are.



To avoid this common mistake, draw a line indicating where the core shadow will be before adding all of the fancy shading. (Look how much volume a simple line of the core shadow adds to the sphere above.) As you draw that line, imagine the dimensionality of the form. What would it feel like to pick up? (Or, if it is an object like a sphere or part of a still life – actually pick it up!) What would it feel like to sculpt the form? It's surprisingly easy to forget about the depth of a form when we are focused on values, edges, and the like.

Common Mistake 8: Not enough variation in edge quality

As you know from Chapter 5, there are several kinds of edges. You can see this just by looking around you right now. What is the sharpest edge that you can find in whatever is around you at this moment? Conversely, what is the softest edge? Now, squint and find five edges *between* these two extremes – the ones that are not as sharp as the sharpest edge, nor as soft as the softest edge.

As you begin to do this, you will probably find many, many more than five different edge qualities. There are just as many variations in edge quality on your subject, and your ability to find them will determine how dimensional (and visually interesting) your drawing is.

Common Mistake 9: Not creating a focal point

In Chapter 5 we talked a little bit about our vision: what we look at directly becomes the "focal point" of the scene in front of us. We can mimic this effect in our drawings to create a realistic image. Our drawings need a focal point to be believable and comfortable to view.

How do we create a focal point?

First we must decide where we want it to be. Where is the focal point on your subject? Put another way: where is the area that draws the most attention? To find this area, either close your eyes or look away from your subject. When you look back at it, where does your eye naturally look first? Which area is your eye drawn to?

You can also **squint** at the subject to see which area stands out the most, attracting the most attention. Notice that the focal point on the subject probably has one or all of these qualities:

- sharp edges
- high value contrast
- detail

This is exactly what we can use to create a focal point in our drawings. Sharp edges, areas of high value contrast and detailed areas attract the eye. Use them selectively to create a focal point, and sparingly in areas of your drawing where you do not want to attract and hold the viewer's attention.

Common Mistake 10: Using a sharp edge throughout the contour

Make sure to vary the edge of the *contour* of your drawing. If it is too sharp or if it has the same quality all the way around, it will look like a sticker that is separate from the paper. Don't be afraid to "lose" an edge every once in a while. If you squint at your subject and notice than an edge disappears completely even though you can see it with your eyes open, try to draw it the way it looks when you squint. See what effect it has on your drawing. You can always add more definition if you deem it necessary (it is easier to sharpen an edge than to soften it).

Realistic drawing Checklist

Is your drawing not looking quite as believable as you would like?
Go through this checklist to pinpoint the areas needing work that you should return to!

Shape

Use the two Shape Exercises in Chapter 1 to check the accuracy of the:

- ☐ Largest shapes
- ☐ Medium shapes
- ☐ Smallest shapes

Proportion

Use comparative measurement to check the accuracy of the:

- ☐ Largest proportions
- ☐ Medium proportions
- ☐ Smallest proportions

Value

- ☐ Compare the darkest value on your drawing and your subject.
  Is it dark enough in your drawing?
- ☐ Compare the lightest value on your drawing and your subject.
  Is it light enough in your drawing?
- ☐ Does your drawing have areas of detail ***and*** areas of simplicity?

Form

- ☐ Does the lighting make sense? Is it consistent in your drawing?
  (Is it the same intensity, coming from the same direction, etc?)
- ☐ Is there a clear separation of light and shadow?
- ☐ Check for important elements of form on your subject (such as core shadows).
  Are these elements in your drawing?

Edges

- ☐ Does your drawing have a sharpest edge?
- ☐ Does your drawing have a softest edge?
- ☐ Does your drawing have variations in edge quality?
  If you can find less than two different quality edges (in addition to the sharpest and softest edge), go back and look for more!

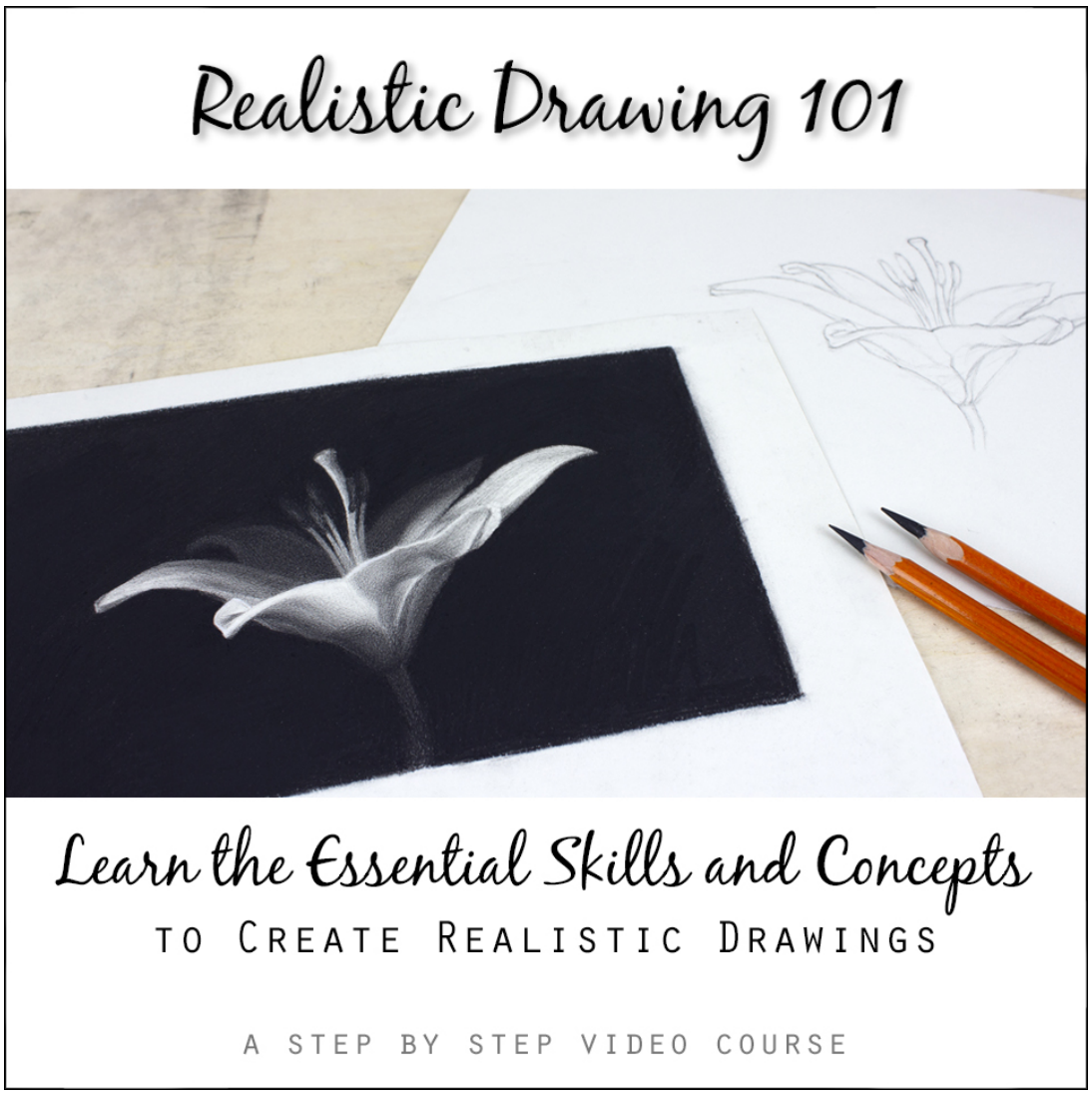
Focal Point

- ☐ Is the sharpest edge in your drawing where you want the focal point to be?
- ☐ Is the softest edge in an area that you don't want to attract much attention to?
- ☐ Find the area of highest contrast on your drawing.
  Is it located in an area that you want to bring the viewer's attention to?
- ☐ Find the area of most detail.
  Is it where you want to direct the viewer's attention to?

Conclusion

You've finished the book! What should you do next? Why not do the one thing that guarantees that your drawing skills improve today: draw! Every minute of drawing accumulates, making you a more experienced and confident artist.

So draw anything! Why not take five to ten minutes to sketch whatever is in front of you, using the methods discussed in this book. After all, they will only be useful to you if you apply and practice them.



In **Realistic Drawing 101: Essential Skills and Concepts,** I create a single charcoal drawing, demonstrating the entire drawing process from the first pencil marks to the final ones. Draw along with me by downloading a reference photo of the flower I'm drawing, and **follow along step-by-step**!

Diagrams and animations illustrate the essential concepts needed to create a believable, realistic drawing.

Best of all? You can apply the concepts you learn in this course to *any drawing* you create in the future!

Covered in this Course:

- The most effective way to start a drawing
- 5 strategies for drawing an accurate block-in
- How to see and simplify values
- The key to realistic shading
- The stages of shading
- How to use vine or willow charcoal
- How to create depth and dimension in your drawings
- How to create a focal point
- How to shade a smooth, even value

The Course Includes:

- Full-length video demonstrations
- A high-resolution reference photo for you to draw along with me
- A list of drawing supplies I will be using

What you'll draw with me in this course:

Learn more about Realistic Drawing 101, and watch an introductory video here:

https://thedrawingsource.teachable.com/p/realistic-drawing-101

If you have any comments or questions about this e-book or Realistic Drawing 101, please don't hesitate to contact me at **marina@thedrawingsource.com**

Marina

About the Author

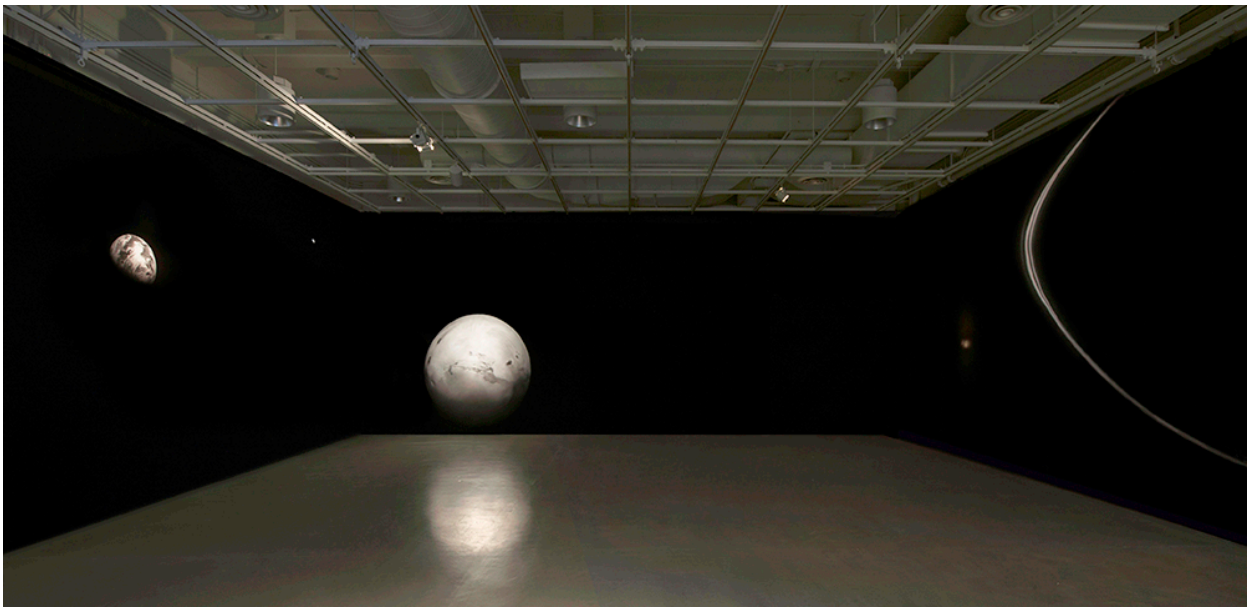
Marina Fridman is a Canadian visual artist creating immersive installations that explore our shifting perception of time and space, reality and mortality. In her work, the human body is compared to infinitesimal and the cosmic, creating the simultaneous sensations of immensity and insignificance.

Fridman holds a Master of Fine Arts Degree in Sculpture and Dimensional Studies from Alfred University, and a BFA from the Pennsylvania Academy of Fine Arts. She is a three-time recipient of the prestigious Elizabeth Greenshields Foundation Grant, a Canada Council for the Arts Grant in 2020, the Manifest ONE Prize in 2019, and an Honorable Mention in the International Sculpture Center's Outstanding Student Achievement in Contemporary Sculpture Award in 2018.

Fridman has been awarded residencies at the MacDowell Colony, I-Park Foundation, Vermont Studio Center, League Residency at Vyt, Creative Practices Institute, Manifest Gallery, Boreal Electroacoustic Music Society (BEAMS) Residency in Estonia, and the invitational ArtBnB Jerusalem Residency in Israel.

Marina's work has been published by Hi-Fructose Magazine (online), Booooooom, Art in America, ACS Magazine, the Manifest International Drawing Annual, Foundations of Drawing (Random House), North Light Books' Art Journey, and Strokes of Genius, to name a few. Her works have been exhibited and collected in the US, Canada, and Israel.

View more of Marina's artwork on her personal website at www.MarinaFridman.com



An immersive, entirely hand-drawn installation by Marina Fridman.

These planets and walls are hand-drawn
using charcoal pencils and compressed charcoal sticks on white paper.