artist daily

PRESENTS

Drawing Basics:

26 Free Beginner Drawing Techniques to Learn How to Draw

PART 1:

The Cylinder

Understanding how to correctly depict a cylinder will greatly ease and enhance the rendering of most natural objects.

by Jon deMartin

The cube, the cylinder, and the sphere are the fundamental shapes an artist must absorb to achieve a deeper understanding of all forms. The cylinder—a combination of the cube and the sphere—exists in the middle of these three. Many forms can be built out of a cube, and the cylinder is the most logical geometric form to tackle next. Drawing cylinders well is important, particularly in a still life—in which the artist is continually confronted with ellipses found in items such as a plate, a bowl of fruit, a glass of wine, or any cylindrical man-made form—and in figure drawing, which is nearly impossible without the use of cylinders.

Circles and Ellipses: The Foundations of Cylinders

Before you can draw a cylinder well, you must first learn how to draw an ellipse, but let's begin with drawing a circle. A circle is a curved line in which all points are the same distance from the center. (See Illustration 1.) It is said that Giotto could draw a perfect circle without any mechanical aids. But we don't hear about his mistakes, so in the meantime we must practice. To begin, draw a 4-inch square and add intersecting lines from corner to corner to find the midpoint, then draw lines through the center at right angles to each other. Then try drawing a freehand circle so it touches the square's middle extremities at the top, bottom, left, and right. Once you become proficient at drawing circles it's time to try ellipses. For materials I'd recommend a drawing board, a bond or smooth sketch paper pad, and charcoal or graphite pencils.

A circle, which exists on a flat plane, becomes an ellipse when the plane is tipped. When flat on a table, your 4-inch circle forms an ellipse because it's in perspective, tilted away from you. (See Illustration 2.) Notice that because of perspective, the true horizontal middle—called the "perspective center"—appears farther back. To draw a successful ellipse without distortion you must consider the concept of the minor and major axes. The minor axis is the shortest diameter of the ellipse, and the major axis is the longest diameter. Both are always centered and at

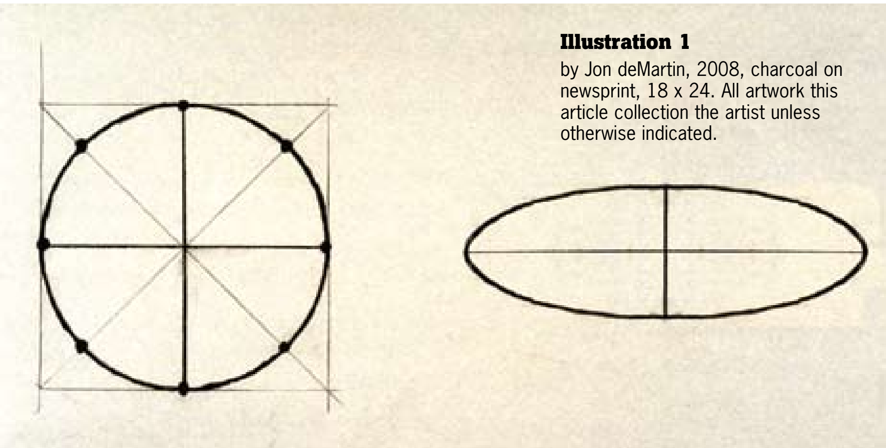

Illustration 1
by Jon deMartin, 2008, charcoal on newsprint, 18 x 24. All artwork this article collection the artist unless otherwise indicated.

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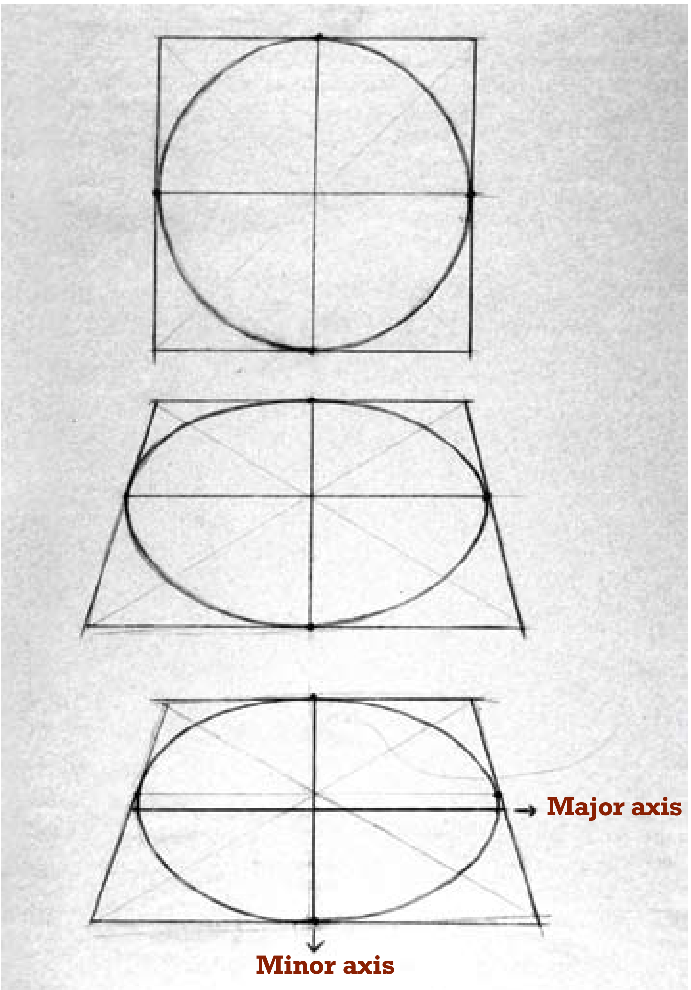
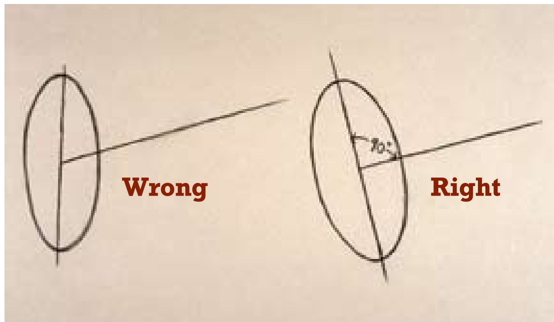
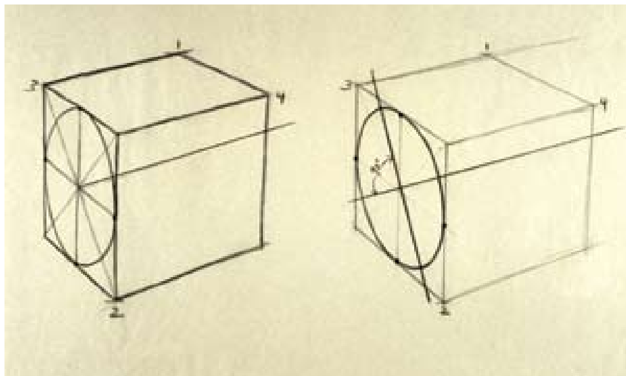


LEFT
Illustration 2
by Jon deMartin, 2008, charcoal on newsprint, 24 x 18.

BELOW
Illustration 4
by Jon deMartin, 2008, charcoal on newsprint, 18 x 24.

BOTTOM
Illustration 5
by Jon deMartin, 2008, charcoal on newsprint, 18 x 24.





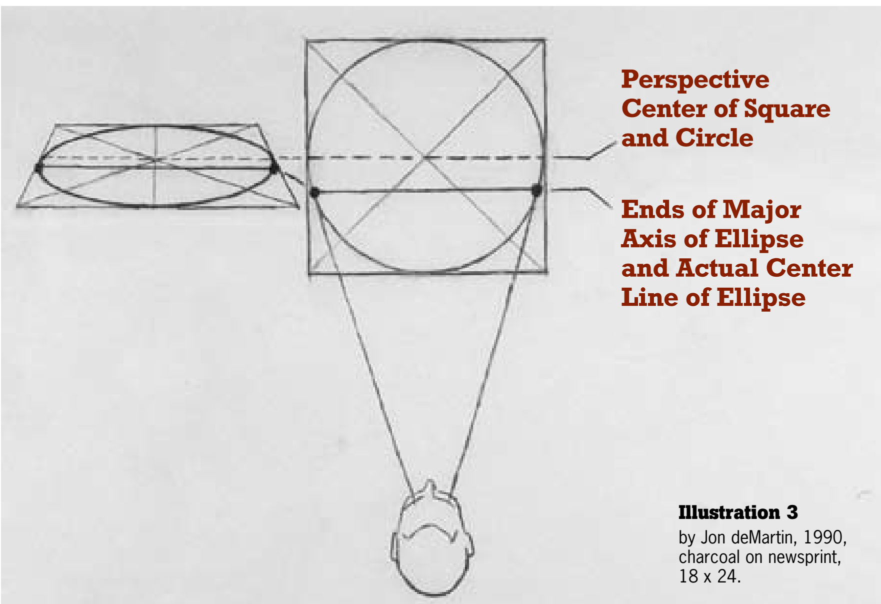


Illustration 3
by Jon deMartin, 1990, charcoal on newsprint, 18 x 24.

right angles (perpendicular) to each other. In Illustration 3, when we move the major axis in front of the perspective center (dotted line) to the exact middle of the minor axis and draw by relating to the new midpoints, the ellipse appears correct.

In the left half of Illustration 4, the axes are incorrect because the major axis is not at a right angle to the minor axis. Illustration 5 shows the proper orientation of the major and minor axes running at right angles to one another and therefore "spinning" correctly, like the wheel of a car on its axle. In Illustration 4, the left wheel appears broken.

Drawing Cylinders

The eye cannot see halfway around a cylinder, just as it cannot see the hori-

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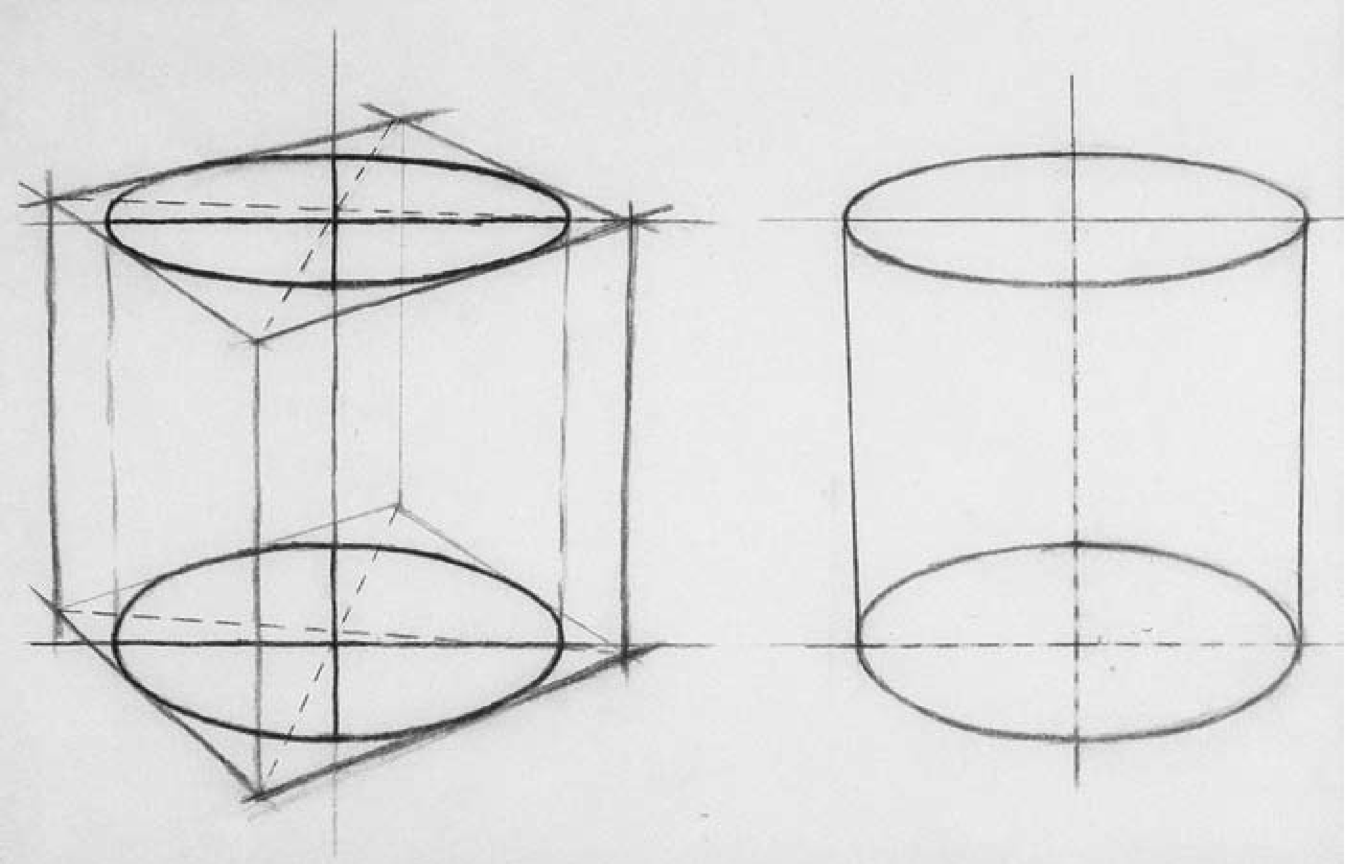
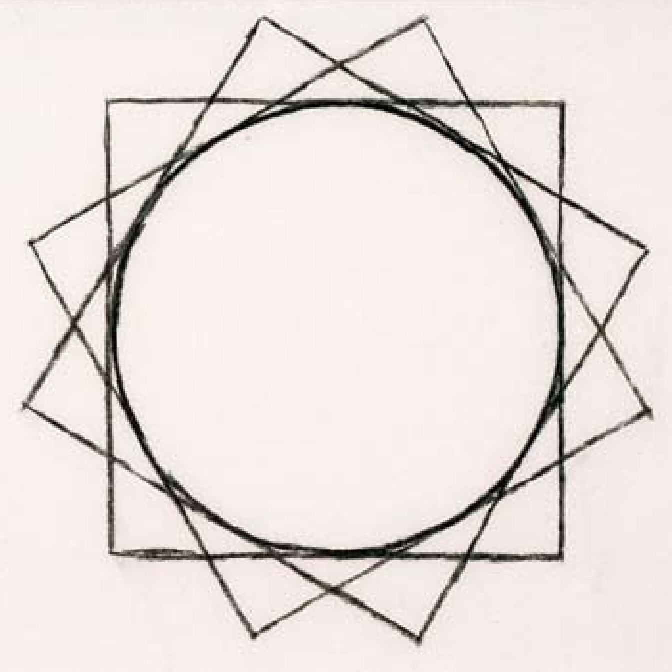
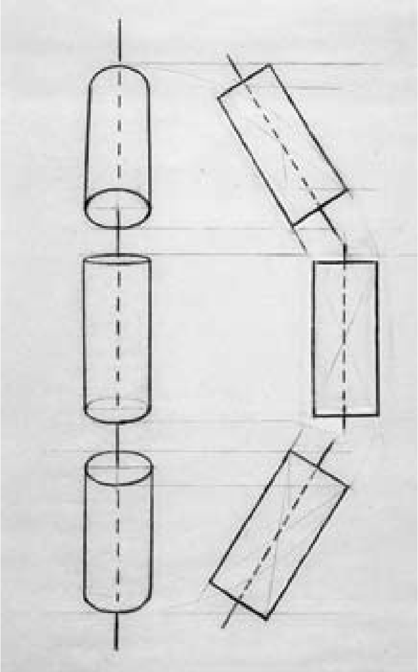






ABOVE
Illustration 6
by Jon deMartin, 2008, charcoal on newsprint, 18 x 24.

FAR LEFT
Illustration 7
by Jon deMartin, 2008, charcoal on newsprint, 18 x 24.

LEFT
Illustration 9
by Jon deMartin, 2008, charcoal on newsprint, 24 x 18.

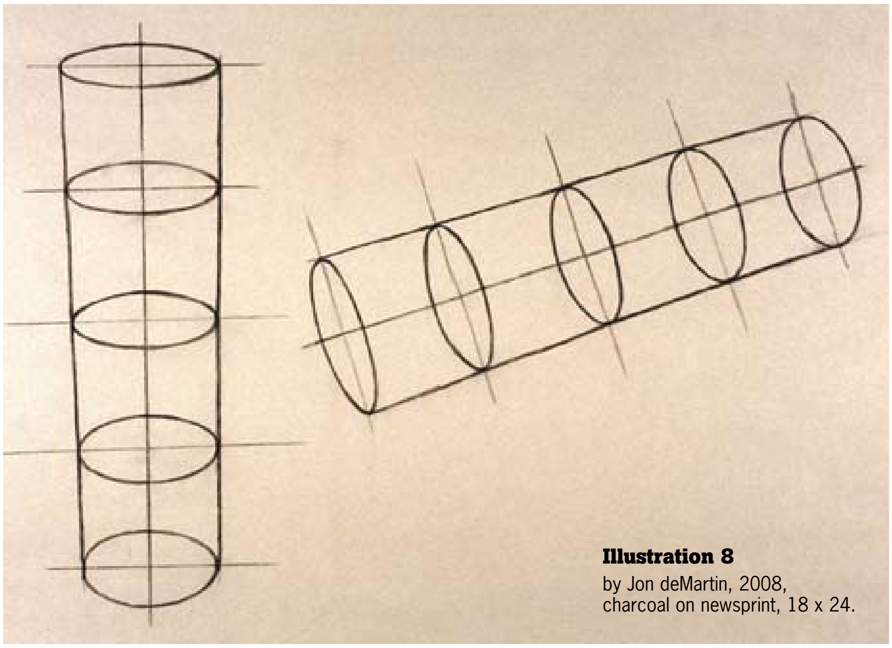


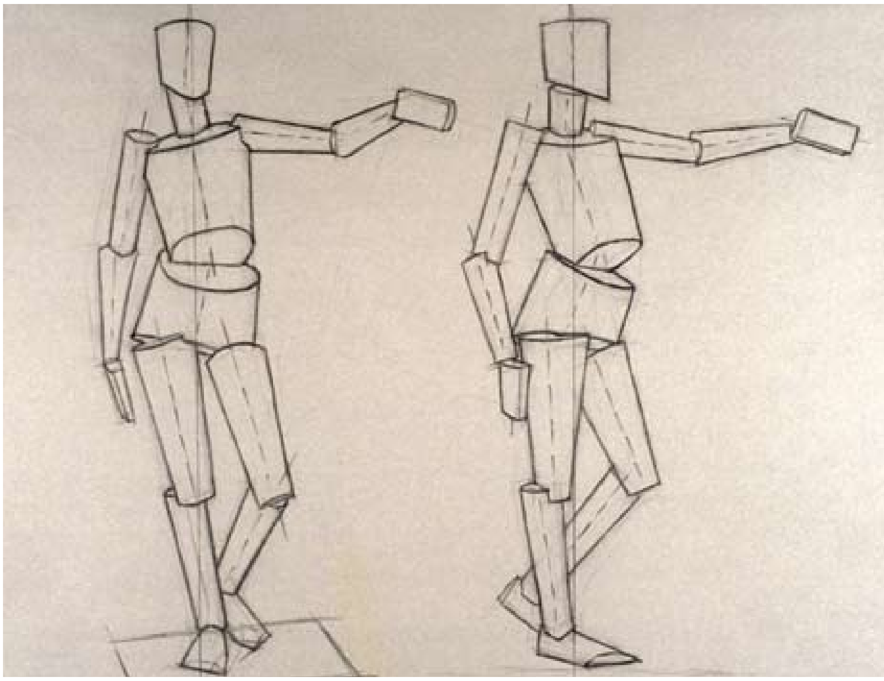
Illustration 8
by Jon deMartin, 2008, charcoal on newsprint, 18 x 24.

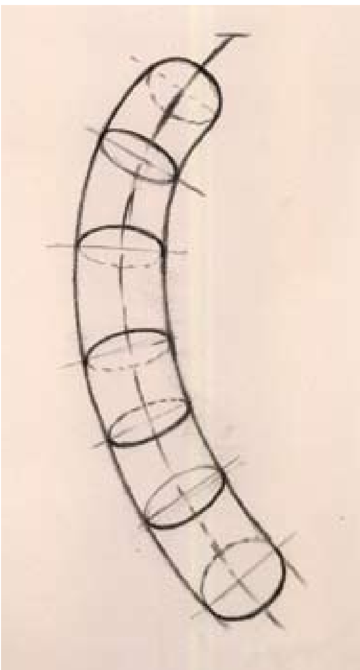
zontal middle of a cube when looking straight on—the front plane blocks the eye. The eye sees the widest part of a cylinder, which is in front of the perspective middle.

Illustration 6 shows the process of building a cylinder out of a cube—you must be able to draw a good cube in perspective before you can build a successful cylinder. Imagine finding a cube and drawing a circle on top of the cube with a compass so the circle touches all sides. After drawing the cube, draw an imaginary vertical axis through the middle of its top and bottom planes. Draw the ellipses with very light lines using the midpoint as a guide to find both the minor and major axes. You will notice that as before, the major axis is in front of the cube's perspective middle (dotted line). Illustration 6 shows the cube with both ellipses connected at their widest extremities (the ends of the major axis) with dotted lines. Again, notice that the major axis is always at exactly right angles with the minor axis. No matter how the cube is turned around the cylinder, the circle retains its perfect roundness, as shown in Illustration 7.

The left diagram in Illustration 8 shows an extended cylinder oriented vertically with its elliptical cross sections. Notice that the ellipses become rounder as they drop further below eye level in such a way that the bottom of the cylinder appears rounder than the top. The right side of Illustration 8 shows the same cylinder oriented on a diagonal. The same principle applies—ellipses become rounder as they move away from the eye, in this case from left to right. In any cylinder, no matter what its orientation, the major axis is always at a right angle to the minor axis. The minor axis also coincides with the axle running through the middle of the cylinder.

Illustration 9 shows three cylinders, each in a different position: tipped away, vertical, and tipped downward. In the straight-on view, the axis (the dotted line) running through each cylinder





TOP LEFT
Illustration 10: Drawings After Sculpture by Eliot Goldfinger
by Jon deMartin, 2008, charcoal on newsprint, 24 x 18.

TOP RIGHT
Illustration 10a
by Jon deMartin, 2008, charcoal on newsprint.

ABOVE LEFT
Illustration 11a
by Jon deMartin, 1990, charcoal on newsprint, 24 x 18.

ABOVE RIGHT
Illustration 11
by Jon deMartin, 1990, burnt sienna Nupastel on toned paper, 25 x 22.

appears vertical. However, the shapes of their elliptical ends show their different positions in space. The right side of the illustration shows a side view of the same cylinders.

Using the Cylinder to Draw the Human Figure

Artists for centuries have related basic geometric solids to the human figure. Illustration 10 shows three views of a figure conceived as cylinders. The dotted lines indicate the variety of axes running through the masses of the head, rib cage, pelvis, limbs, and extremities. Understanding the axes of these forms increases our ability to conceptualize their volumes in space. By utilizing these constructs, artists can achieve a greater awareness and appreciation of a model when drawing from life. The potential for the model's movements are limitless.

Consider Illustration 11. The figure's overall internal axis resembles a cylindrical C-curve. Next to it is its basic shape with cross sections, all of which are per-

pendicular to its main axle, like a sliced salami. The cross section is an extremely effective way of conceptualizing the form's mass and position in space. When an artist is challenged for time and the model takes a striking pose that cannot be held for a long duration, these principles for understanding volumes in space can be extremely valuable.

Illustration 12 is a powerful drawing by the late Romolo Costa that shows the artist's profound knowledge of the model's three-dimensional form. Even the fingers were conceptualized as cylinders. Notice the cylindrical cross sections of the model's left leg receding in space. Finding the direction of the forms is a very important technical consideration. Using directional lines, such as the ellipses in the left leg, creates the feeling of form as an entity in space.

ABOVE
Illustration 12
by Romolo Costa, ca. late 1970s, burnt sienna Nupastel on newsprint, 18 x 24.

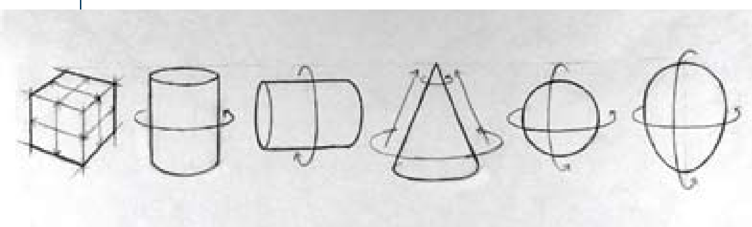
RIGHT
Illustration 13
by Romolo Costa, ca. late 1970s, burnt sienna Nupastel on newsprint, 24 x 18.

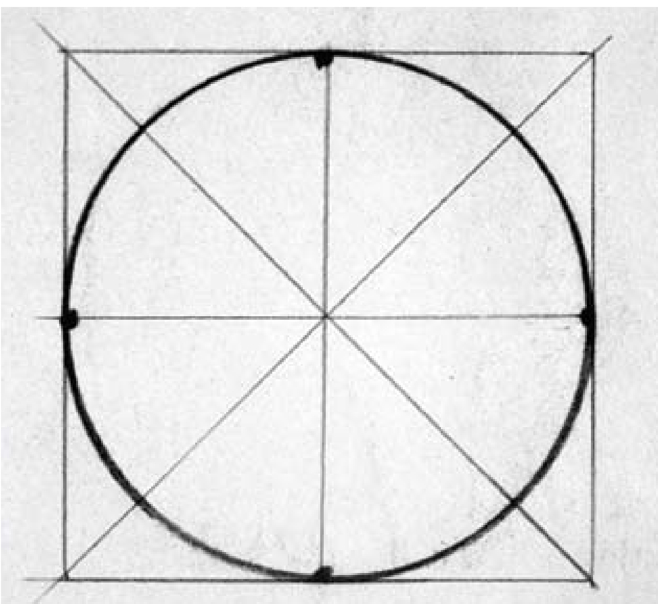
To model with any degree of authority, form must first be conceptualized in three dimensions. In Illustration 13, there's no indication of the model's direction. Had it not been for Romolo's ability to conceive of the model's three-dimensional form in line, this drawing would have appeared as flat as a board. It is this type of understanding of form that will help make your drawing of any object structural and dynamic—not merely a flat copy of nature.

PART 2:

The Sphere

The sphere and the ovoid are two forms that should be thoroughly studied to aid in the depiction of naturalistic objects of all kinds—including the human figure. | **by Jon deMartin**





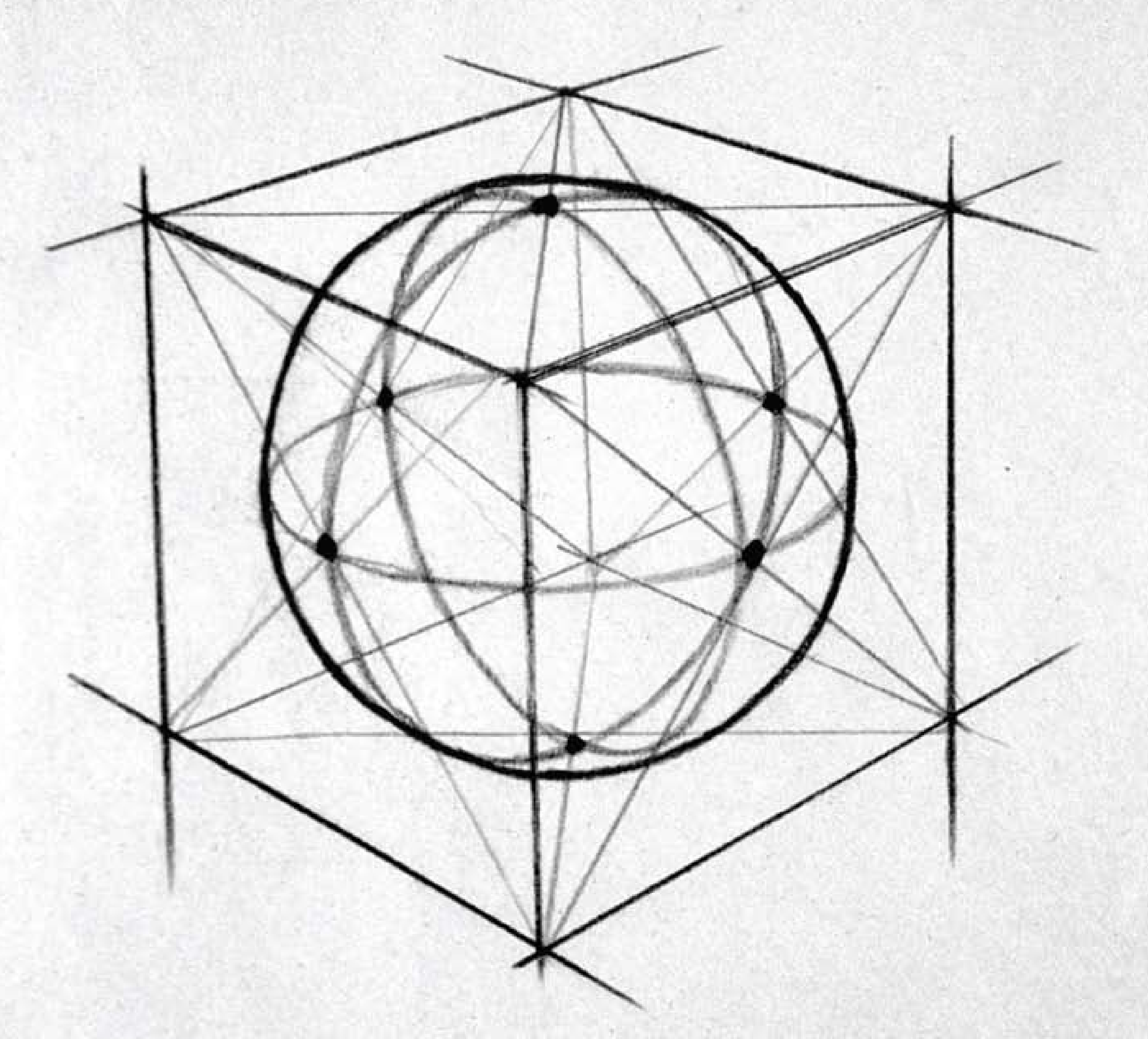
The sphere (ball) and ovoid (egg) are the two main geometric forms that represent curvature going in two different directions—up and down and side to side. Learning to render them can greatly aid your efforts to draw many organic objects.

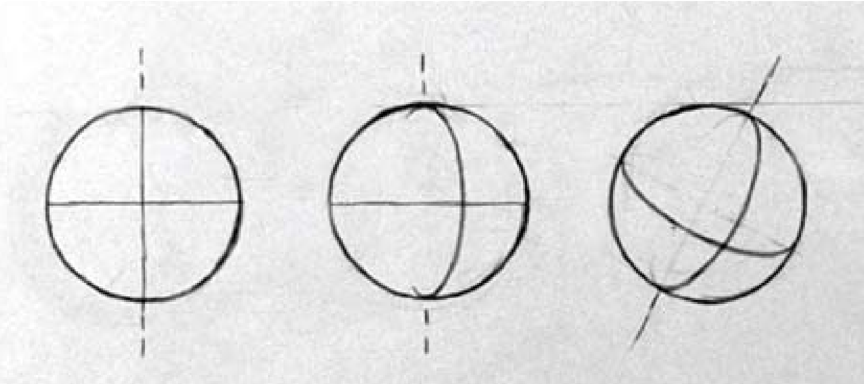
The most practical way to start drawing a sphere is to draw a circle inside a square. Find the center of each of the four sides of the square, then draw a circle that touches those four points. You now have the shape of a flat circle. (See Illustration 2.) Next, visualize a sphere, which can be built out of a cube by marking where the sphere touches the middle of a cube's six sides. (See Illustration 3.)

Note that a sphere, no matter how you view it, will always retain its original shape. To achieve the illusions of depth and of the sphere's position in space, the artist can draw medians or centerlines that travel both horizontally and vertically around the form. In Illustration 4, the left-most drawing shows how one viewpoint implies that the viewer's eye is looking at the exact middle of the sphere. The sphere looks flat; it does not reveal its position in space. In the middle drawing the

TOP
Illustration 1 (detail)
2009, charcoal on newsprint, 24 x 18.
All artwork this article collection the artist unless otherwise indicated.
As opposed to the cylinder, which is curved in only one direction, spheres and ovoids curve in two perpendicular directions.

LEFT
Illustration 2
2009, charcoal on newsprint, 9 x 12.
Find the midpoints of the four sides of a square, and you will have the points where a corresponding circle touches the frame formed by the square.





ABOVE

Illustration 3

2009, charcoal on newsprint, 9 x 12.

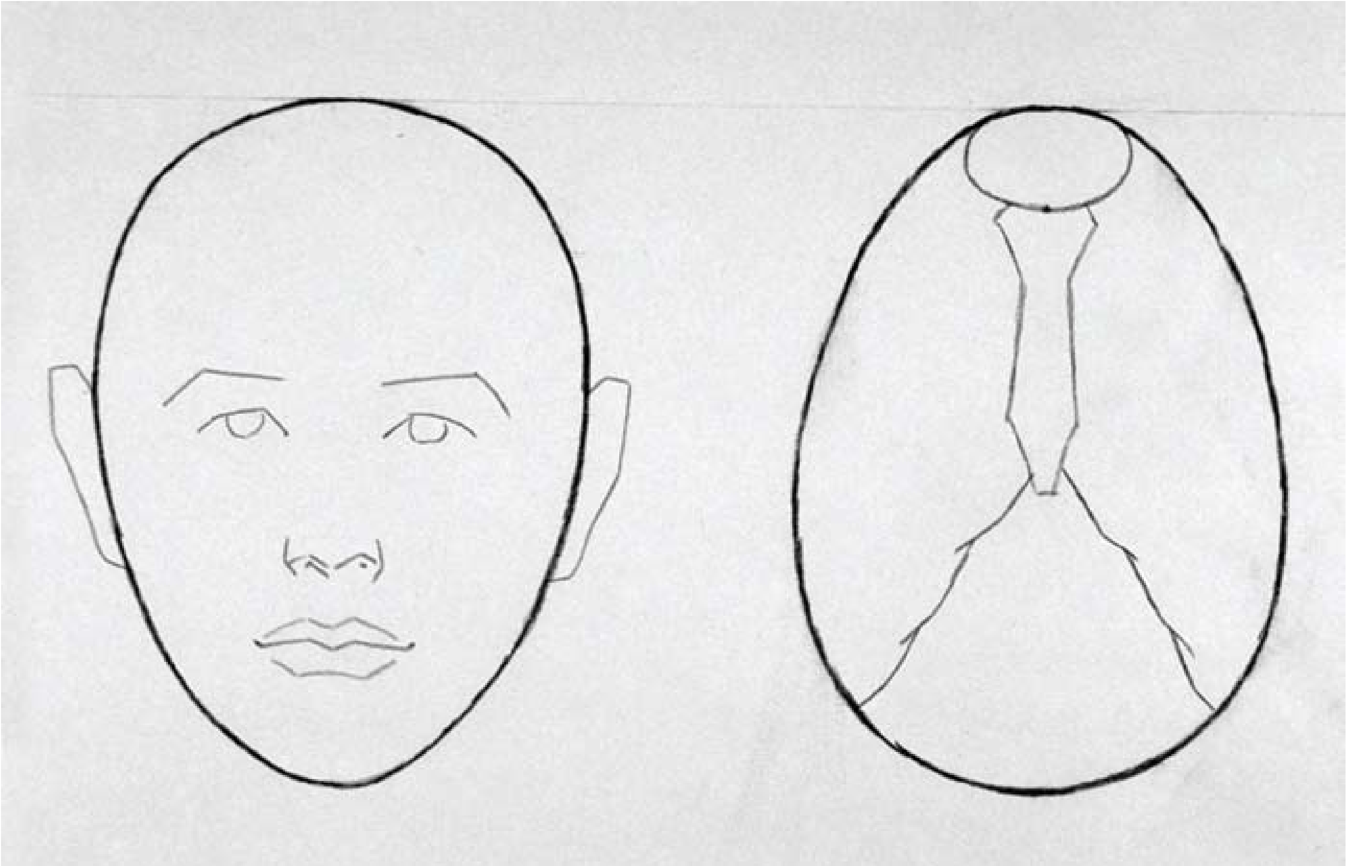
I drew this illustration to show the six points where the exterior of a sphere would touch the six sides of a corresponding cube.

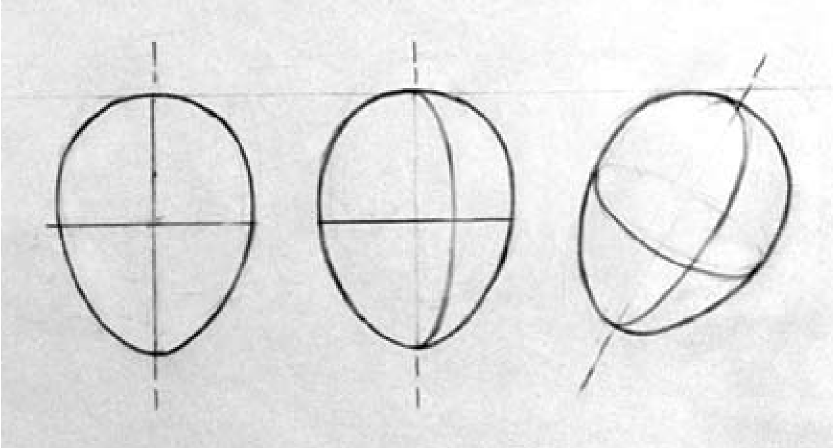
LEFT

Illustration 4

2009, charcoal on newsprint, 18 x 24.

The drawing on the left shows how flat a sphere can look if perpendicular centerlines bisecting the sphere are seen head on. The middle drawing shows how depicting one of the lines as a curve implies rotation of the sphere and enhances its three-dimensional shape. The drawing on the right optimizes the effect by tilting the sphere on an axis.





ABOVE
Illustration 5
2009, charcoal on newsprint, 18 x 24.
An ovoid viewed with the wide end on the top suggests the shape of a human head. An ovoid viewed with the wide end down suggests the shape of the human ribcage.

RIGHT
Illustration 6
2009, charcoal on newsprint, 18 x 24.
A similar effect is achieved with centerlines on an ovoid. Showing the centerlines on a rotated and tilted ovoid more clearly shows how the shape behaves in a three-dimensional space.

sphere appears more three-dimensional because the vertical centerline is curved, implying that the sphere is turning. In the right-most drawing the sphere not only curves but also tips and tilts, offering the most volumetric illusion of all.

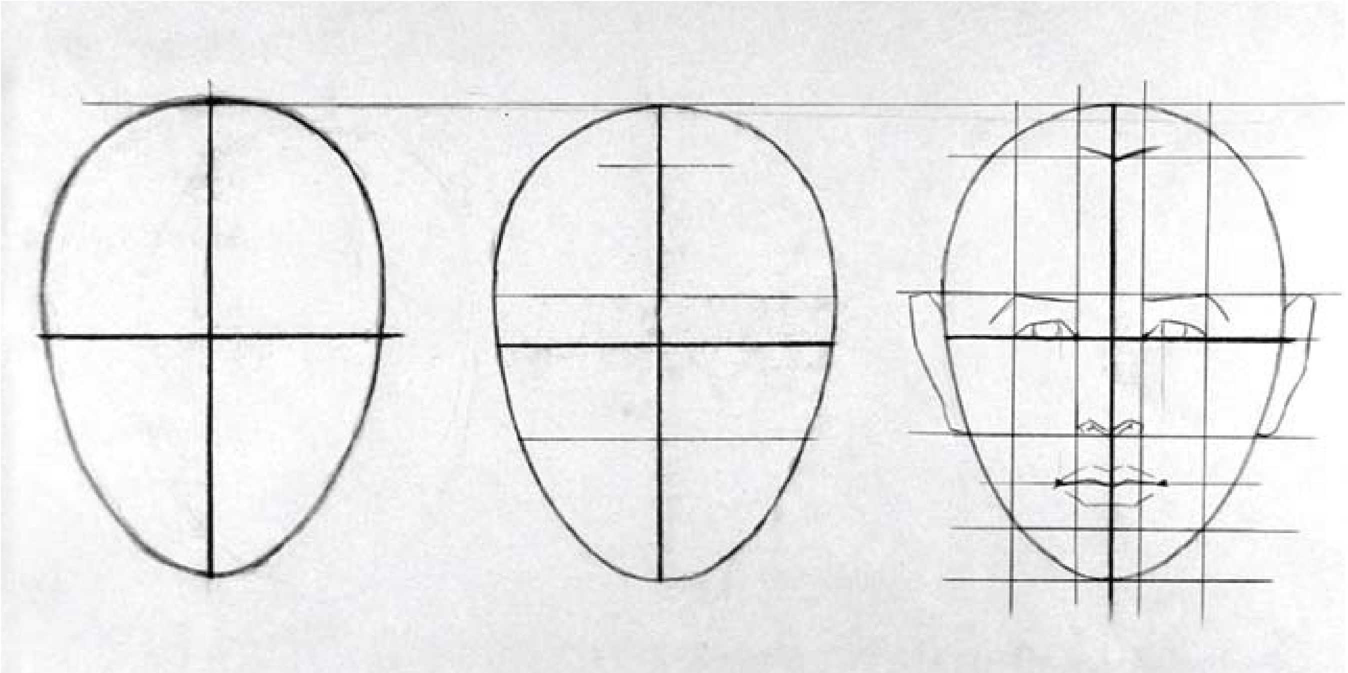
The axis also explains the sphere's position in space. Up until now we've only been talking about theory, but now we'll put theory into practice. Get a white rubber ball and carefully inscribe vertical and horizontal centerlines around it and practice drawing the ball in many different positions in space. You will soon appreciate how effective such lines can be in conveying the ball's orientation in space. These examples prove that it isn't the outline alone that makes the form—the centerlines give the sphere a three-dimensional appearance.

An ovoid is slightly more difficult to draw than a sphere because of its irregular shape. It is the first step toward depicting a naturalistic object such as the

Illustration 7

2009, charcoal on newsprint, 18 x 24.

To more easily place features on a human head, first draw the horizontal and vertical centerlines, as shown in the drawing on the left. The facial area (which excludes the top of the head from the hairline up) can be divided into equal thirds, with the first third ending at the eyebrows, the next third ending at the bottom of the nostrils, and the last third extending to the bottom of the chin. Additionally, the human head can be divided vertically into five equal parts the width of the eye.



human figure. If the ovoid is oriented vertically so that the widest part is on top, it will resemble a head. If its widest point is on bottom, it can resemble a ribcage. (See Illustration 5.) As with the sphere, vertical and horizontal centerlines on the ovoid create the illusion of three-dimensionality when the ovoid is turned in different positions. (See Illustration 6.) Depicting the centerline on an ovoid is a device artists have used for centuries to suggest the human head in perspective. To practice drawing an ovoid, it might be helpful to follow the same instructions given for a sphere—get an egg (hard-boiled, of course), and carefully inscribe vertical and horizontal centerlines. Like a pianist practicing scales or a ballerina stretching at the barre, practice drawing the ovoid in as many variations as possible.

After drawing the outline of an ovoid or head, the artist should begin to find the vertical and horizontal centerlines before determining the smaller sections. The centerlines represent the most important measurements and should be established first, and accurately. The smaller measurements will then be correct and fall into their proper places.

Let's analyze the main proportions of the human head. The horizontal centerline represents the placement of the tear ducts or inner corners of the eyes. As a basic rule, the distance from the hairline to the eyebrow, from the eyebrow to the base of the nose, and from the base of the nose to the point of the chin are all equal, thus dividing the face (not the entire head) from top to bottom into thirds. (See Illustration 7.) The ear is placed in the middle of the head between the eyebrow and the base of the nose. The lower third of the face, from the base of the nose to the point of the chin, can be divided into thirds. The line indicating the upper third marks the center of the mouth. The middle third ends at the beginning of the upper chin. The last third goes from the upper chin to the bottom of the ovoid. The head is then divided from left to right into five equal segments, each one the width of an eye.

I have my students do "head gestures" in which the model moves his or her head every 60 seconds, tipping, turning, and tilting. It's a great test to see if the artist can capture the position of a head in a very short time span.

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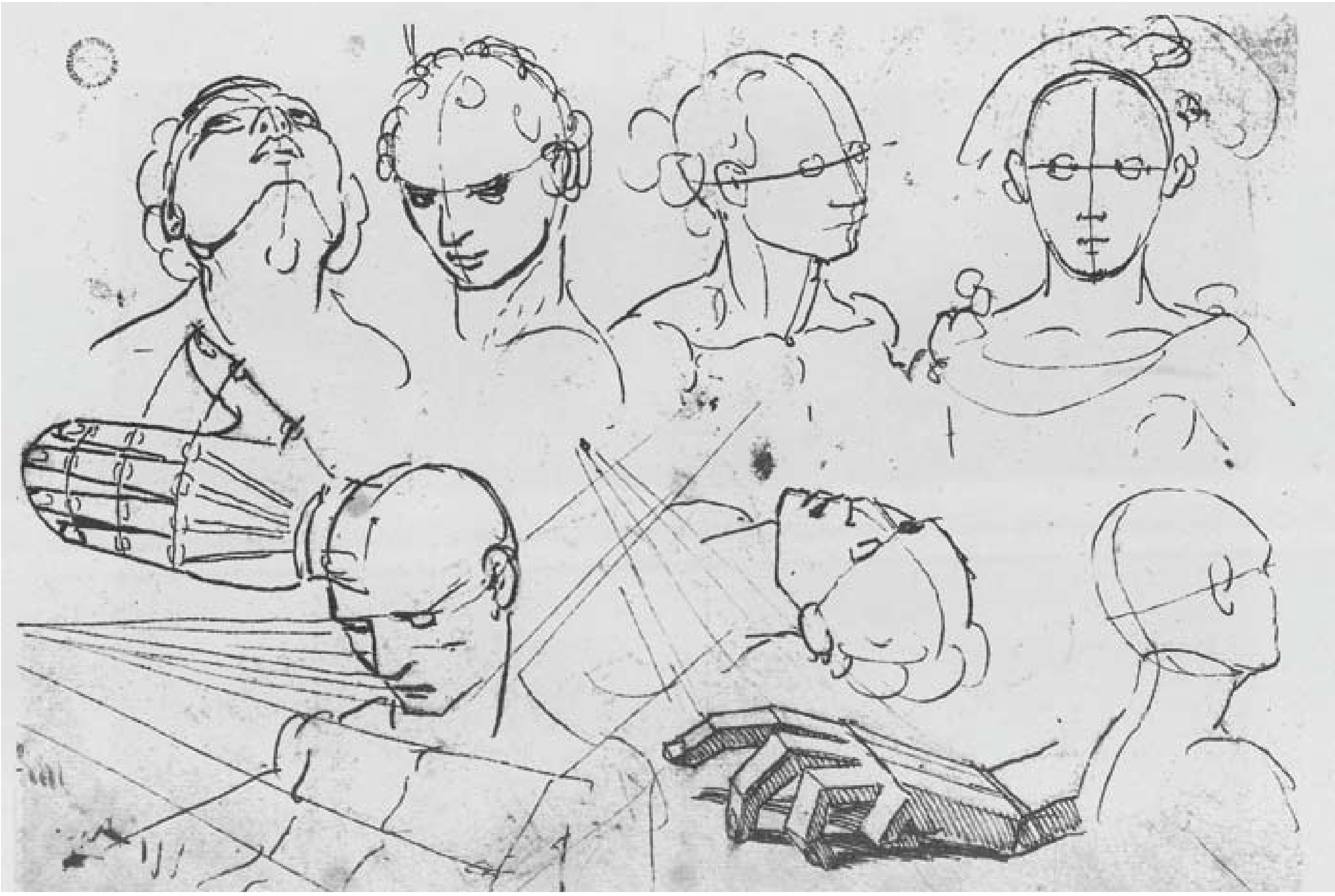
BELOW

Studies of Heads and Hands

by Hans Holbein the Younger, pen-and-ink.

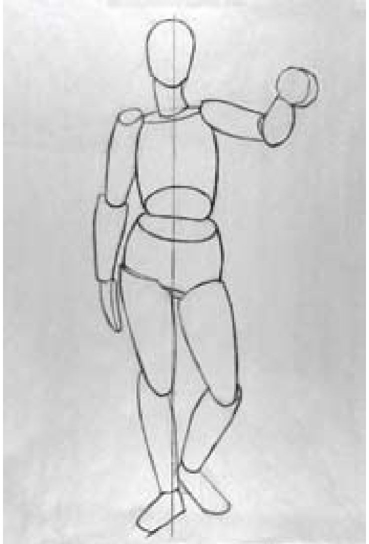
Holbein's unquestionable ability to draw a head in any imagined orientation is on display here. Many—if not all—of the earlier masters had the ability to first draw the figure from their imagination before working from a live model, something all figure artists today should learn to do.

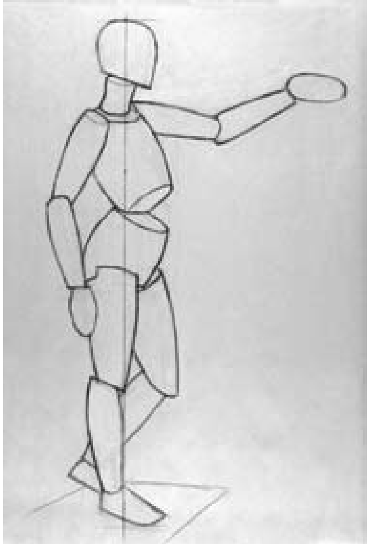


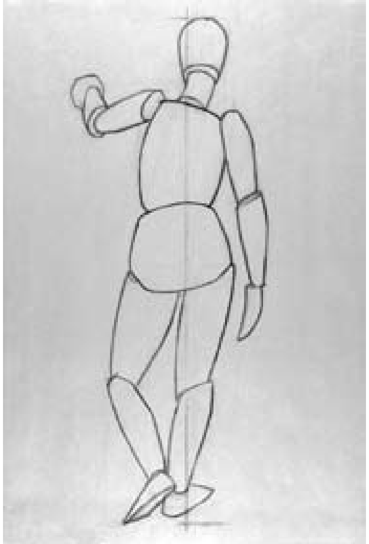
RIGHT

Illustration 8

These drawings of the figure utilize ovoids to demonstrate how the human body can be built using variations on this essential geometric building block.







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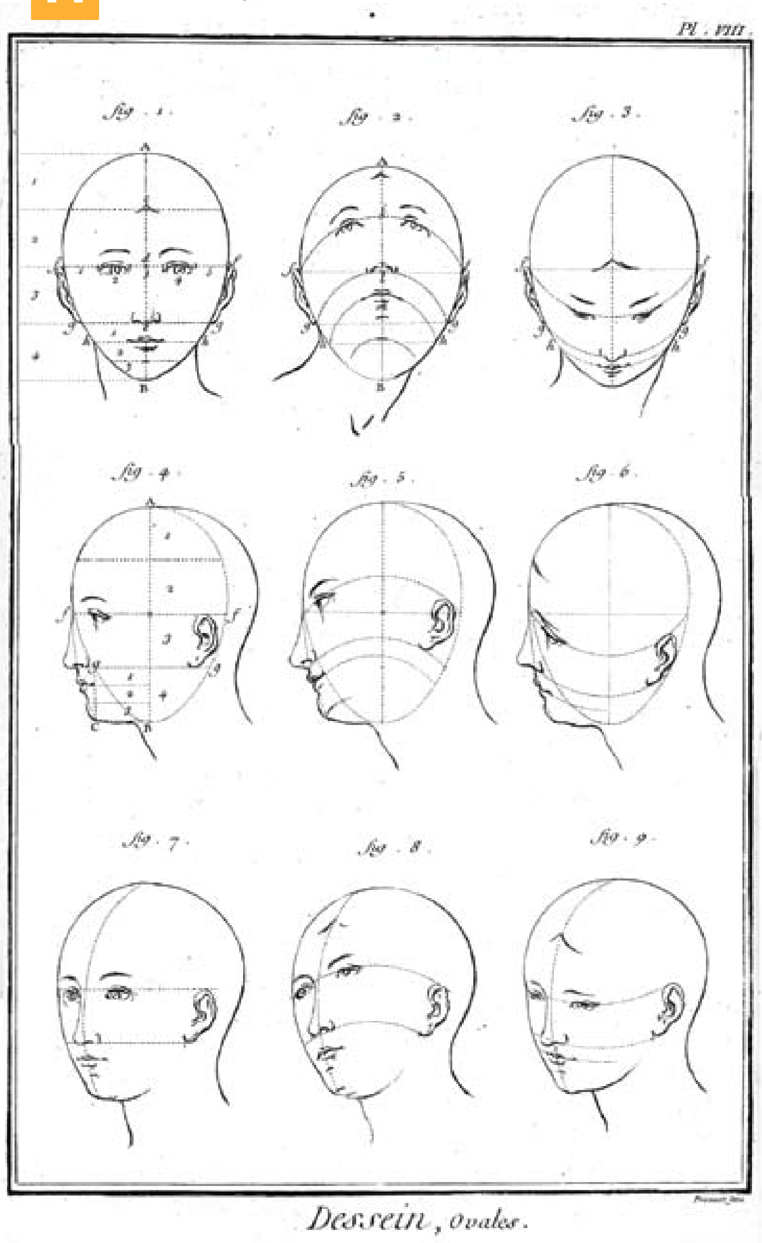

LEFT

Illustration from *Encyclopédie*
edited by Denis Diderot, 1762–1777, engraving.

BELOW

Drawings After Sculpture by Eliot Goldfinger
by Jon deMartin, 2008, charcoal on newsprint, 24 x 18.

This is *not* about capturing a likeness but strictly to explain the head's three-dimensional orientation in space. Note how the head sits on the cylinder of the neck; they are not usually pointing in the same direction. (See the head in the lower right of the Holbein illustration.) The 19th-century French artist Jean-Auguste-Dominique Ingres noted, "The head and neck never link together: They form two noncontinuous lines."

An 18th-century French engraving from Diderot's *Encyclopédie* depicts the ideal head divided into four equal parts. I find that making the distance of the hairline to the top of the head shorter makes the head appear more natural. However, the more important lesson to be learned from this engraving is what happens to the construction lines when the head is seen from different perspectives. Notice that when the head is tilted back the lines bend upward and the distance between the quarters decreases toward the top, and when the head is tilted down, the lines bend downward and the quarters decrease toward the bottom.

Illustration 8 shows a figure from several views and uses forms that appear ovoid. Remember, Ingres also stated, "Never do the exterior contours bend inward. On the contrary, they bulge, they curve outward like a wicker of a basket." When drawing the model, this conception is helpful in seeing the large, underlying roundness of each mass of the figure. Keeping these principles in mind will help increase your ability to draw from both life and imagination.

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