HW2: Light Source (5 points)

Excerpt from Mitton’s Interior Design Presentation:

Understanding the relationship of light, value, and shadow on basic forms in perspective is required for successful perspective rendering. The cube, cylinder, sphere and cone are basic shapes that are found in combination in more complex objects. Learning to render these basic shapes in a variety of no color media is useful preparation for the eventual rendering of color materials. The basic shapes are most easily rendered with a light source above and slightly to the right or left. The light source in this position creates three distinct value – light (value 1), medium (value 2) and dark (value 3) – and a cast shadow (4). This illustration from Interior Design Visual Presentation by Maureen Mitton illustrate this light source setup in relation to a variety of simple forms.

Cube: In this setup, the top surface of a cube received the most light (value 1), followed by the side closest to the light source (value 2). The side farthest from the light source receives the least light and is darkest (value 3) and typically the cast shadow (4) is darkest.

Cylinder: The top surface is rendered as the lightest (value 1). Light curves around a curving surface, creating levels of value contrast that also curve around the cylinder. On a simplified non reflective cylinder, the portion of the cylinder closest to the light is rendered with the medium value (value 2) and the portion farthest from the light source is rendered with the darkest value (3). The shadow (4) is generally located on the surface next to the darkest portion of the cylinder. Cylinders are frequently drawn in a more complex manner because they often pick up reflective light, causing a dark reflection next to a medium value of the cylinder, as well as a light reflection on the dark value. This is the case when rendering highly reflective material such as metal. The portions of the cylinder farthest from the light source, which recede from the viewer also receive medium to dark values.

Sphere: A sphere has its top portion rendered a slightest (Value 1), and as the surface curves away from the light source, values are blended in a range from medium (value 2) to dark (value 3). The shadow (4) is generally found on the surface next to the darkest portion of the sphere. Generally values are rendered into a sphere with curved strokes that follow the form of the sphere. Often a bright highlight can be found toward the top portion of the sphere in the location of the lightest value. The darkest portion of a sphere is sometimes rendered with a narrow adjacent highlight on reflective surfaces.

Cone: A cone is rendered with the portion closest to the light source lightest (value 1) with adjacent areas of the cone rendered darker (value 2 and ranging to almost value 3): the portion of the cone farthest from the light receives the least light and is darkest (value 3). A shadow is most often found on the surface next to the darkest value of the cone. A cone with a reflective surface is rendered with the darkest portion adjacent to the highlight indicating the surface reflection.
HW2: Light Source. Trace the following shapes and recreate the shadows using line, scribbles and markers.
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