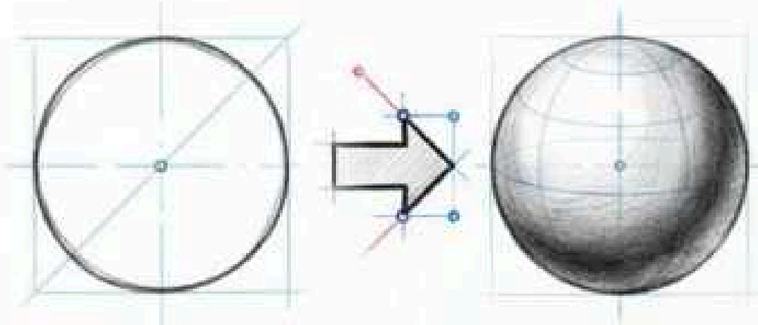
The Three Pillars of Construction

¶ 4.1

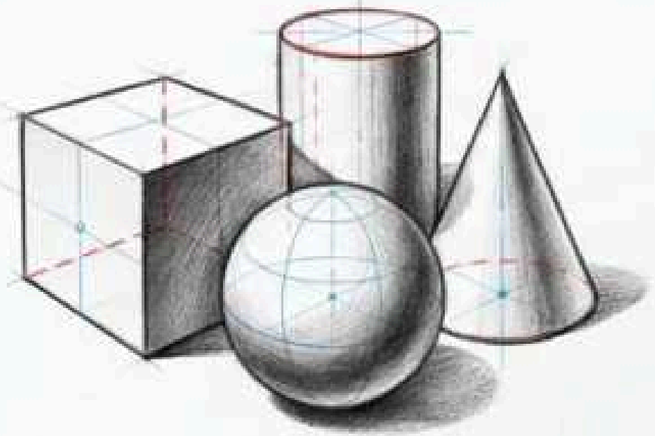
Convincing Objects

Branch 1: Shape vs. Form



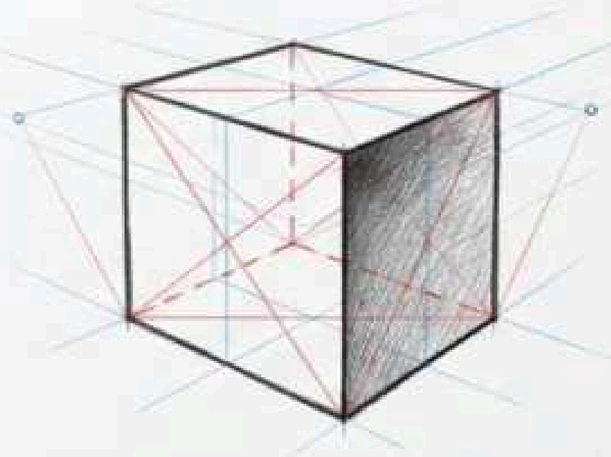
Explores the difference between flat sketches and 3D realities.

Branch 2: Simple Solids



How four simple solids can describe almost anything.

Branch 3: Inside-Out Drawing



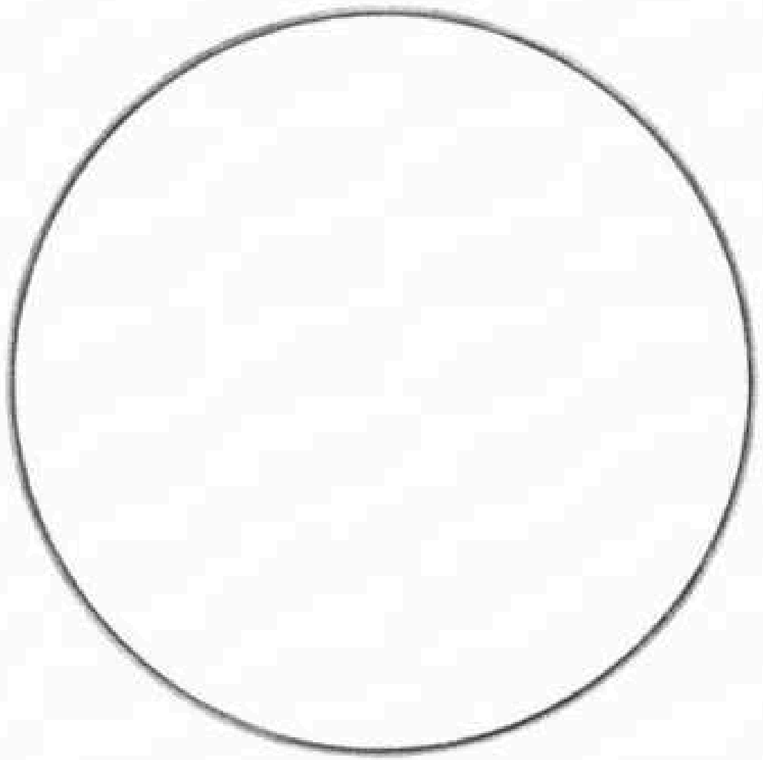
Building drawings so unseen parts sit correctly.

[Value (Lecture 3)] + [**Construction** (Lecture 4)] = **Illusion of Volume**

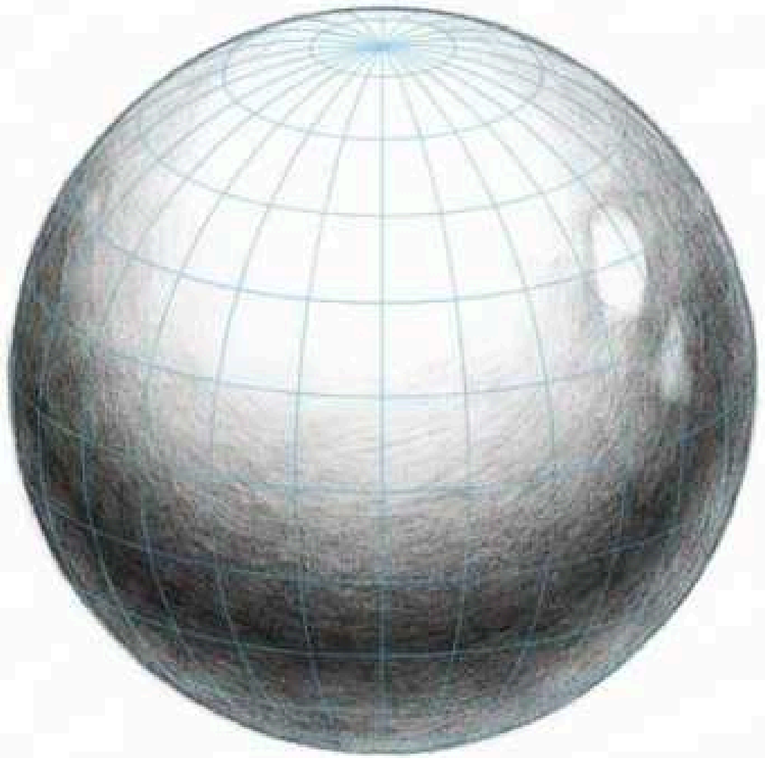
Shape vs. Form

¶ 4.2

Shape: The Flat Page
Length, Width



Form: The Illusion of Volume
Length, Width, Depth



Drawing form means making a flat page suggest volume.
Construction and Value are the tools that make it happen.

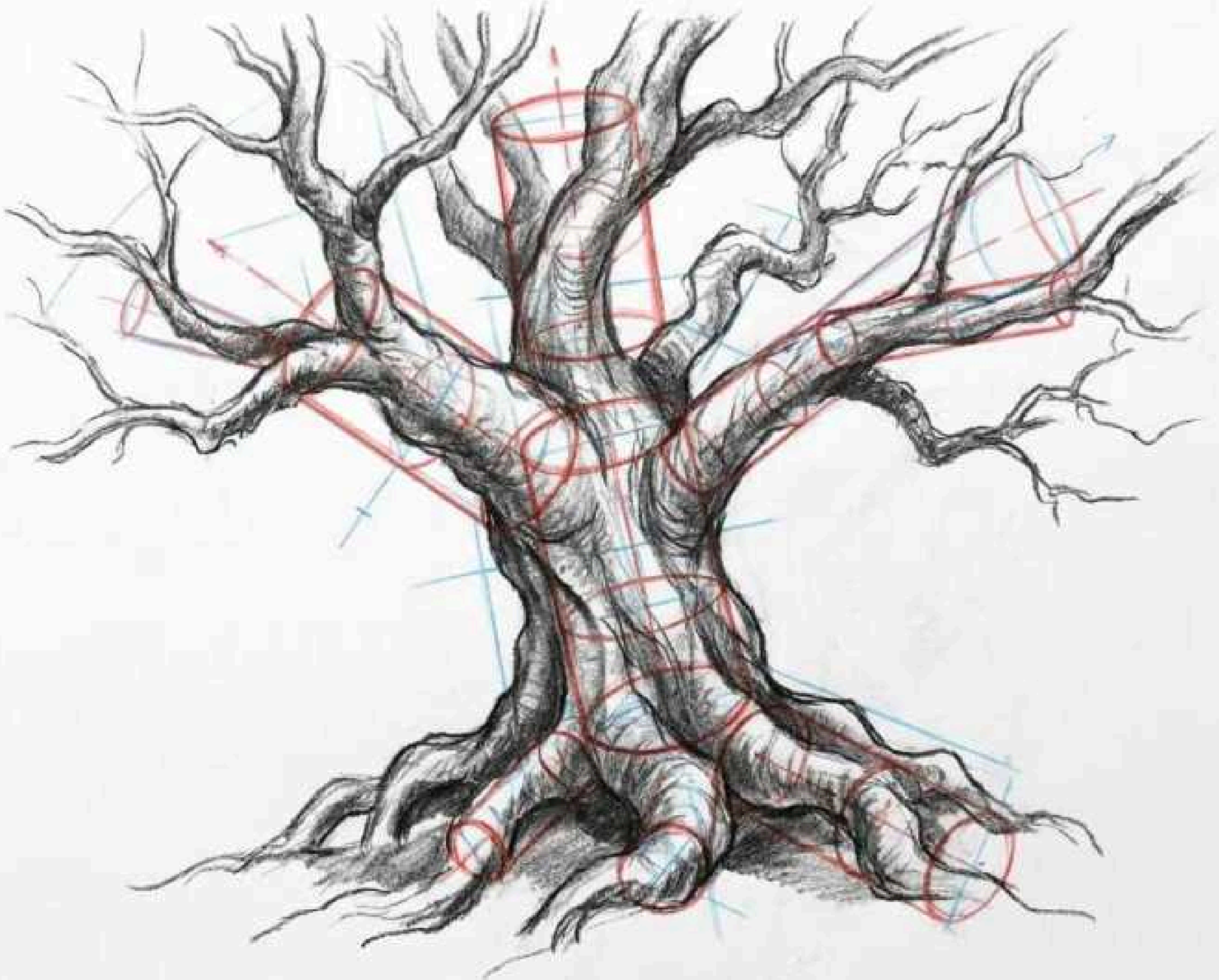
Cézanne's Solids

¶ 4.3

"Treat nature by means of the cylinder, the sphere, and the cone."

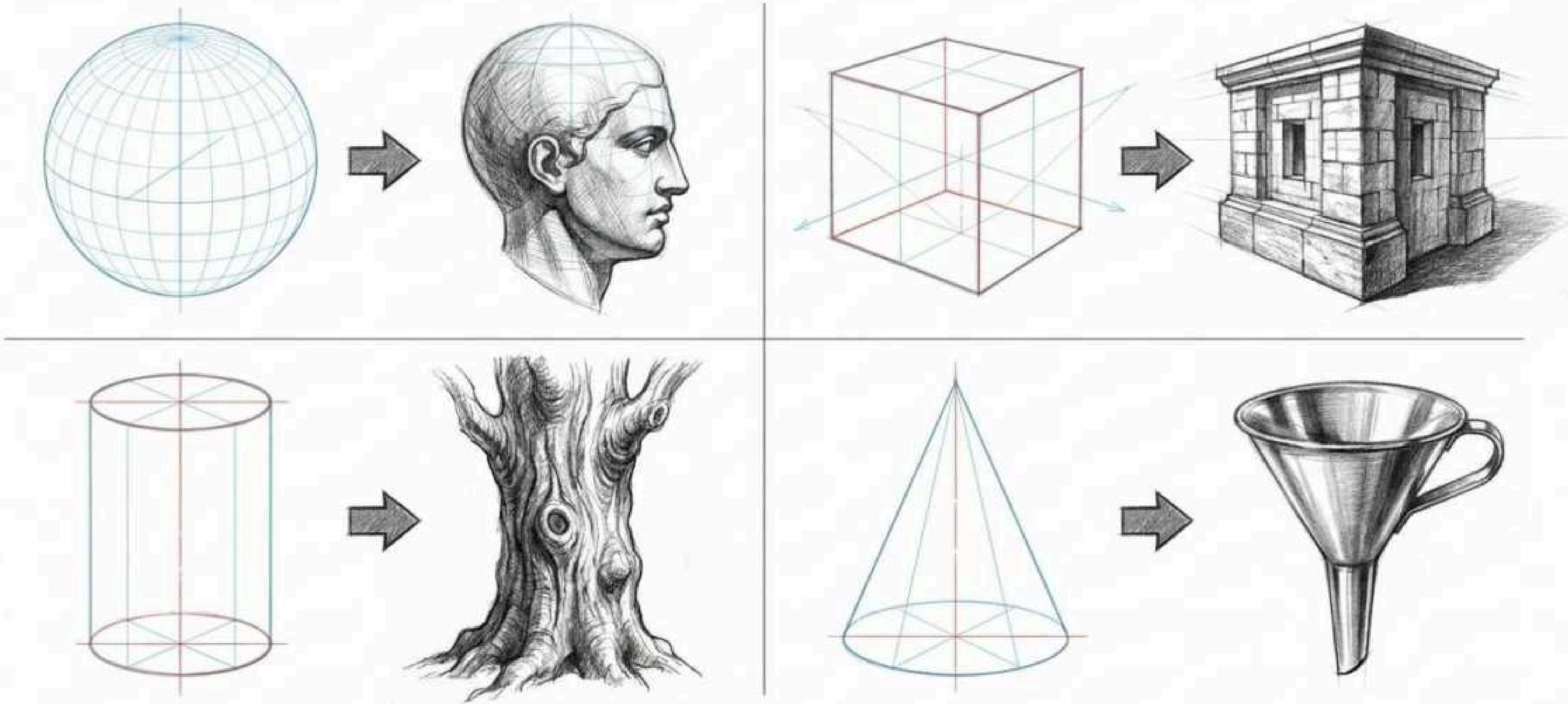
— Paul Cézanne
(Letter to Émile Bernard, 1904)

Key Insight: Cézanne did not mean trees are literal cones; he meant the visible world is built from simple volumes. Seeing them is the key to understanding complexity.



The Four Basic Solids in the Wild

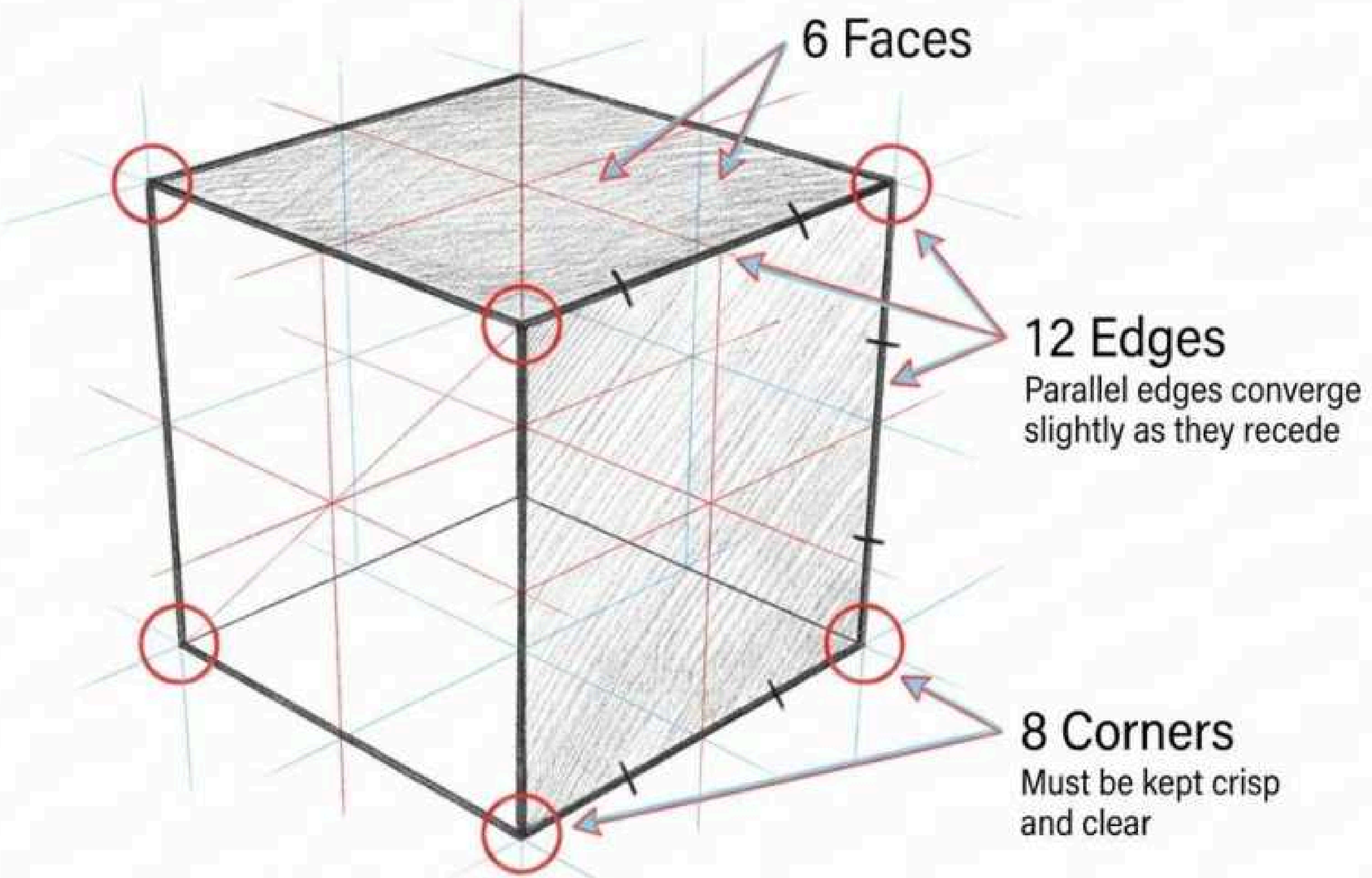
¶ 4.4



When a subject confuses you: 1. Ask which solid it resembles. 2. Draw that first. 3. Modify it.

Foundation: The Anatomy of a Cube

¶ 4.5



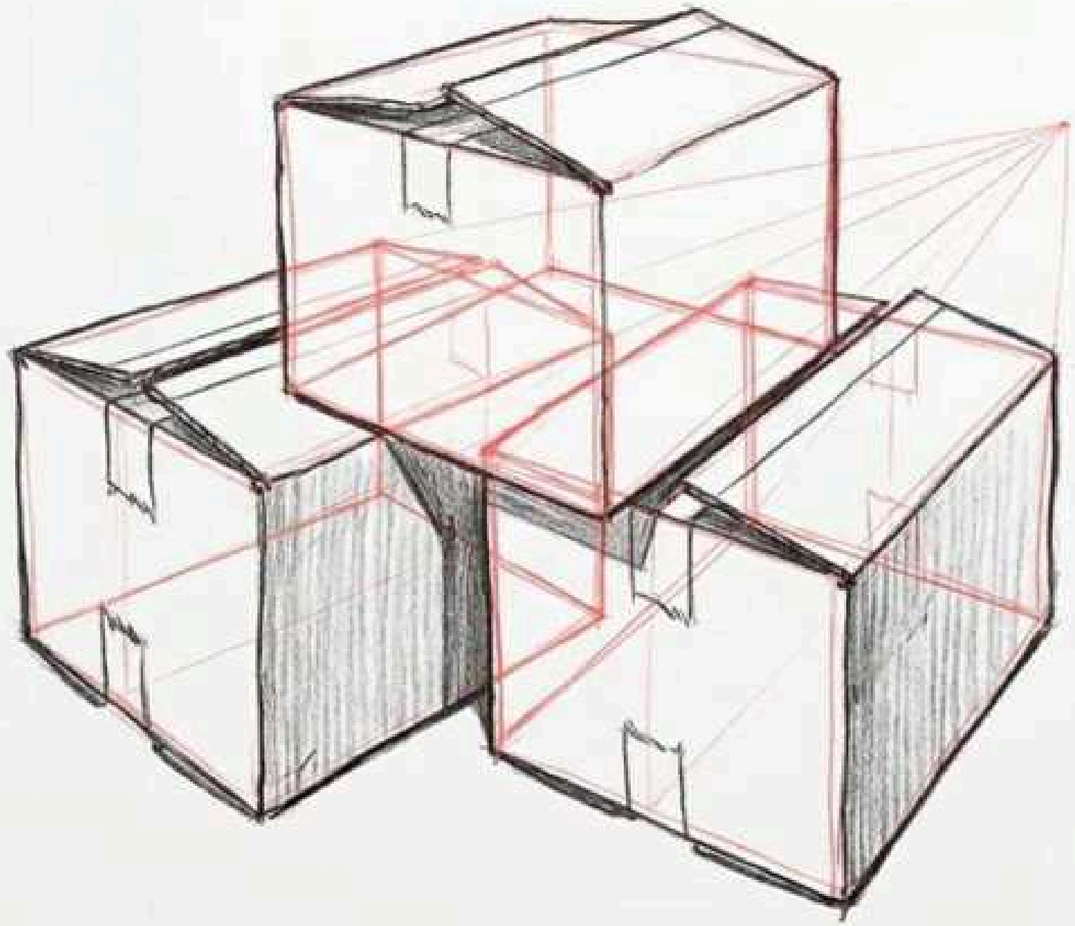
The cube is the foundation of all other forms.

Draw twenty cubes at different angles to master consistent lines and clear corners.

The Glass Box Technique

¶ 4.6

Step-by-Step Transparency

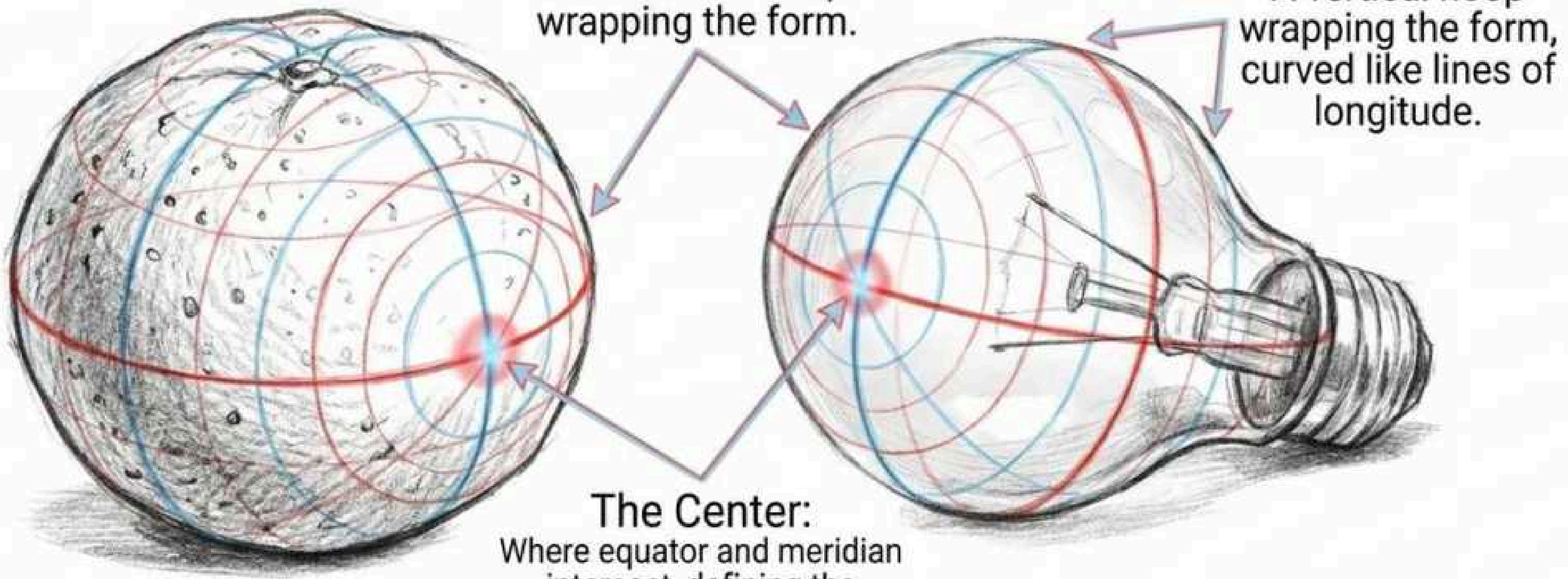


Transparency forces you to understand the whole object. When the back edges look wrong, your drawing is wrong. Correct it before adding any detail.

Hidden edges perfectly explain overlaps.

The Sphere & Topography

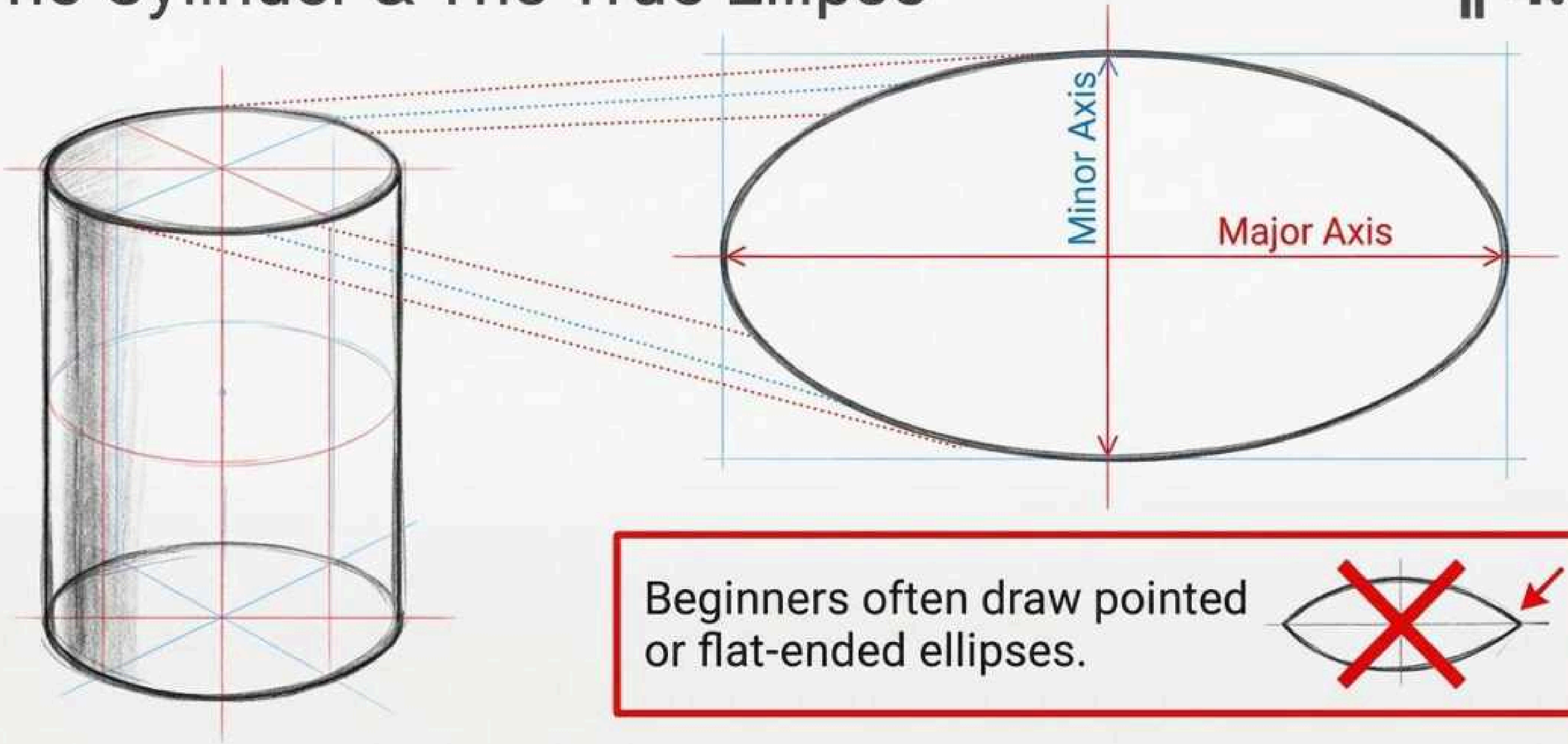
¶ 4.7



A circle alone is flat. Curvature of these lines acts as a geographical map, telling the viewer exactly which way the sphere tilts.

The Cylinder & The True Ellipse

¶ 4.8

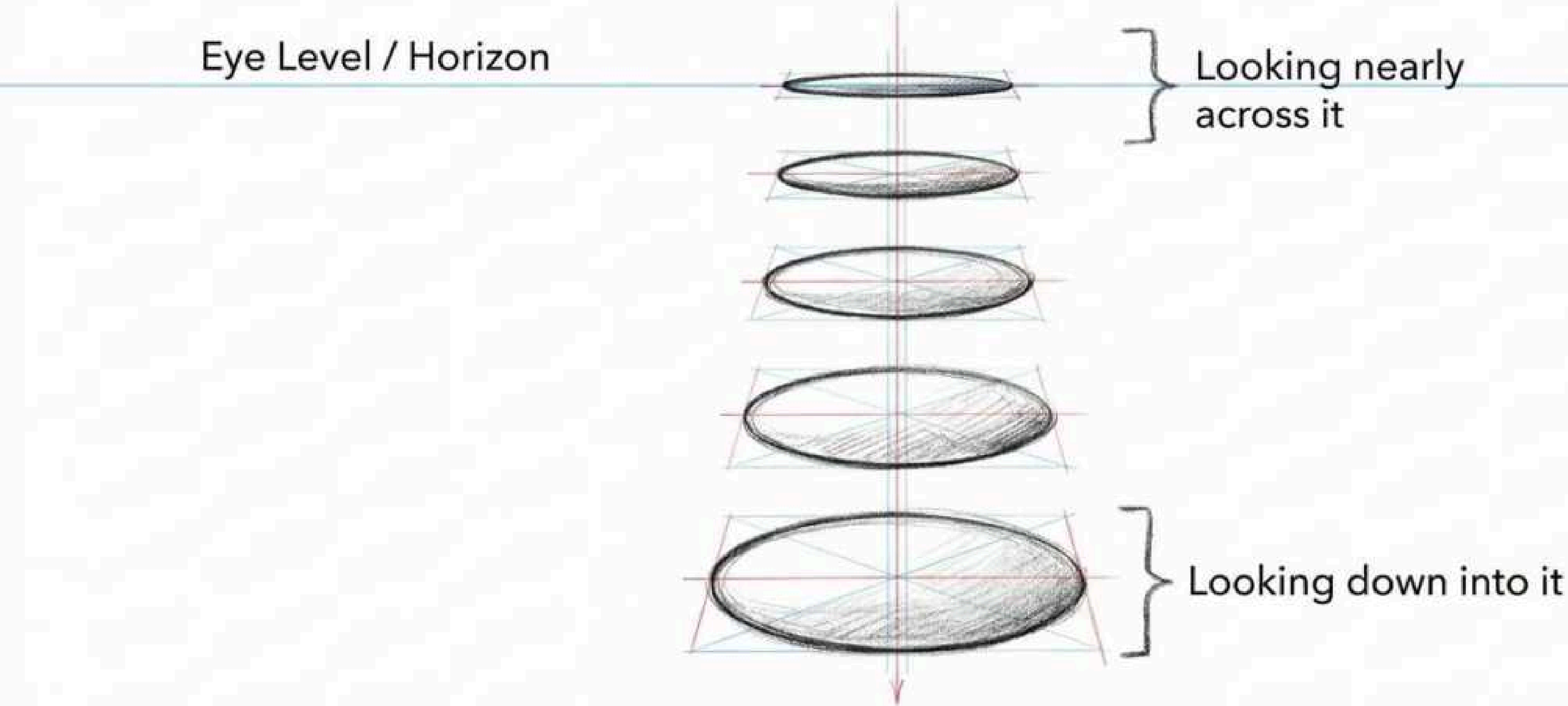


Beginners often draw pointed or flat-ended ellipses.

A true ellipse is smooth all the way round, perfectly symmetrical, and rounded at both ends. Always check that the two halves match.

Ellipses in Space (The Eye-Level Rule)

¶ 4.9



Ellipses get wider as they sit farther from your eye level.
Practicing this vertical stack improves almost every still life.

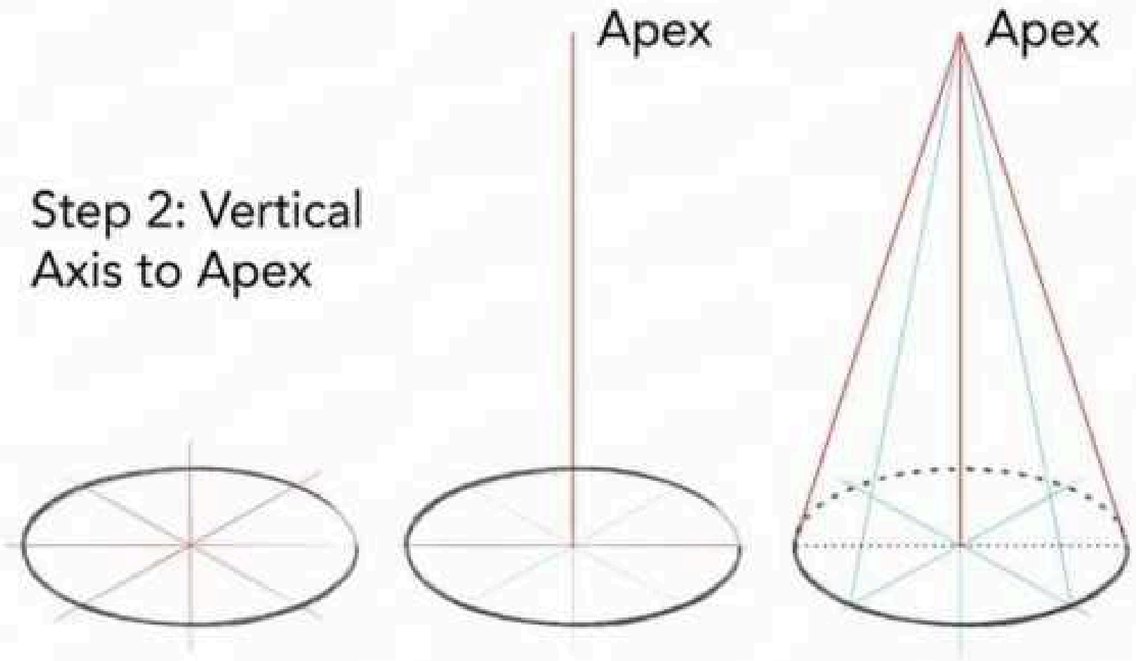
The Cone & Truncation

¶ 4.10

Part 1: Construction

Step 1: Base Ellipse

Step 2: Vertical Axis to Apex



Result: A side view is a triangle on a curved base.

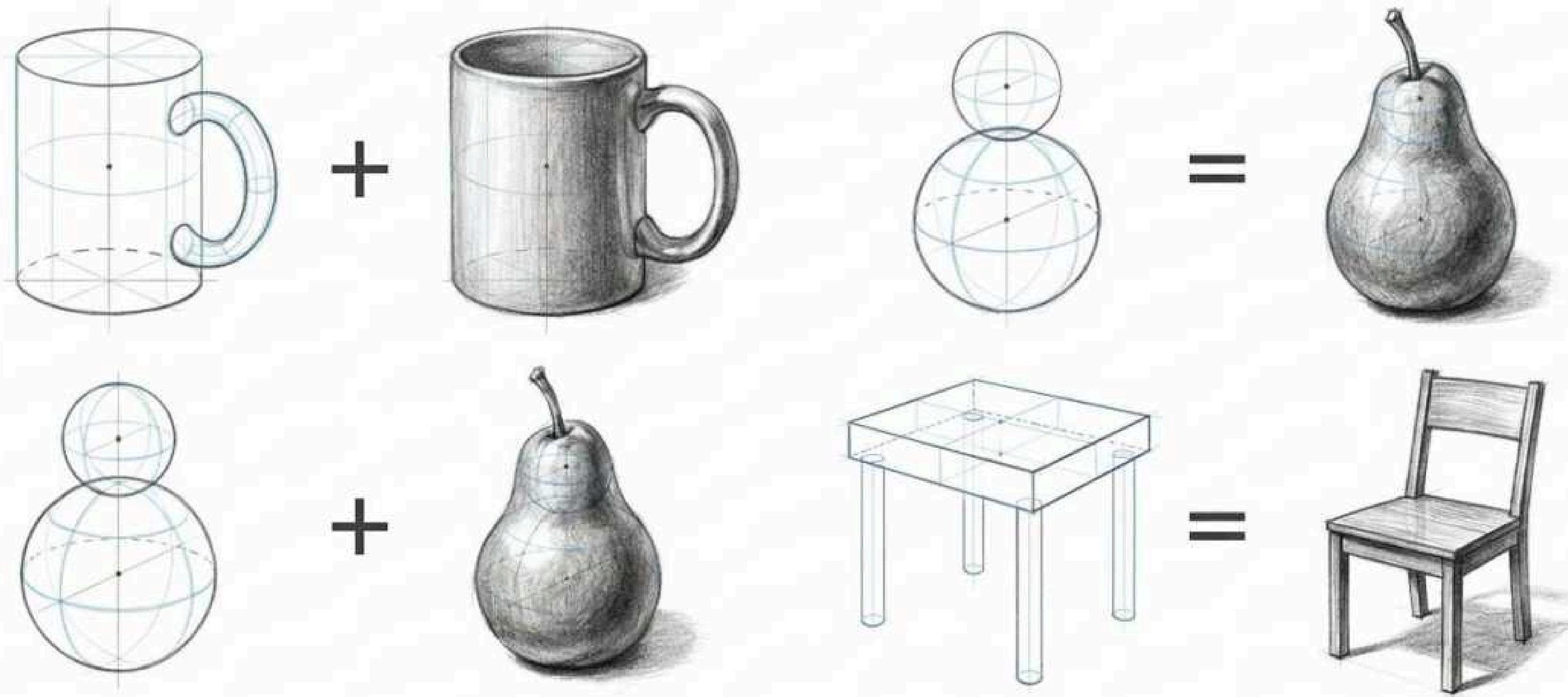
Part 2: Real World



A lampshade is simply a cone with its tip cut off.

Combining Solids (Visual Addition)

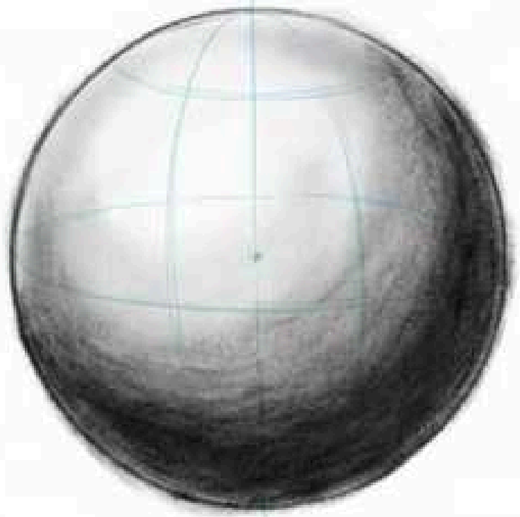
¶ 4.11



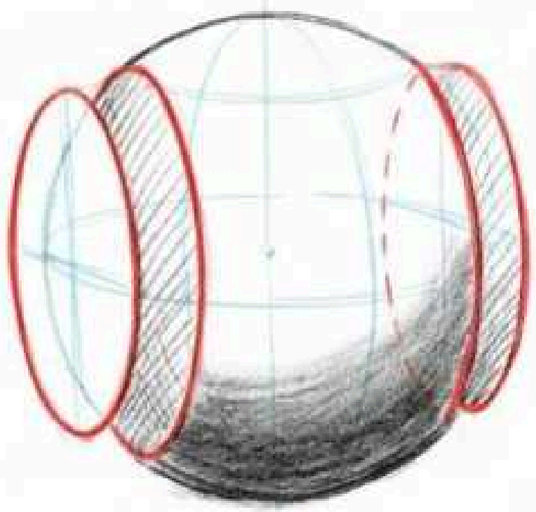
Build large solids first, then attach smaller ones. Ask:
"What is the largest solid? What is the second largest?" Keep construction lines light.

Carving with Planes: The Loomis Head

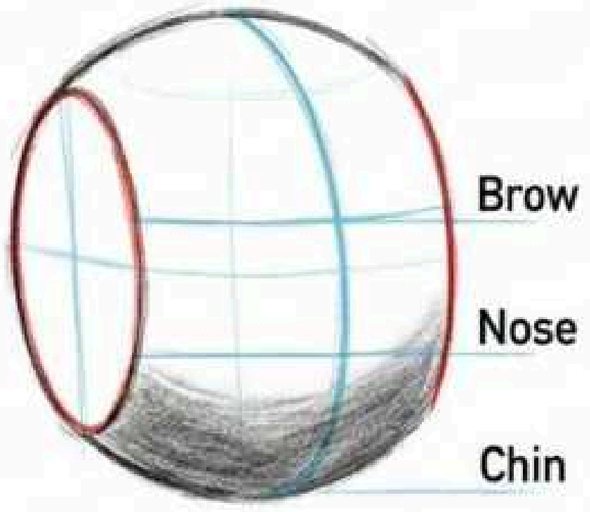
¶ 4.12



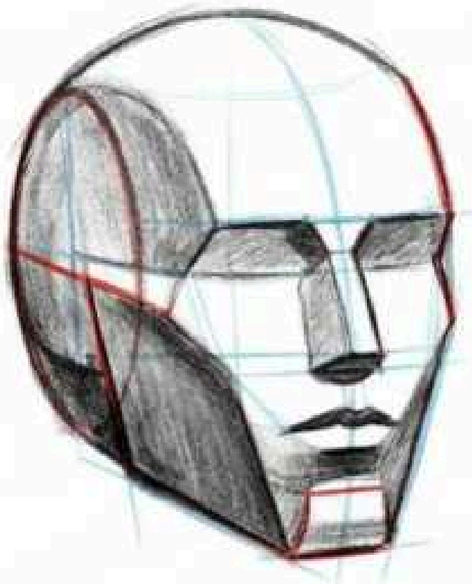
Step 1: The Sphere



Step 2: Sliced Planes



Step 3: Proportional Divisions

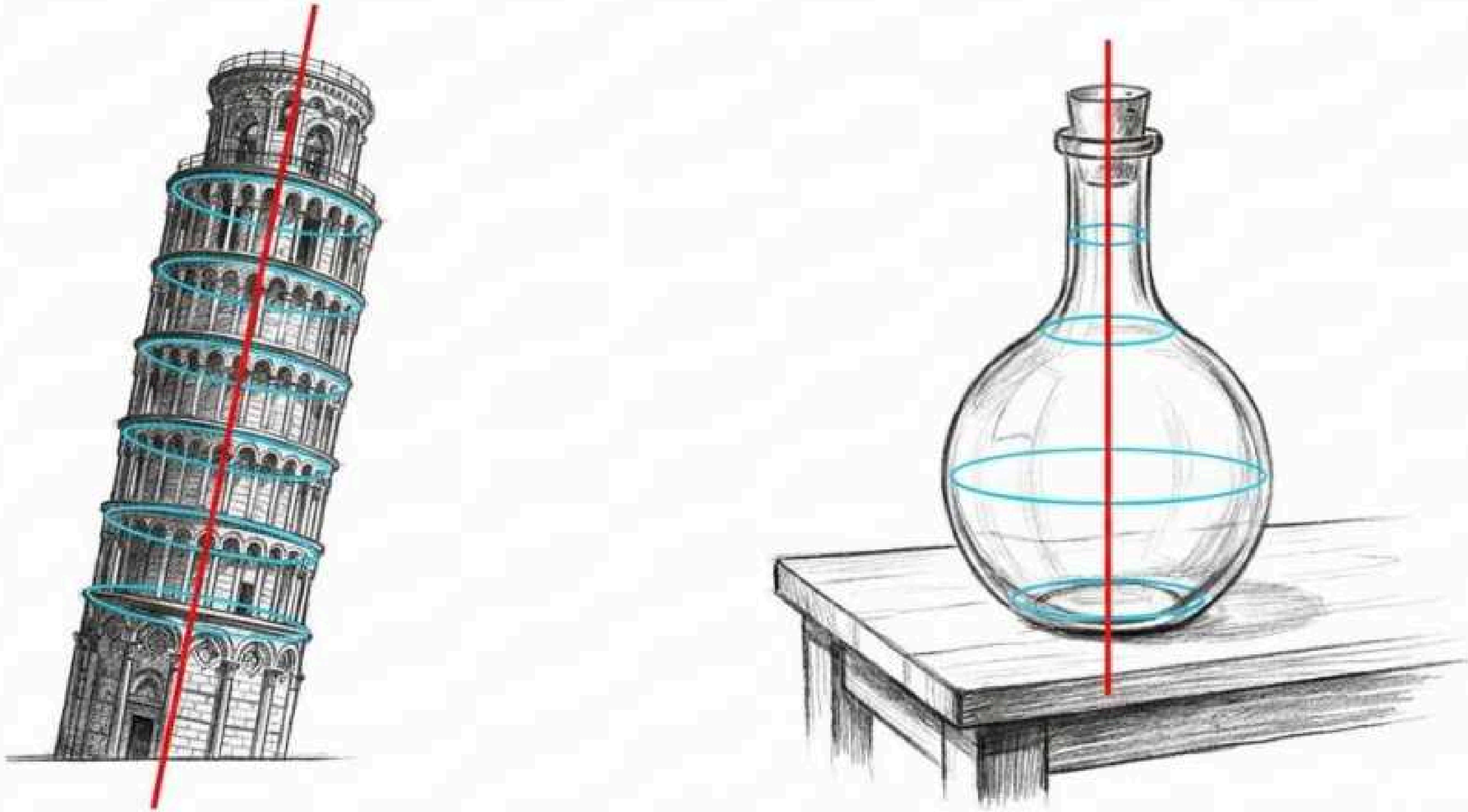


Step 4: Attach the Jaw

Use planes to carve forms. The Loomis method is a reliable model, not a strict law, providing a structural start rather than an organic guess.

The Axis: Anchoring Form

¶ 4.13

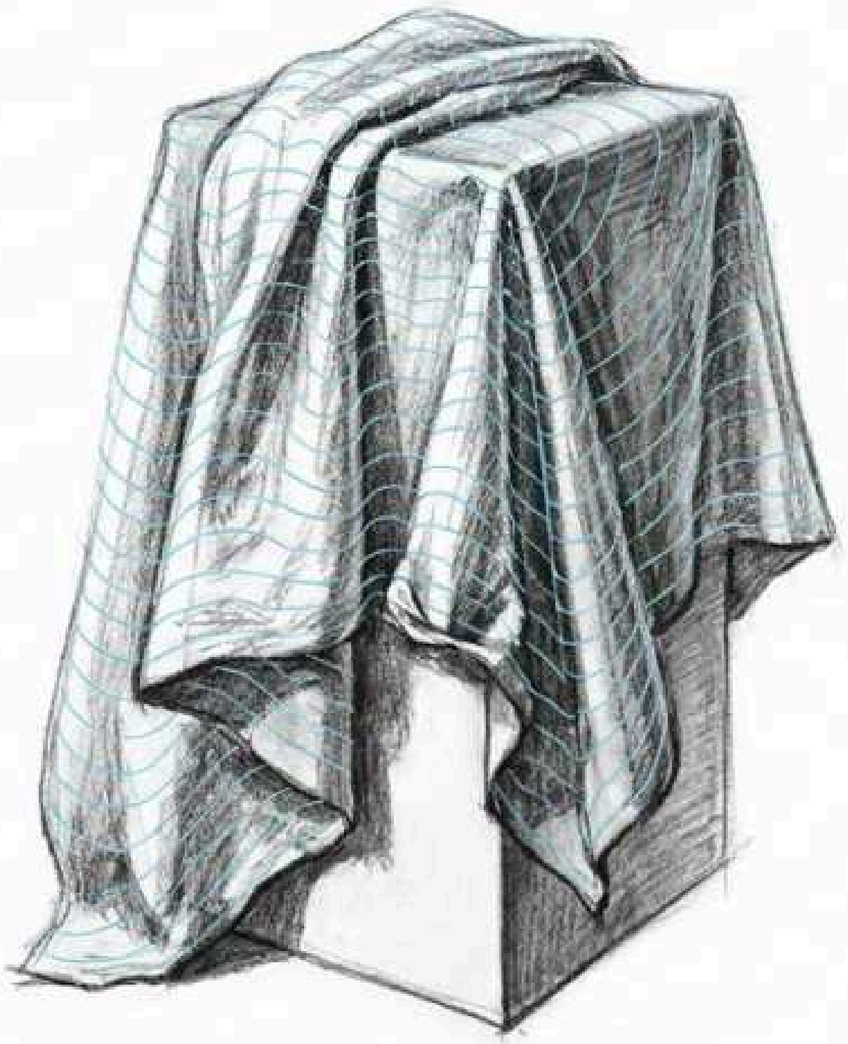


Every form has a central line. Drawing it first places everything else.
The axis detects tilt when a form seems wrong but you cannot say why.

Contour Lines & Curvature

¶ 4.14



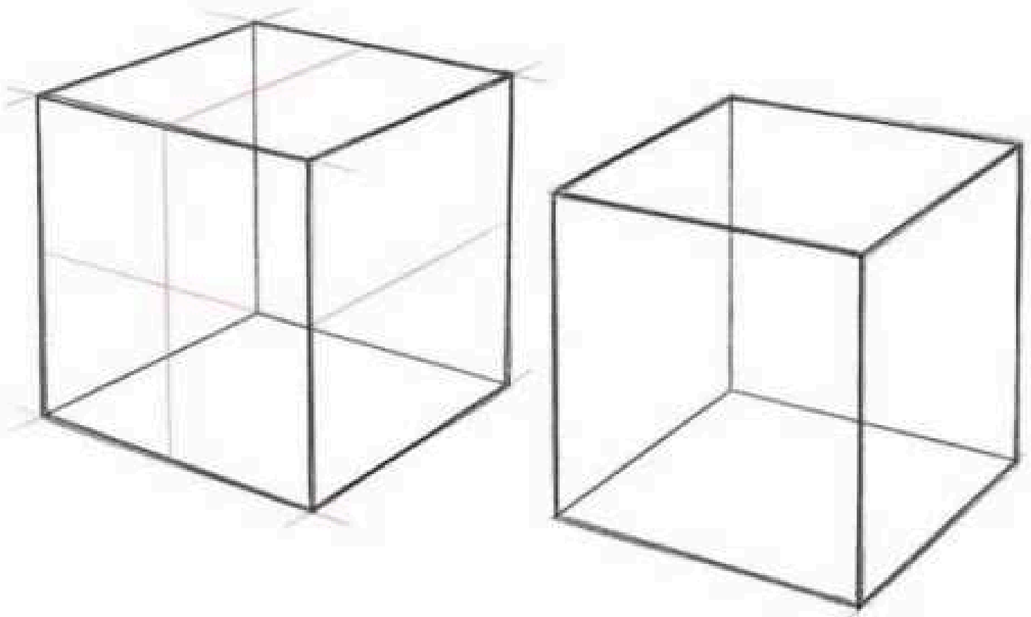


Imagine these lines wrapping the object to guide your shading and outlines. They reveal exactly what is turning toward you and what is turning away. Soften or erase them once the form is clear.

Depth Without Shading: Overlap

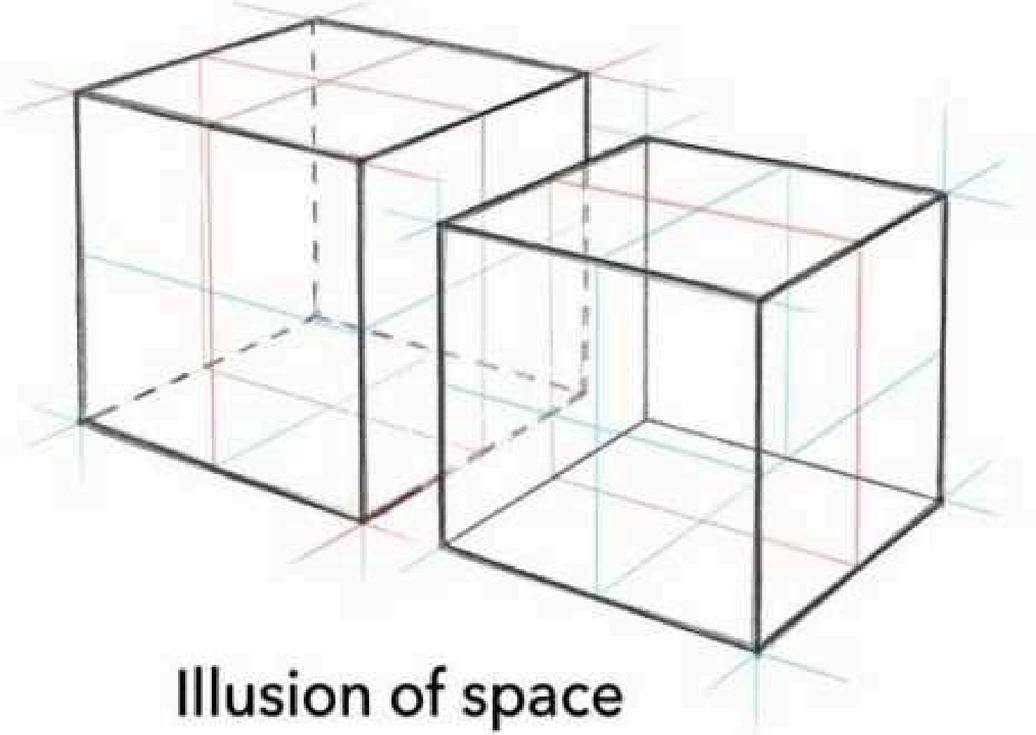
¶ 4.15

Scenario A (Bad)



No relationship, flat sheet

Scenario B (Good)



Illusion of space

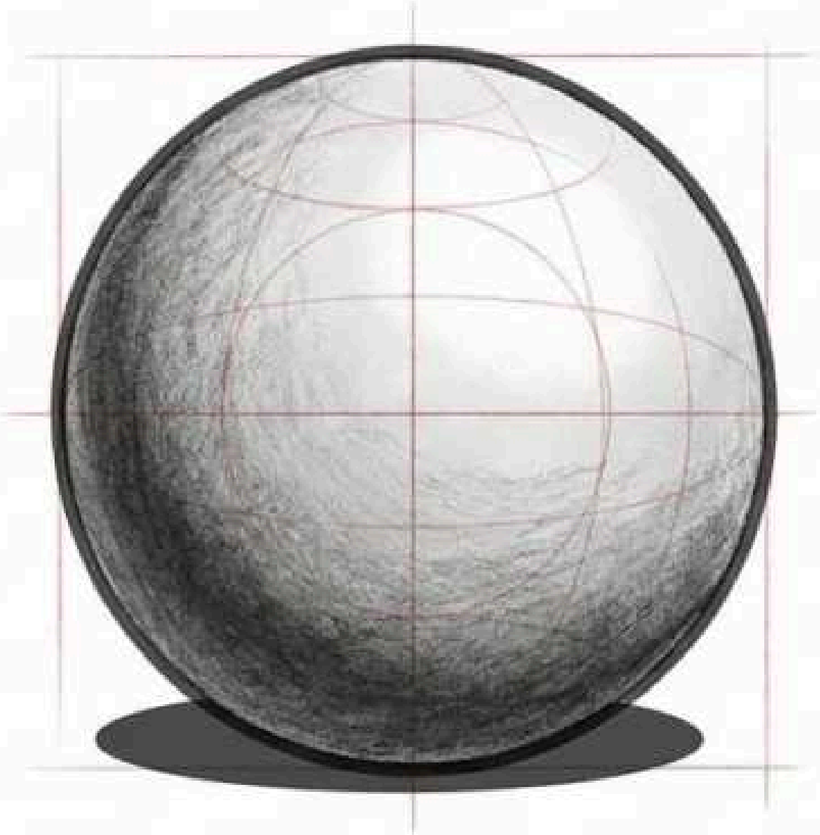
[Overlap] + [Size] + [Height on page] = Space

When one form partly hides another, we immediately read it as nearer.

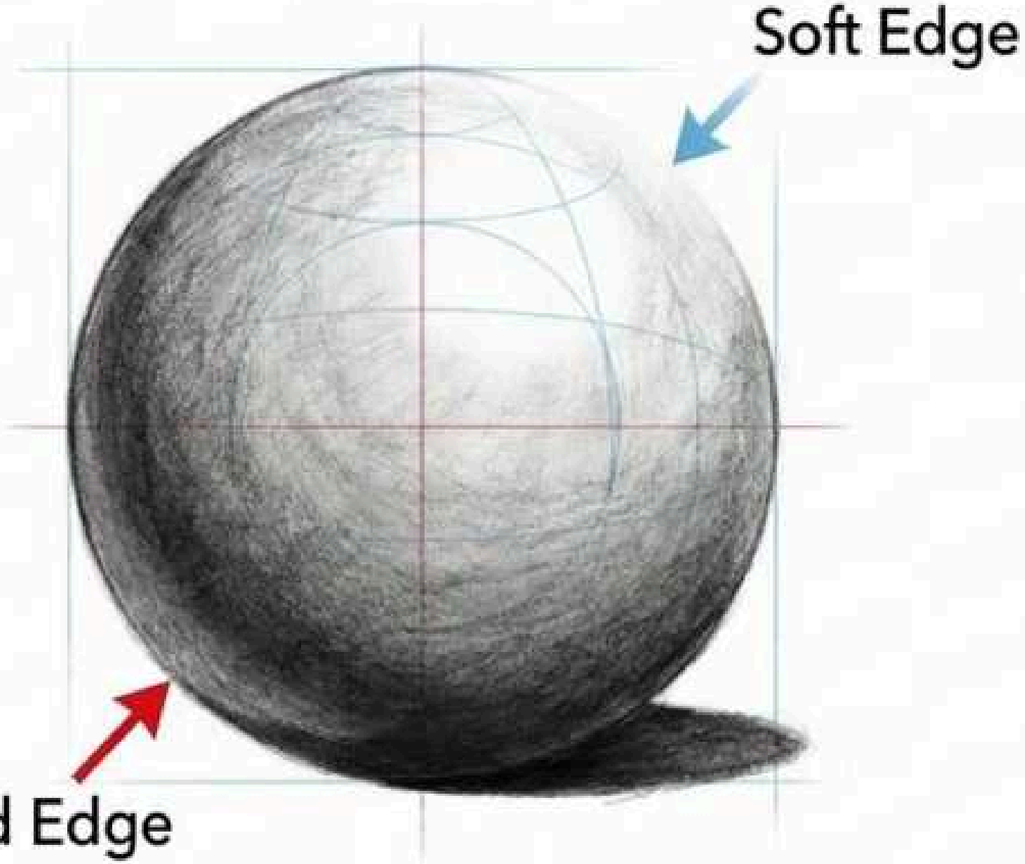
Edge Control: Hard vs. Soft

¶ 4.16

The Cutout



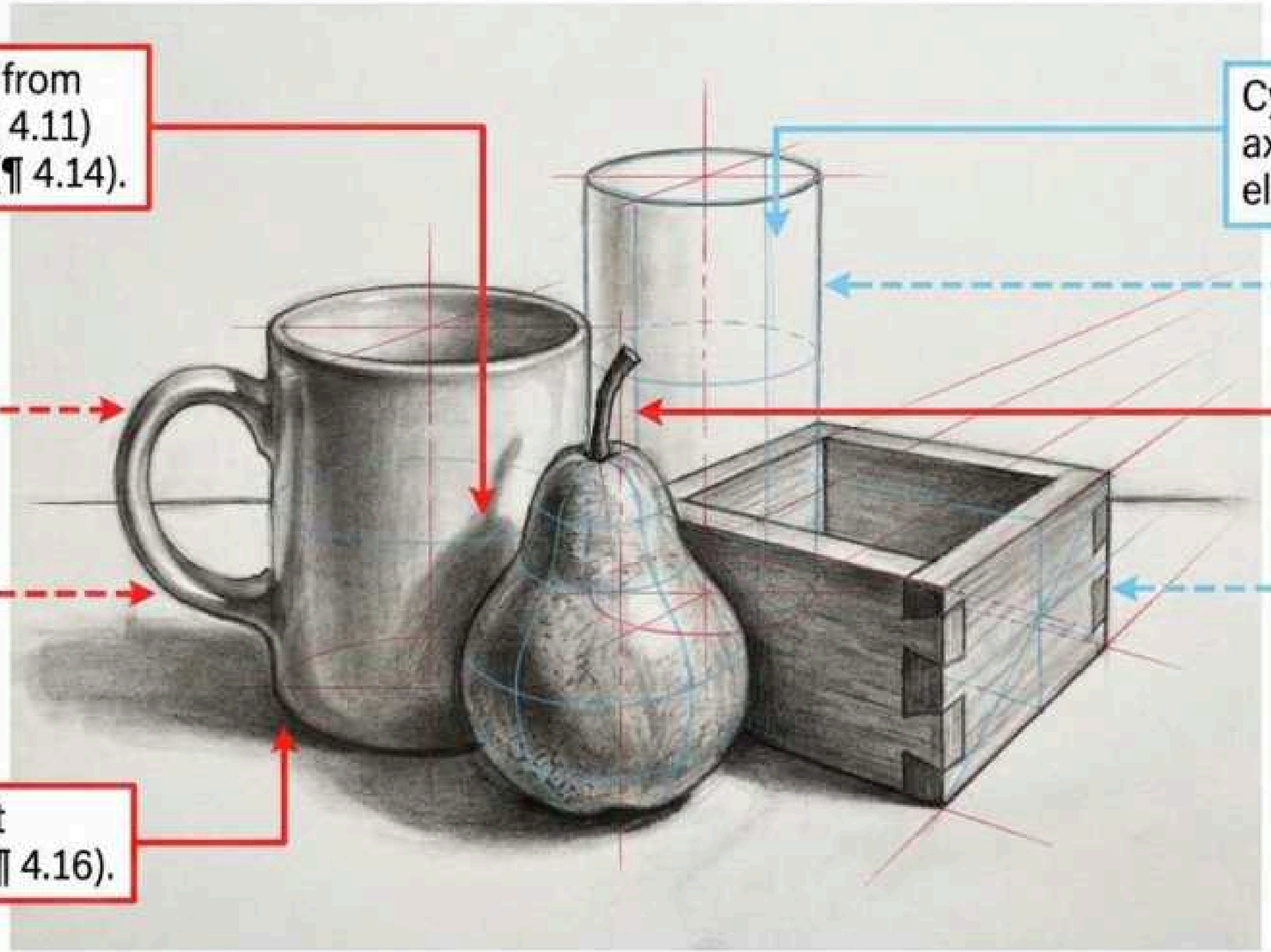
Liveliness



Mixing hard and soft edges creates liveliness. Deliberately lose some edges and find them elsewhere. Squint your eyes to detect which is which.

Synthesis: Construction in Action

¶ 4.17



Complex object built from combined spheres (¶ 4.11) with cross-contours (¶ 4.14).

Cylinder with a central axis (¶ 4.13) and true ellipses (¶ 4.8).

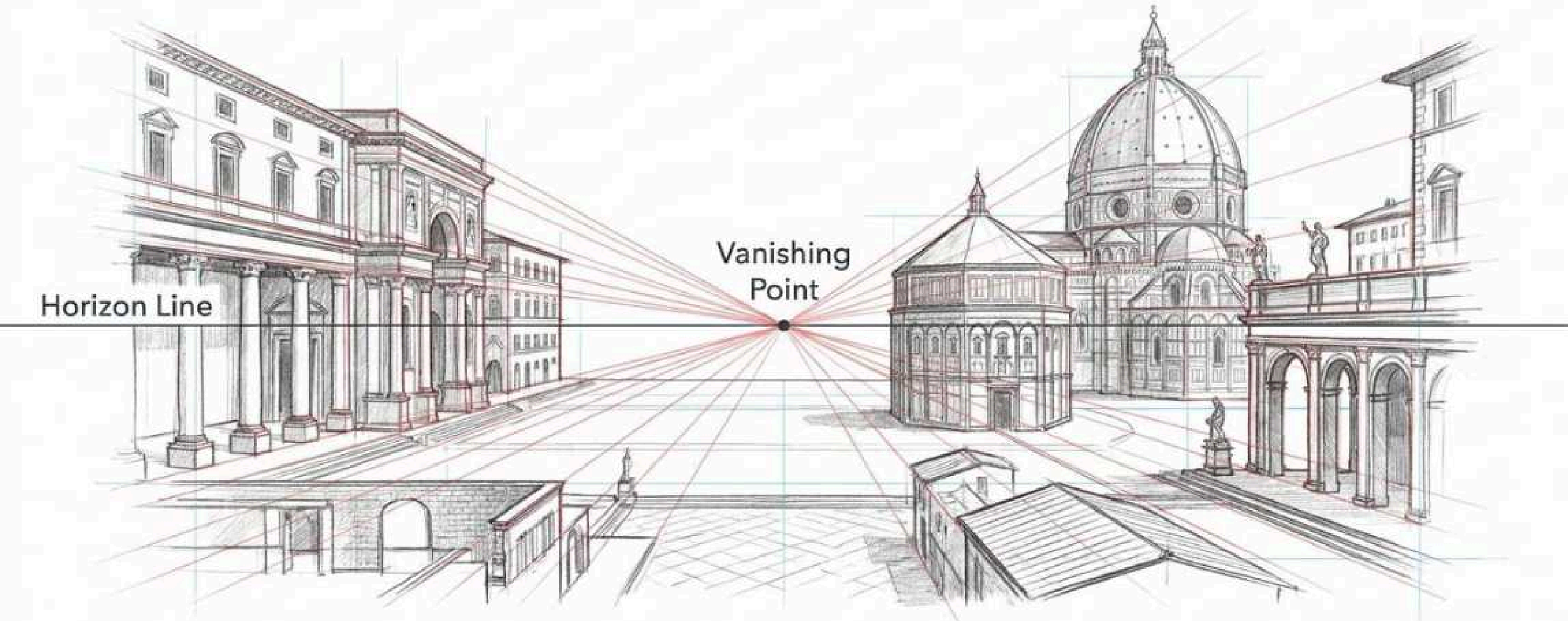
Overlap creating depth (¶ 4.15).

Glass box transparency revealing hidden back edges (¶ 4.6).

Varying hard and soft edges for liveliness (¶ 4.16).

Next: Perspective (The Florentine System)

¶ 4.18



We've seen that edges converge and ellipses widen. Next time, we decode the precise system behind both: placing any object in space.