

**Excerpt from Drawing the Human Form by William A. Berry**

"...the contour ought to round itself off and so terminate as to suggest the presence of other parts behind it also, and disclose even what it hides." -- Pliny

**CROSS-SECTION CONTOURS**

The surface contours projected on the plaster cast shown in Figure 5-54, though similar in some ways to those in the Watteau and the Netherlandish drawings, are far more systematic and therefore more revealing of the way in which such contours function. The projected contours represent true cross sections (slices) resulting from the intersection of the solid form of the cast by parallel vertical planes of light. If the cast in Figure 5-54 were viewed from the same angle as the direction of the light, the projected lines would appear straight and vertical without any suggestion of the relief form of the head. Seen from the view in the photograph, however, they convey a strong sense of the cast's form.



Figure 5-54

Other angles of intersection are equally effective in communicating form (Figures 5-58 and 5-59):

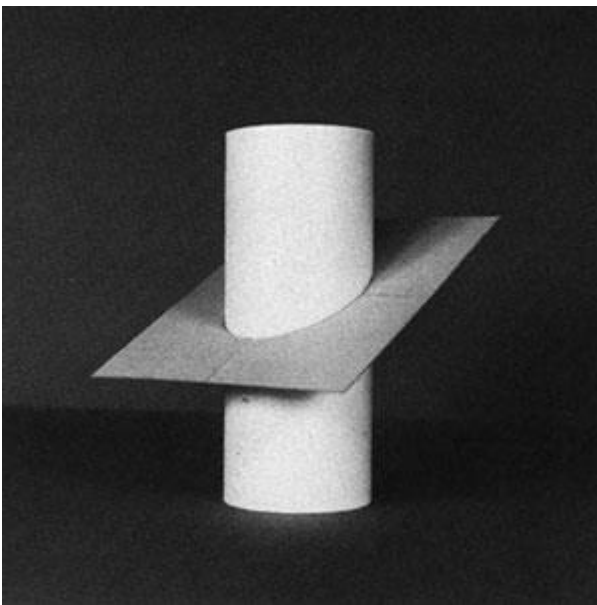


Figure 5-58

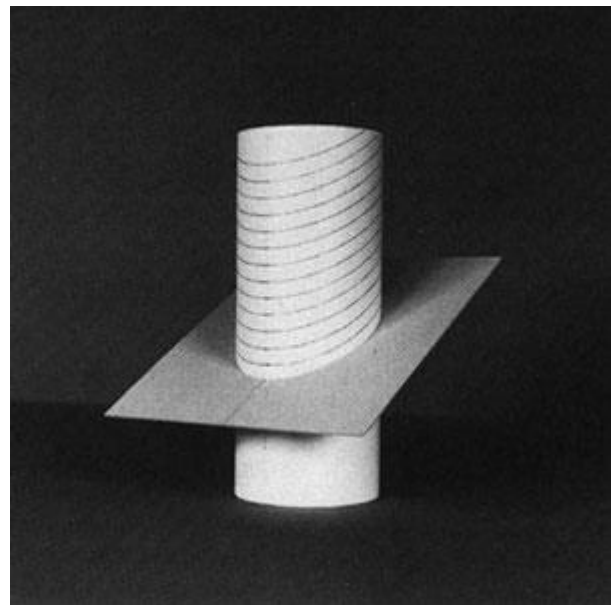


Figure 5-59

Leonardo experimented with this principle in an anatomical study of two legs (Figure 5-60). He drew imaginary segments of two legs, revealing total cross sections, represented as ovals, that give a graphic idea of the rounded form of the leg at various heights. The same cross sections in the leg drawn on the right remain flat and devoid of relief, however, as they are based on planes parallel to the line of sight. The power of the cross-section contour to suggest relief and volume in a drawing or in any two-dimensional representation thus depends on the apparent angle (orientation) of the cross-section plane with respect to the surface plane of the drawing. By experimenting with imaginary cross sections you can discover which orientation best describes form in your drawings.

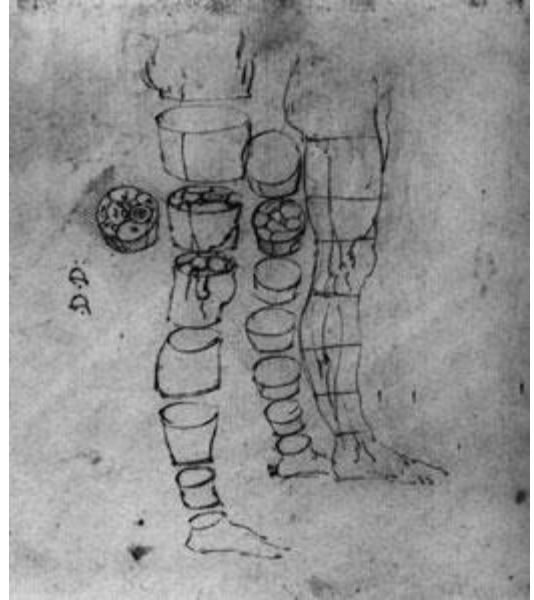


Figure 5-60

**Study 22: Drawing Cross-Section Contours of the Human Form**  
Suggested time: 20 minutes

To begin this study, lightly indicate the figure in contour, paying special attention to the general gesture of the body. Try to draw a contour that would appear if the body were intersected (sliced) by an imaginary plane. Any region of the figure can be used for this purpose, but you may find it easier to use the more cylindrical forms of the leg or arm. Draw slowly, allowing the crayon to follow the apparent contour of the imagined intersection (Figure 5-61).



Figure 5-61

Observe the model carefully as you draw: the contour, though generally rounded like an oval, must follow the undulations of the body's irregular volumes if it is to be accurate. (Only in the Michelin rubber-tire figure are contours truly regular!) If you find it difficult to construct a cross-section contour in a particular passage of the body, it is helpful to draw a rectangle representing the plane that intersects the form, as shown in Figure 5-59. This makes it easier to visualize the contour produced by the plane. Particular care is necessary as the contours approach the apparent edge of body forms, for they may appear to turn sharply. Quality is easily detected in a cross-section drawing. If the cross sections are drawn sensitively, curving in accordance with observed form, they seem to have a light, transparent quality (Figure 5-62); if they are drawn inconsistently and do not correspond with the turning of form, they tend to appear as opaque stripes painted on the figure.

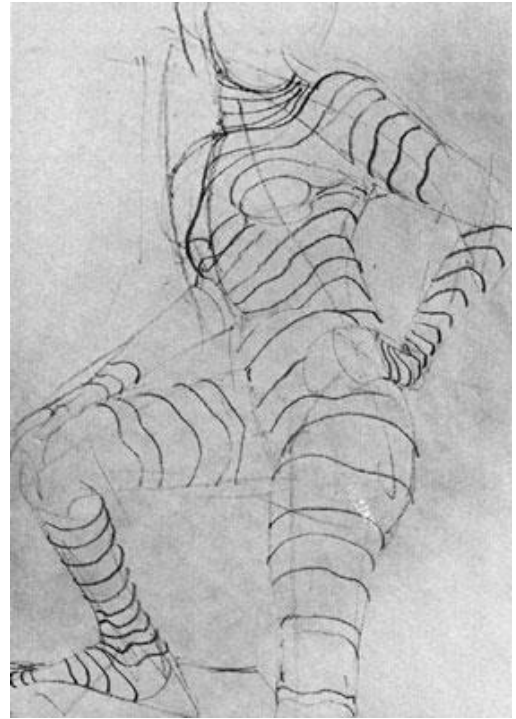


Figure 5-62

The geometrical nature of the cross-section contour may account for the fascination that it held for some artists of the Renaissance. Leonardo employed the cross section, as in Figure 5-60, for anatomical study; Piero della Francesca used it to represent three-dimensional volumes of the human form on a flat surface (Figures 5-63 and 5-64); Durer, the German contemporary of Leonardo, adopted the cross section contour as a measuring device in his search for ideal human proportions (Figure 5-65). The cross-section contour is now utilized in medical studies to measure body volume (Figure 5-66). In these medical studies Piero della Francesca's painstaking measurements are replaced with modern map-making and computer techniques, resulting in unique cross-sectional "portraits" of human subjects.

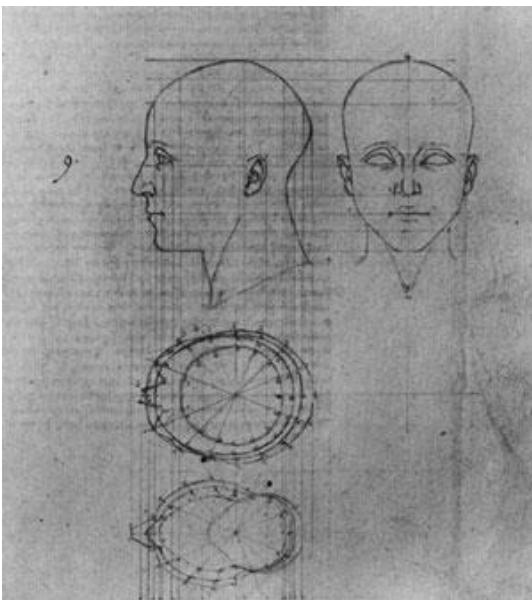


Figure 5-63



Figure 5-64

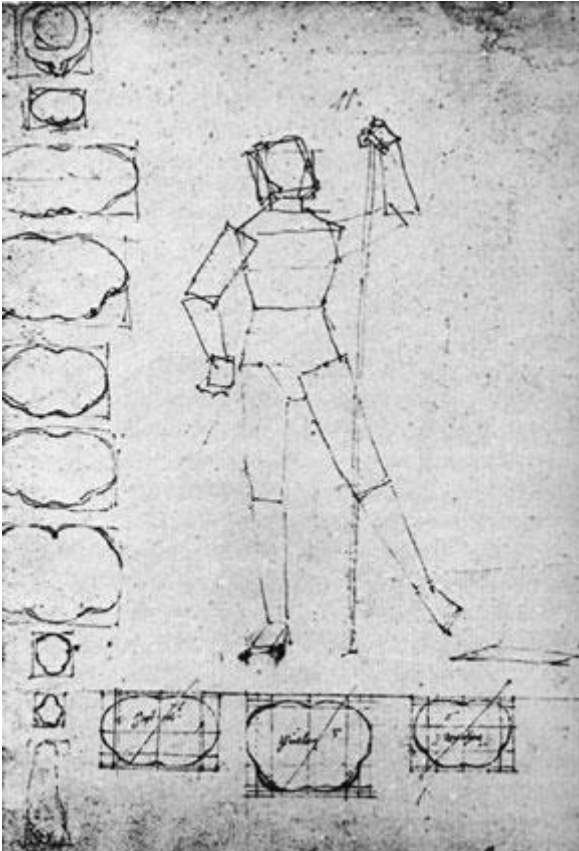


Figure 5-65



Figure 5-66



*San Giovannino*, drawing in crayon by Tintoretto. Tintoretto conceived of the figure as a series of egg-like forms. With just a few well-placed cross-section contours, he was able to give a sense of volume.