THE FIGURE IN ACTION:

The Inner Axis & Surface Centerlines

While teaching his life-drawing class, the artist Frank Reilly would ask his students, “If you were to draw a pearl necklace, what would you draw first—the string or the pearls?” To the surprise of some students, the more logical answer would be to draw the string before adding the pearls. This is because a single key line, referred to as the line of action, can rhythmically link multiple parts of a complex structure. In the case of the necklace, the string is the line of action that runs through the middle of the pearls, as shown in Illustration 1.

In the human figure, the line of action often coincides with the inner axis that runs through the middle of the head, rib cage, and pelvis. It is little different than the armature a sculptor uses to establish the action and pose of a figure. The line of action is so important that the late Gustav Rehberger claimed that most mistakes are made in the first three seconds of a drawing. In other words, if the line of action is not immediately realized, a drawing may be doomed to failure. Finding lines of action can make the difference between your figure looking static and looking alive.

The previous article in this series studied the construction of such objects as vases and bowling pins, which have straight, vertical central axes and round, symmetrical cross-sections. (See Illustration 2.) However, unlike the vase and bowling pin, the human figure’s cross-sections are irregular, and its axis is continuously changing, even in the most static poses.

By finding and sketching both a form’s inner line of action and various centerlines on its surface, you can better represent a figure’s gesture and orientation in space.

by Jon deMartin

Illustration 2
In a straight-on front or back view of the human skeleton, the figure’s axis looks no different than that of the vase or bowling pin—it appears to be vertical, and the sides appear symmetrical. (See Illustrations 3a and 3b.) However, in a side view of the figure, it’s quite a different story, as Illustration 3c reveals. In this view, the line of action runs in a serpentine way through the head, rib cage, and pelvis. It then continues down into the legs, still following a subtle serpentine line. There are no straight lines on the human figure, and because you will rarely draw completely straight-on views of the figure, the line of action, too, will almost never be straight.

Illustration 4 is a diagrammatical drawing by the 19th-century American artist Thomas Eakins, in which Eakins traced over multiple views of the figure with the goal of discovering their lines of action. The late artist and teacher Deane Keller explained that finding the line of action, as Eakins did, links the parts of the drawing together into one whole.т "Rhythm is defined as the nature of the connection of the parts," Keller explained. "Not seeing this can cause major problems in the final drawing, which may look disconnected and jarring, or lacking rhythm." With this in mind, think of how disconnected a drawing of a pearl necklace would be if the artist were to draw the pearls before the string.

There is no hard-and-fast rule as to where to draw the line of action. The general rule is to always look for the line that will most effectively link the parts together for the sake of unity in the drawing, and any strategy is acceptable to achieve this important aim. To obtain the most possible unity in the action of the drawing, it’s a good practice to look for the longest line of action you see.

Lines of action do not only run through the middle of forms; they can also run on the surface of forms. These lines can be described as surface centerlines, a structural device that artists have used for centuries. Illustration 5a shows a view of the pearls with their surface centerlines. Note that when the pearls’ string (their axis) is completely straight, their surface centerlines lines also appear straight. However, as we remember from earlier, an artist will very rarely work from such straight-on views. Illustration 5b shows how the string affects the pearls when it moves. The pearls’ surface centerlines change, and as a result, each pearl appears to have a different orientation in space.

We can also apply the concept of surface centerlines to
Illustration 4
Nine Studies of Figure
by Thomas Eakins, ca. 1883, pen-and-ink and graphite, 3⅝ x 9⅛. Collection Smithsonian Institution, Washington, DC.
the human figure. Illustrations 6a and 6b show views of the head, rib cage, and pelvis with their respective surface centerlines. The dotted, red portions of the lines represent the free spaces between the head, rib cage, and pelvis. They, too, appear straight when the figure’s axis is straight, as in Illustration 6a. It’s important to note that the centerlines are always at right angles to one another—although the head is the only mass of the body in which the horizontal centerline, which aligns with the eyes, is in the middle of the vertical centerline. (For more information about the proportions of the head, see the spring 2009 issue of *Drawing.*

Surface centerlines are relatively meaningless on pearls or other spheres. However, surface centerlines are a crucial construct for correctly representing the head in space. Illustration 6b shows us what happens to the masses of the head, rib cage, and pelvis when their axes move, as they will in the vast majority of poses. In these views, the surface centerlines allow us to more easily and accurately appreciate and visualize how the form tips, turns, and tilts in space.

Our first response to the figure’s action, or gesture, should be an emotional one—the drawing needs to be “felt” first if we’re going to approach our work with any real
momentum. When we see a sunset, we don’t start analyzing its hue, value, and chroma; we simply take it in with wonder and astonishment. In a way, we can think of the inner axis, which expresses the gesture of the figure, as representing our emotional response to the drawing. The surface centerlines, meanwhile, are more a part of the structural response. Great figurative drawing (such as the study by Bernini on the next page) combines both these elements.

Illustration 7 shows a series of rapid sketches after sculptures in the Pitti Palace, in Florence, Italy. The figures’ rhythmic action struck me immediately, as the sculptor no doubt intended them to. I chose to draw the inner axis first, because this was the most effective way to express the dynamic action of each pose. The first marks of a drawing should not be coldly academic and accurate but spontaneous and alive—we can always revise and correct later. A drawing can be accurate, but if the artist thinks about nothing other than correctness, the result will be lifeless.

Illustration 8 is an analysis of the inner and outer lines of action in an Old Master figure drawing. You can try this exercise yourself: Find an Old Master drawing that shows an expressive gesture of the figure. On tracing paper, first draw
the inner line of action, then find the surface centerlines. In my drawing, I also added cross-sections to convey the limbs' direction in space, another very important consideration.

So far we've discussed how to apply the line of action to both the inner axis of forms and the surface centers of forms. We can also apply the line of action to incorporate the outside shape of the forms. In Illustration 9a and 9b, a drawing by the 17th-century sculptor Gian Lorenzo Bernini, who virtually created the Baroque style, we can get a glimpse of his thought process. Notice that he used his line of action to run along the outside of the head and neck, then along the rib cage and pelvis' surface centerlines, then continuing down the inside of the left leg. It's clear that Bernini's objective was to link everything together with one rhythmic line. In this case, it was the outside shape and the surface centerlines that together nailed the action.

All poses are different, and sometimes the line of action may not be apparent at all, such as in poses that are static or foreshortened. But lines of action, as well as surface centerlines, are strategies that help us accomplish the challenging task of drawing the figure. The more strategies we know, the more insight we can bring to our drawing. Even the most static poses can be enlivened if we're aware of these concepts, because we will be in a better position to animate the pose and make its appear livelier than it really is. After all, as Bernini's drawings show us, art is the intensification of life.

This is the first of two Drawing Fundamentals articles on the subject of the Figure in Action. Look for the conclusion of our discussion of this topic in the winter 2011 issue of Drawing, on sale February 15, 2011.