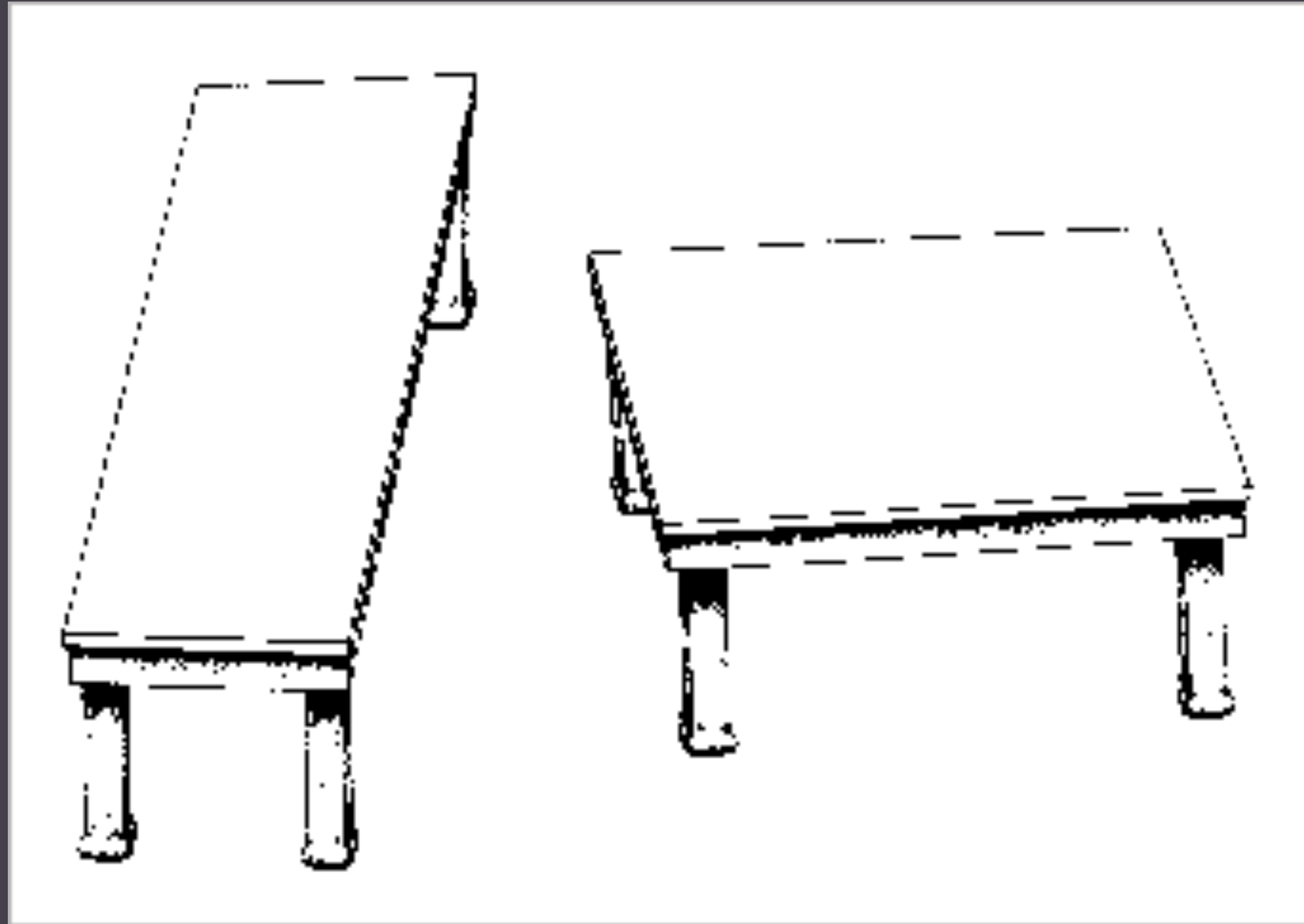


Sensation & Perception Pt. 2



PSYCH 1101: DAY 10

PROF. DAVID PIZARRO
[CORNELLPSYCH.NET](http://cornellpsych.net)

Perception

- putting sensory information together to represent the external world is what we mean by *perception*
 - identification (what am I seeing?)
 - categorization (what kind of thing is it?)
- how does basic sensory information turn into mental representations?

Perception Is A Difficult Problem

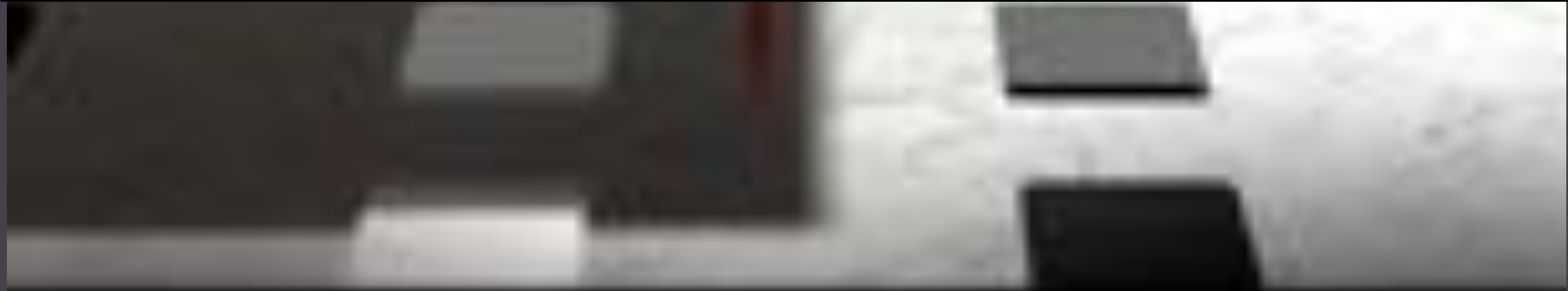
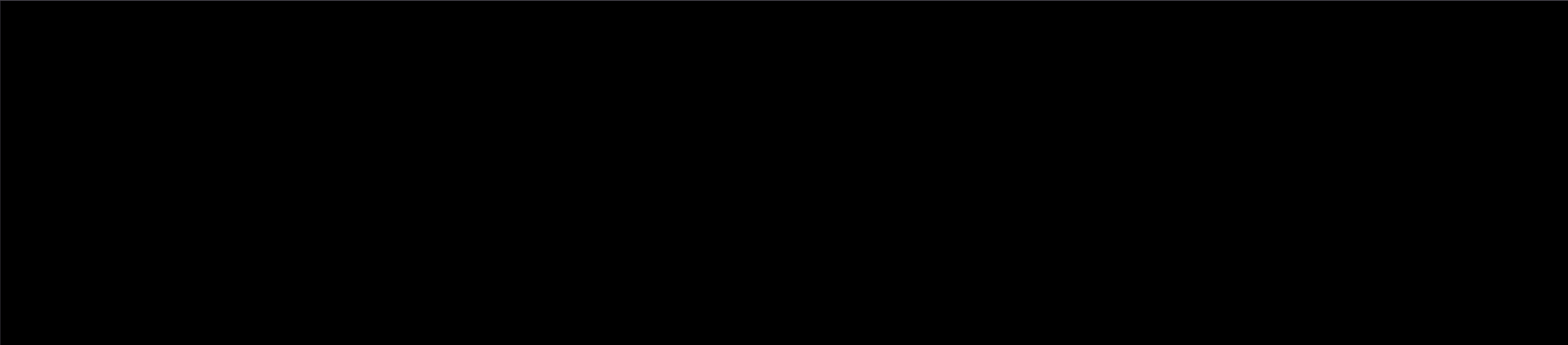
- The mind uses a number of “tricks” in order to make sense of all of the incoming sensory information efficiently.
- The case of **visual perception**: Our mind makes certain assumptions about the environment to help us see accurately despite having limited data to work with

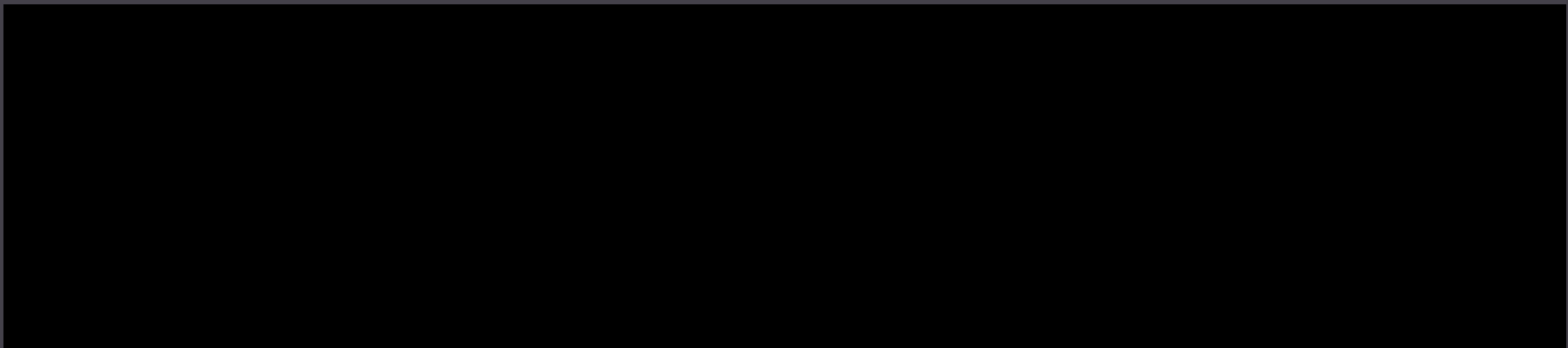
Color



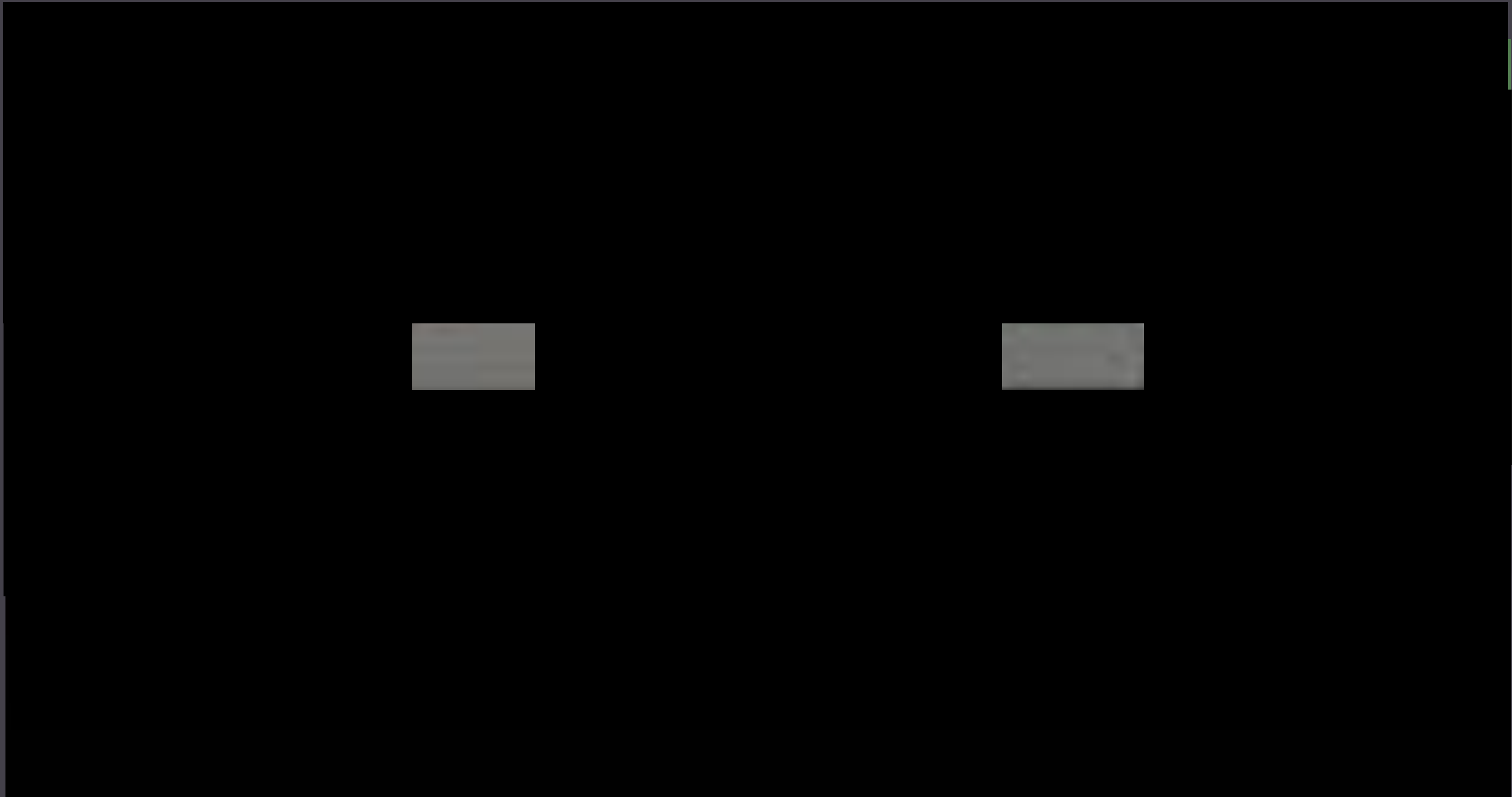










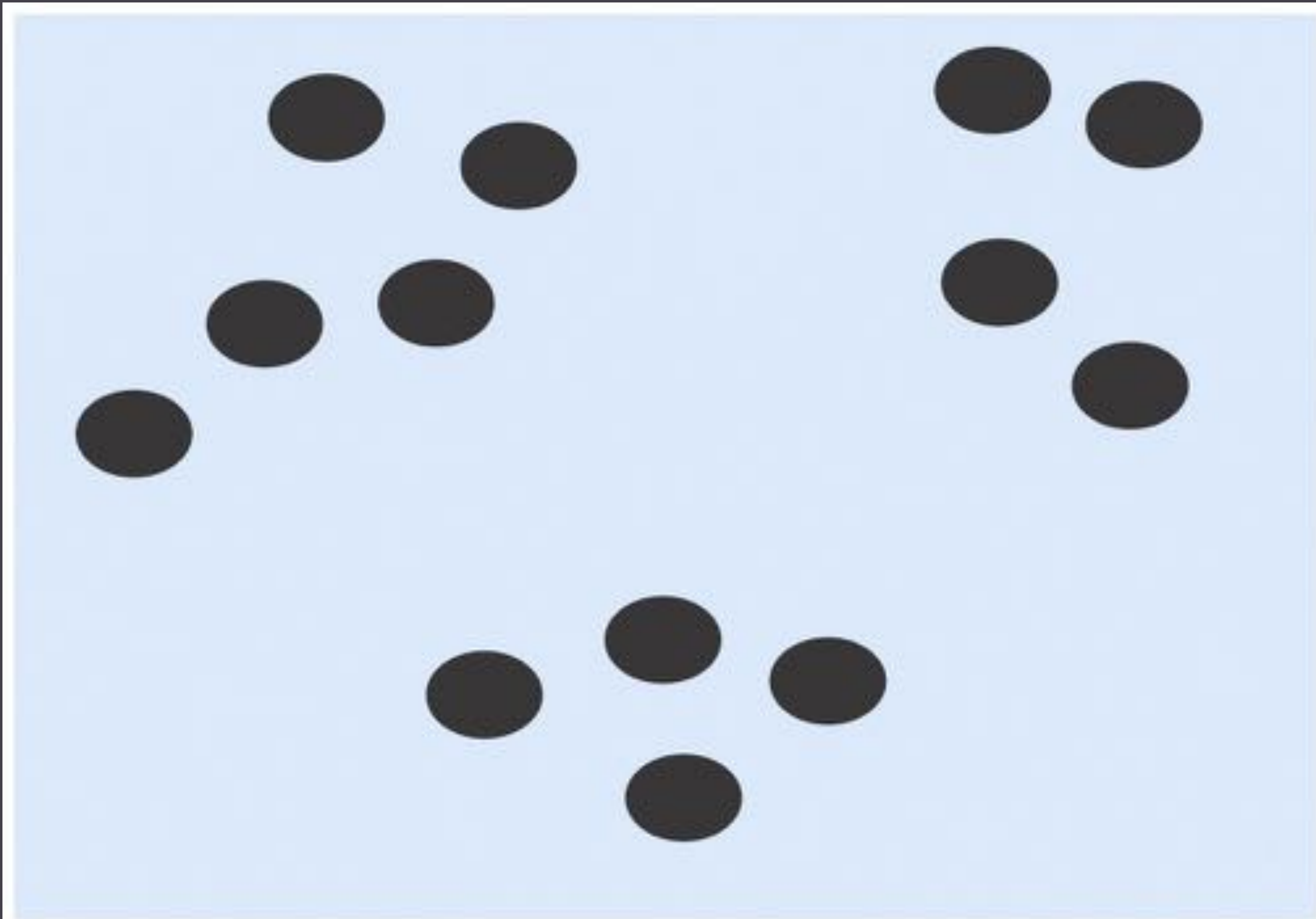




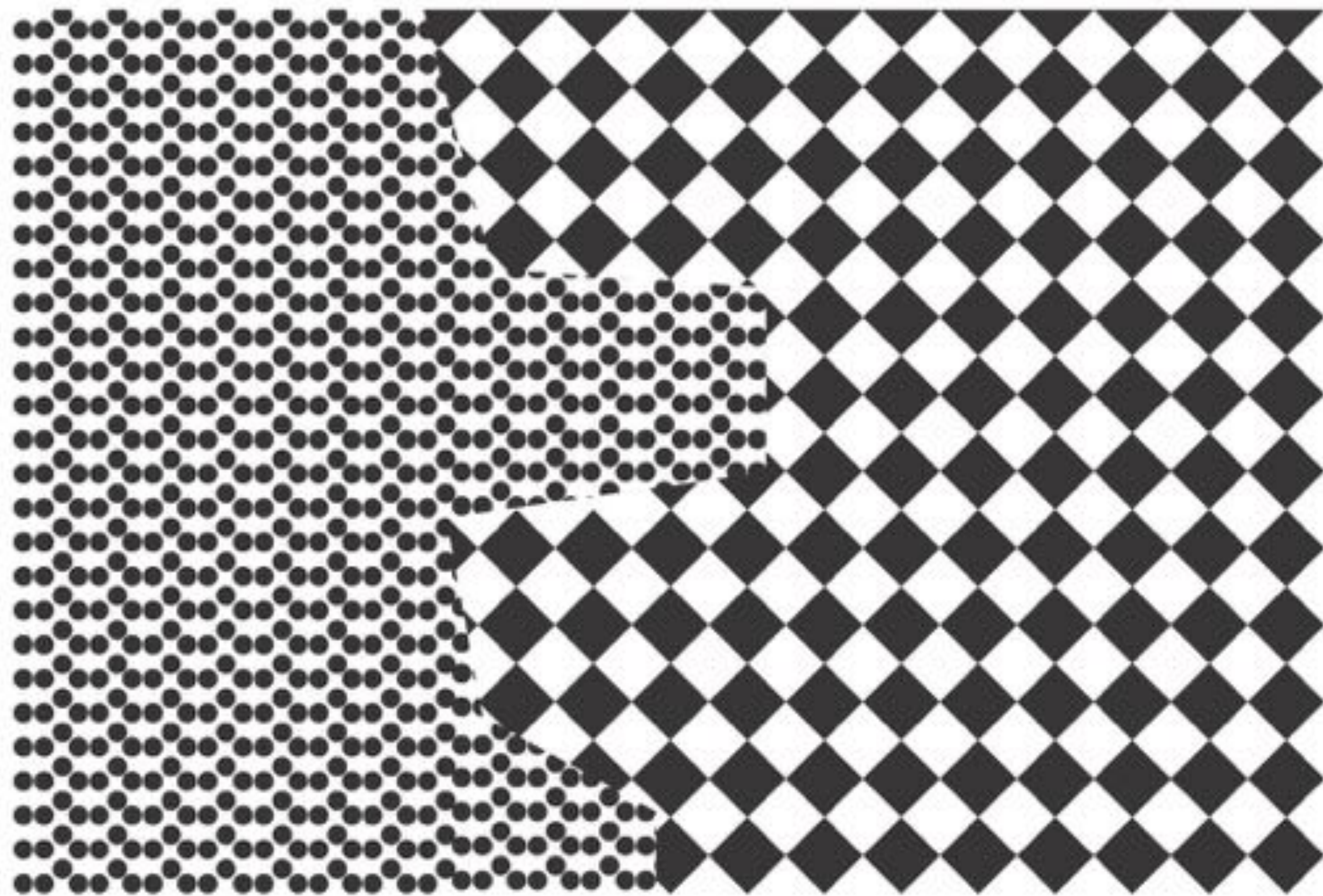
Why? Perception Uses Some Simple Rules

- **Shadows make surfaces darker**
 - When we see a surface in shadow, we automatically assume it is lighter than it looks
- So we see it as lighter
- But when you remove cues to shadow, we see it as it really is

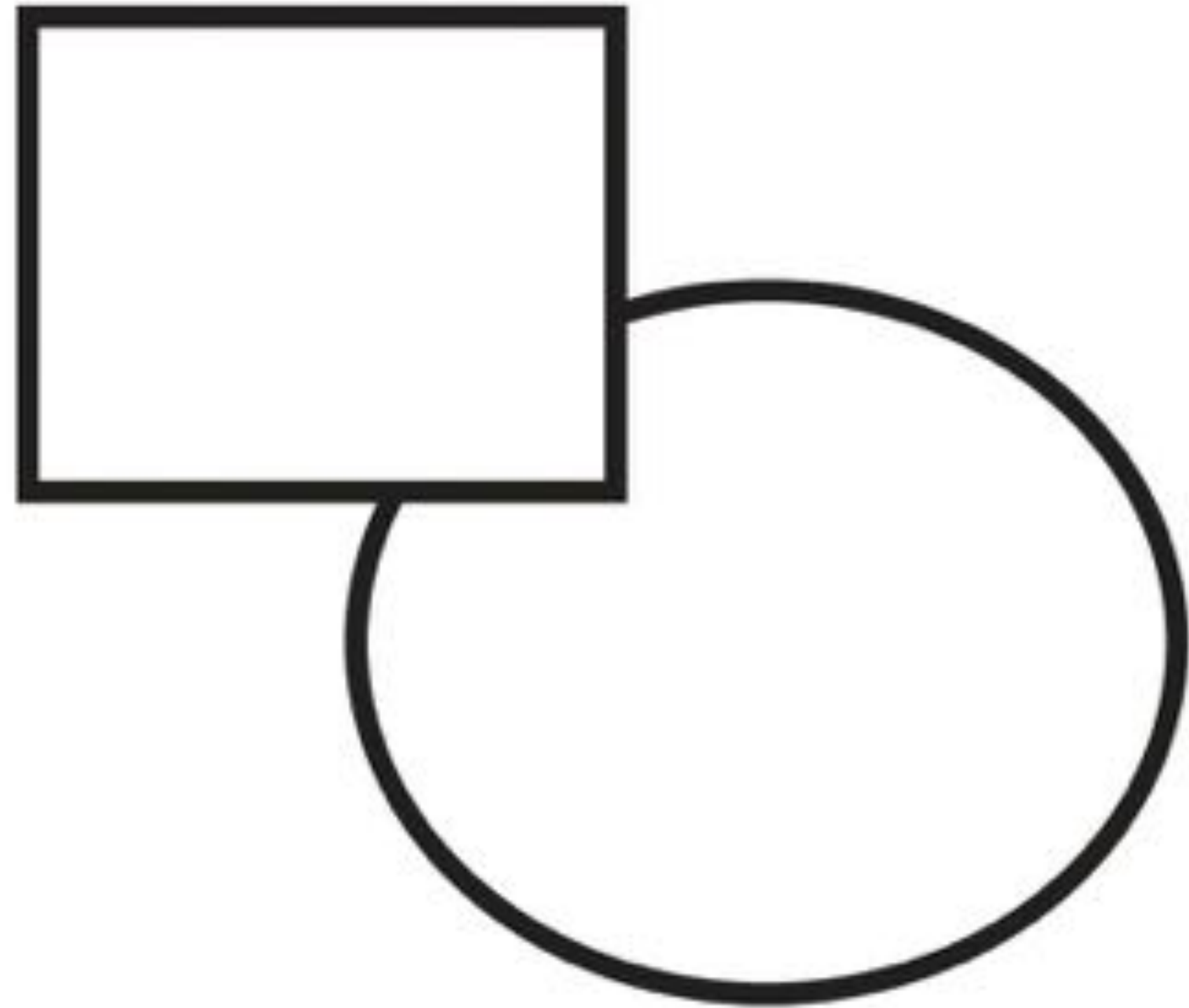
How Do We Determine What
Is An Object?



(a) Proximity

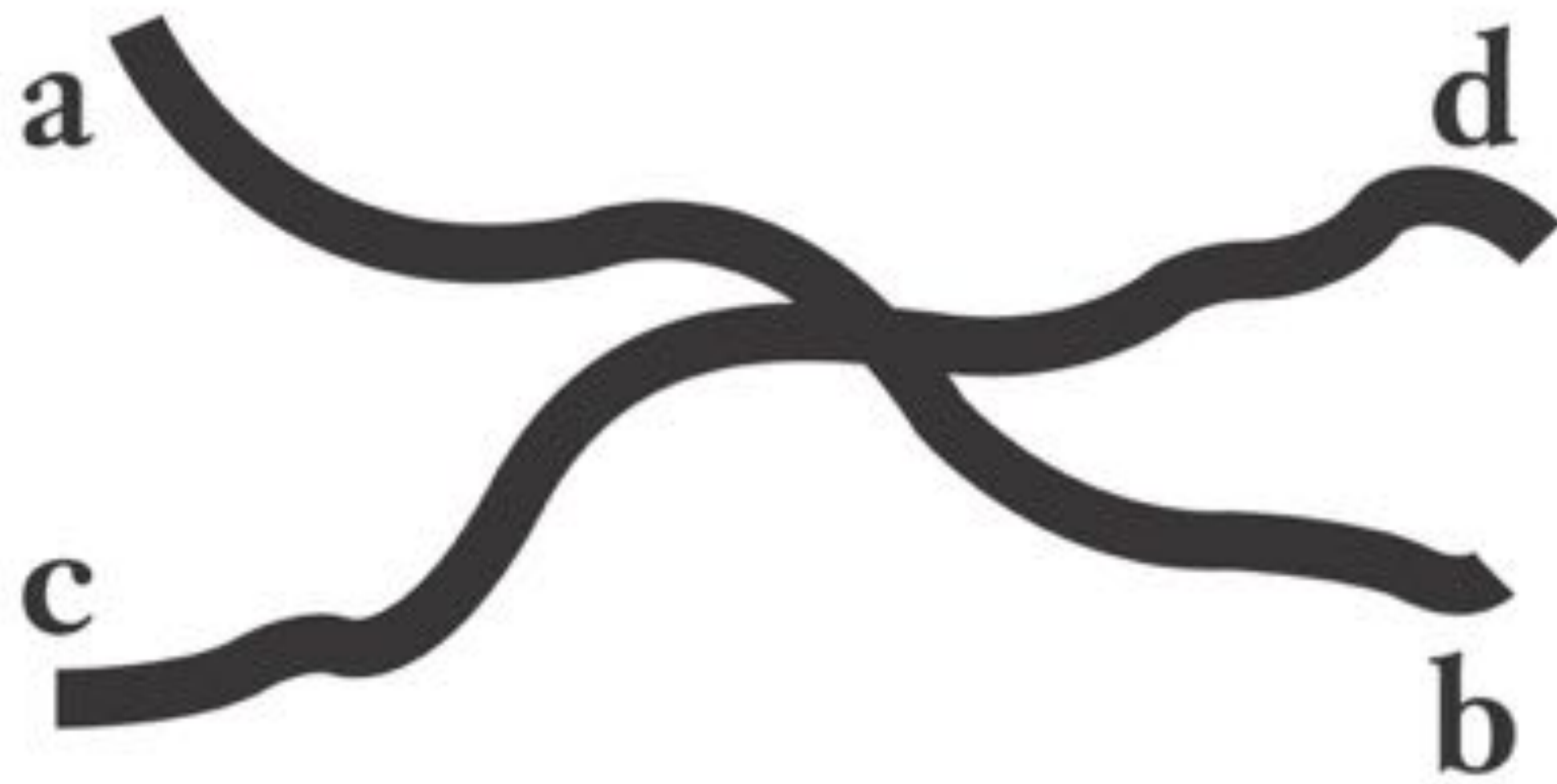


(b) Similarity

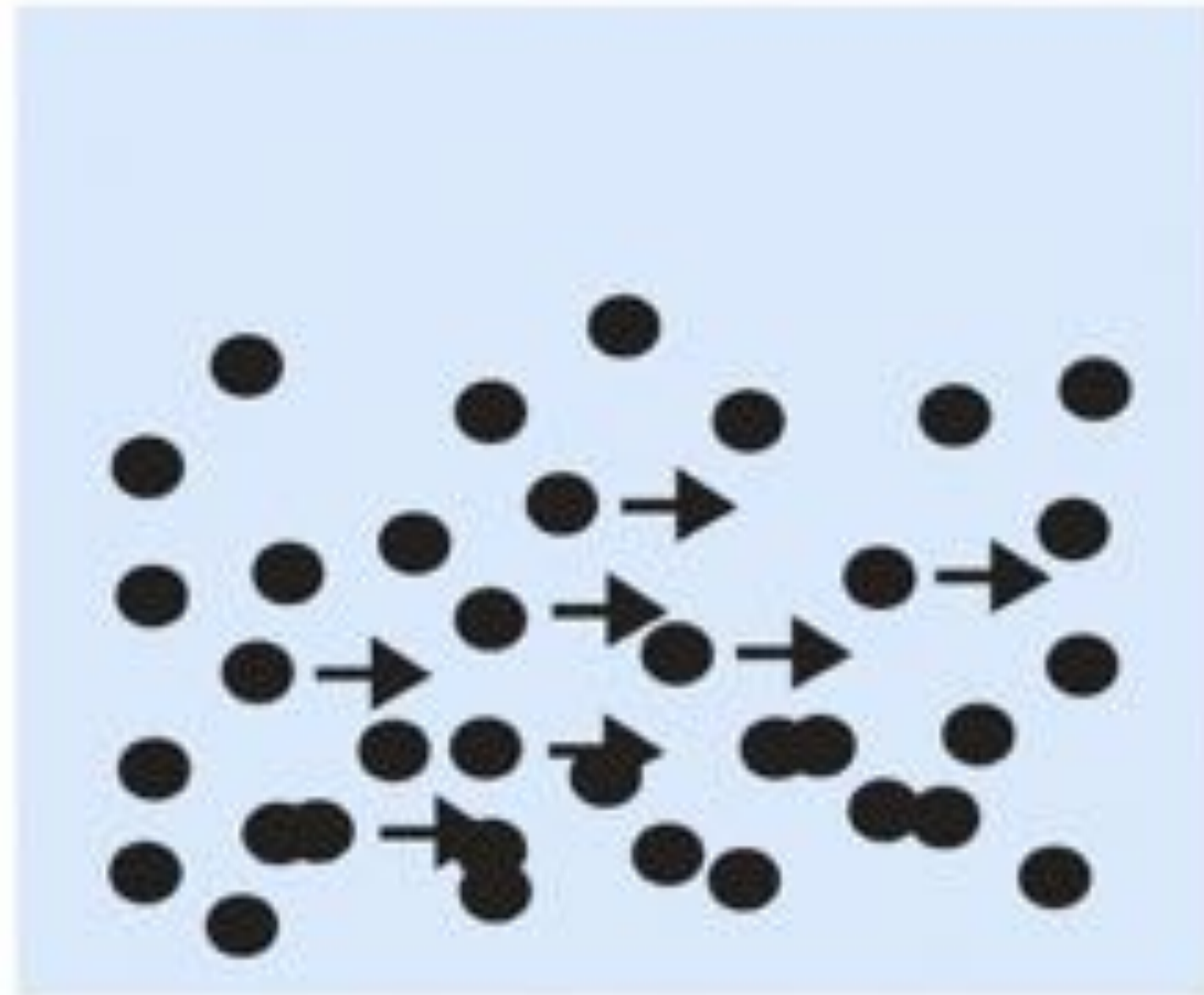


(c) Closure





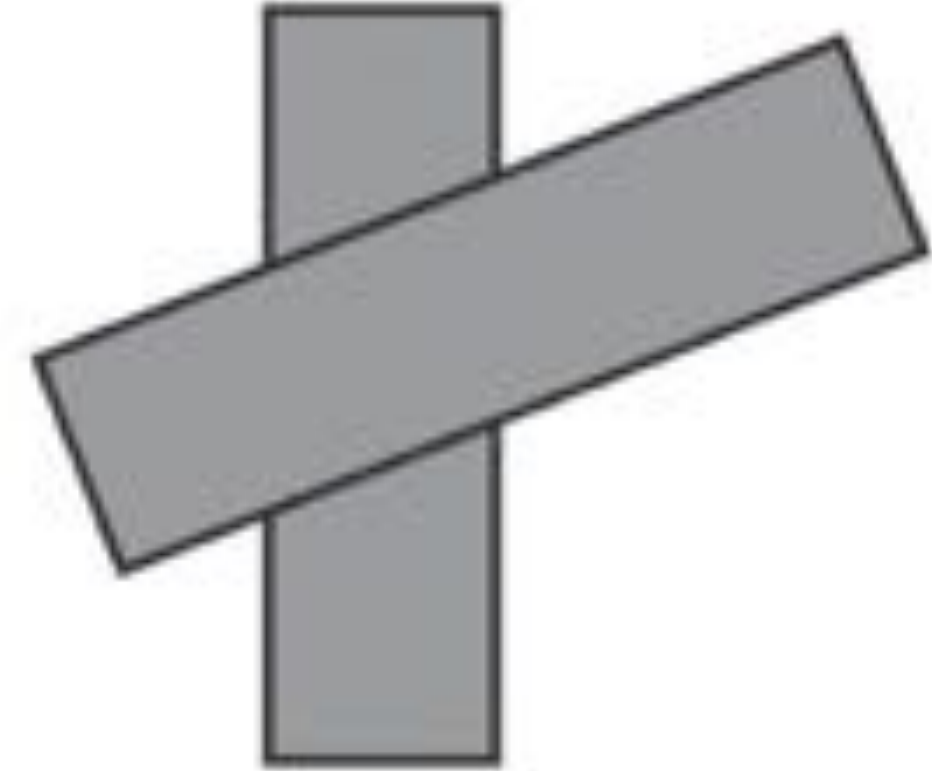
(d) Good continuation



(e) Common movement



(f) Good form

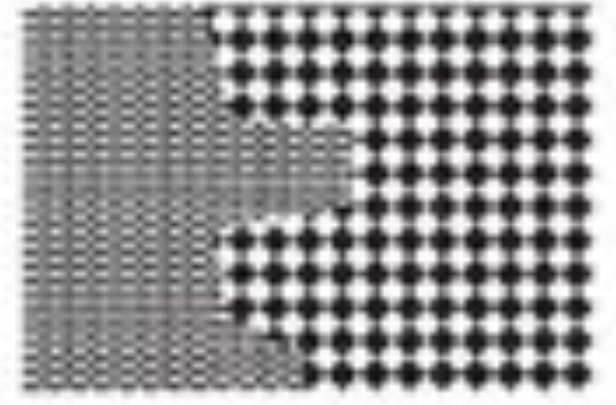


(f) Good form





(a) Proximity



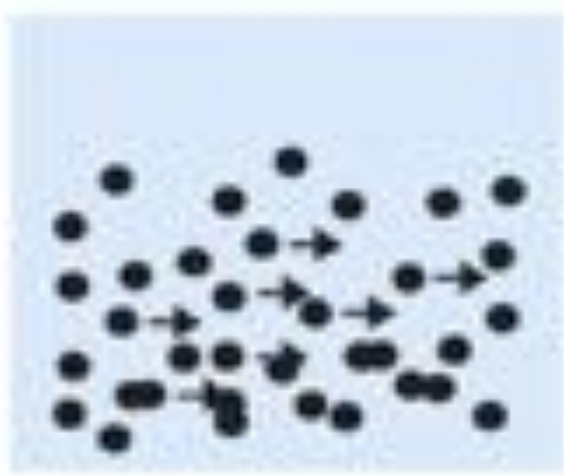
(b) Similarity



(c) Closure



(d) Good continuation



(e) Common movement



(f) Good form

Depth

I have no depth perception. Is there a cop standing on the corner, or do you have a tiny person in your hair?



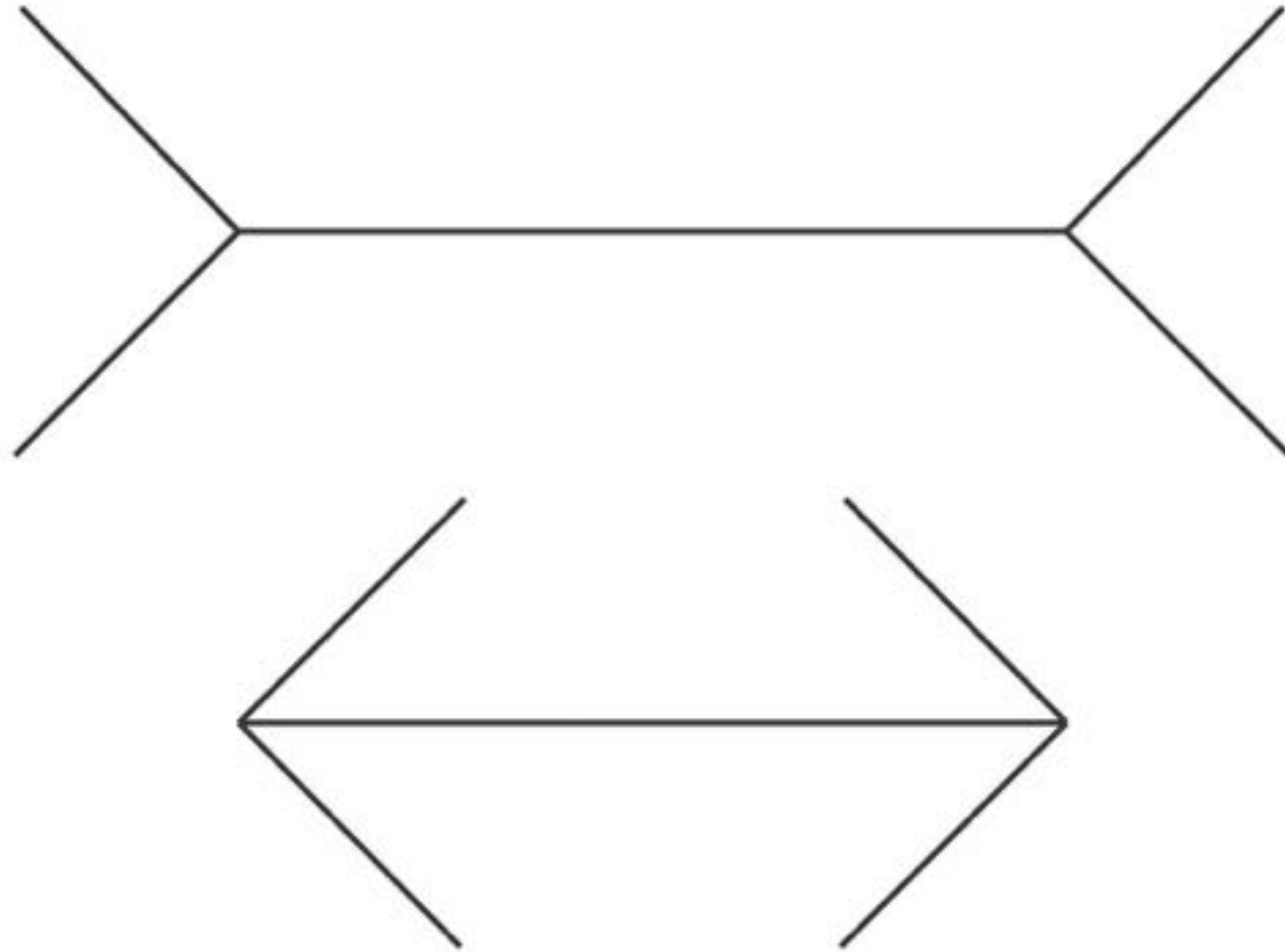
Binocular Depth Cues

- **Binocular disparity**-images giving slightly different info to each eye
- **Convergence**- at close distances, how much your eye is “crossed” gives the brain info about depth.

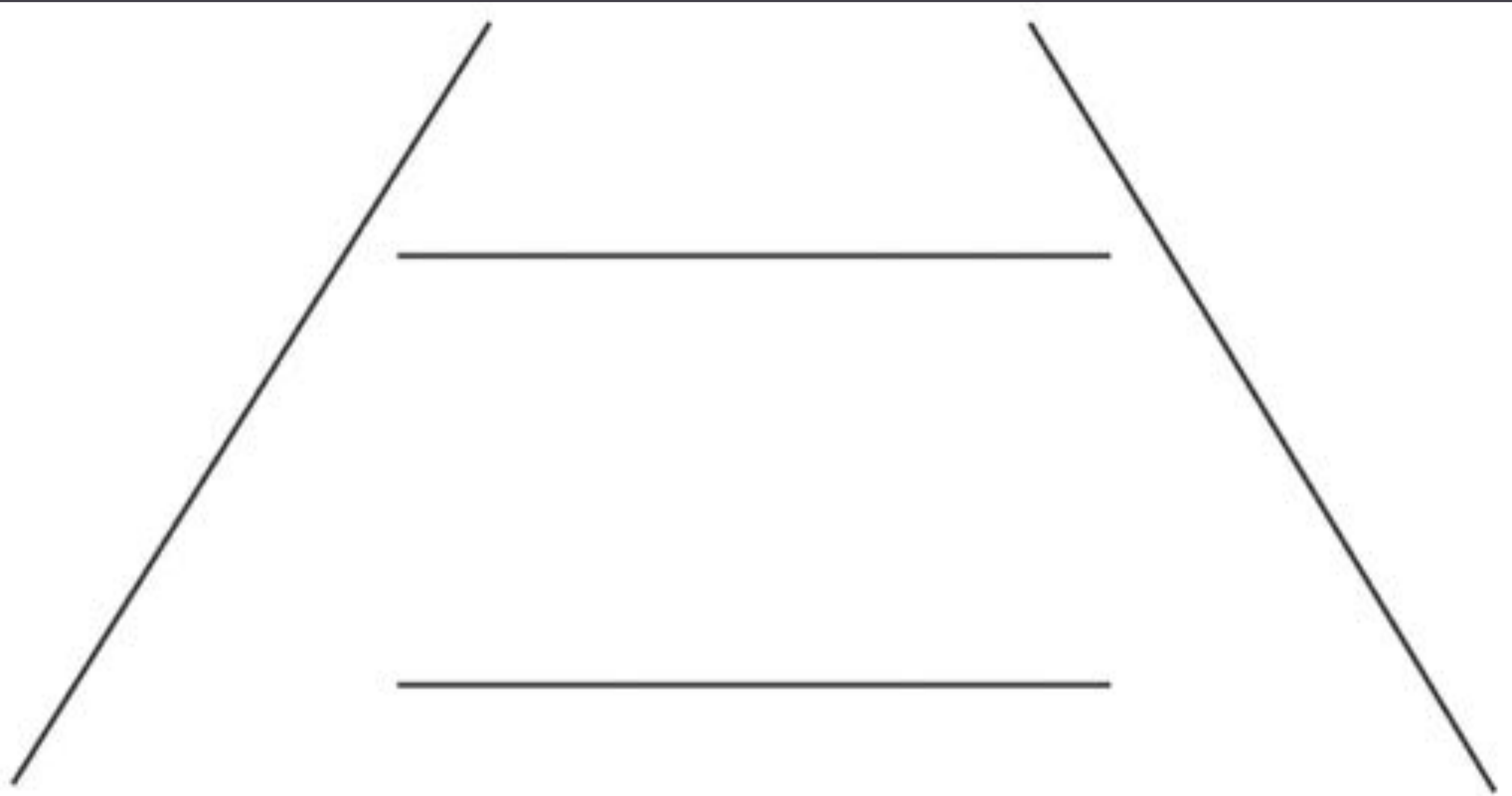


Monocular Depth Cues





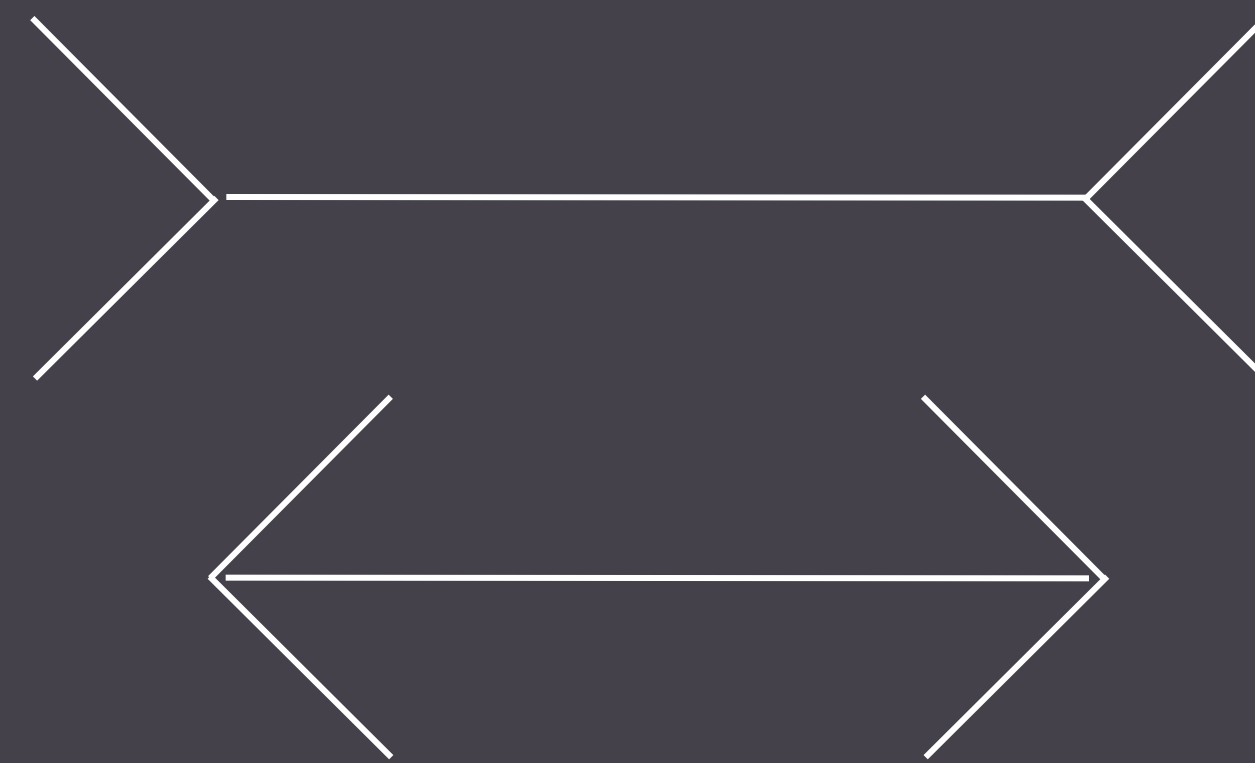
(a) Müller-Lyer illusion



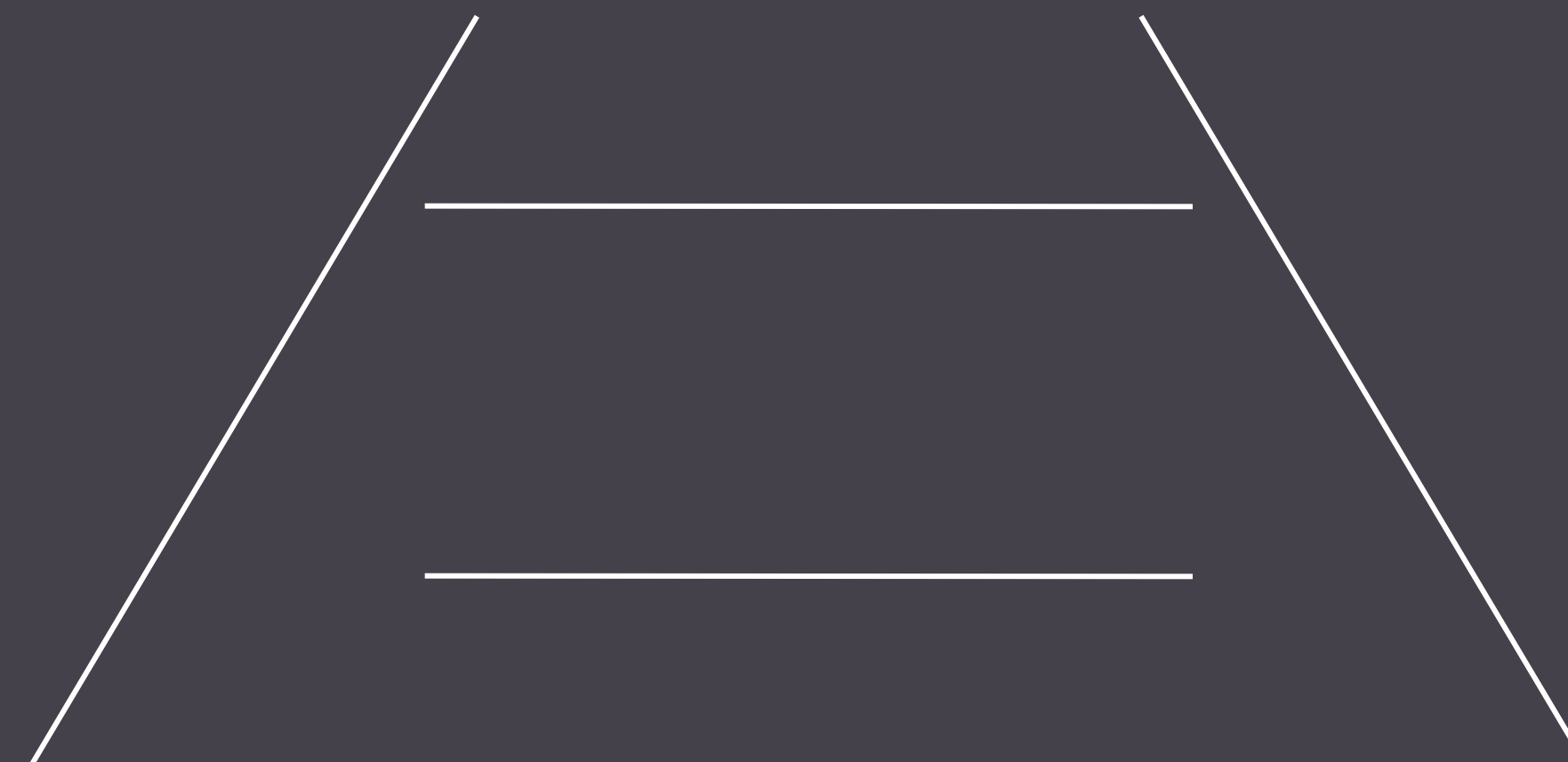
(b) Ponzio illusion

Size-Distance Illusions

- In each of these examples, the top and bottom lines are actually the same length.
- In each case the top line looks longer.
- Why?



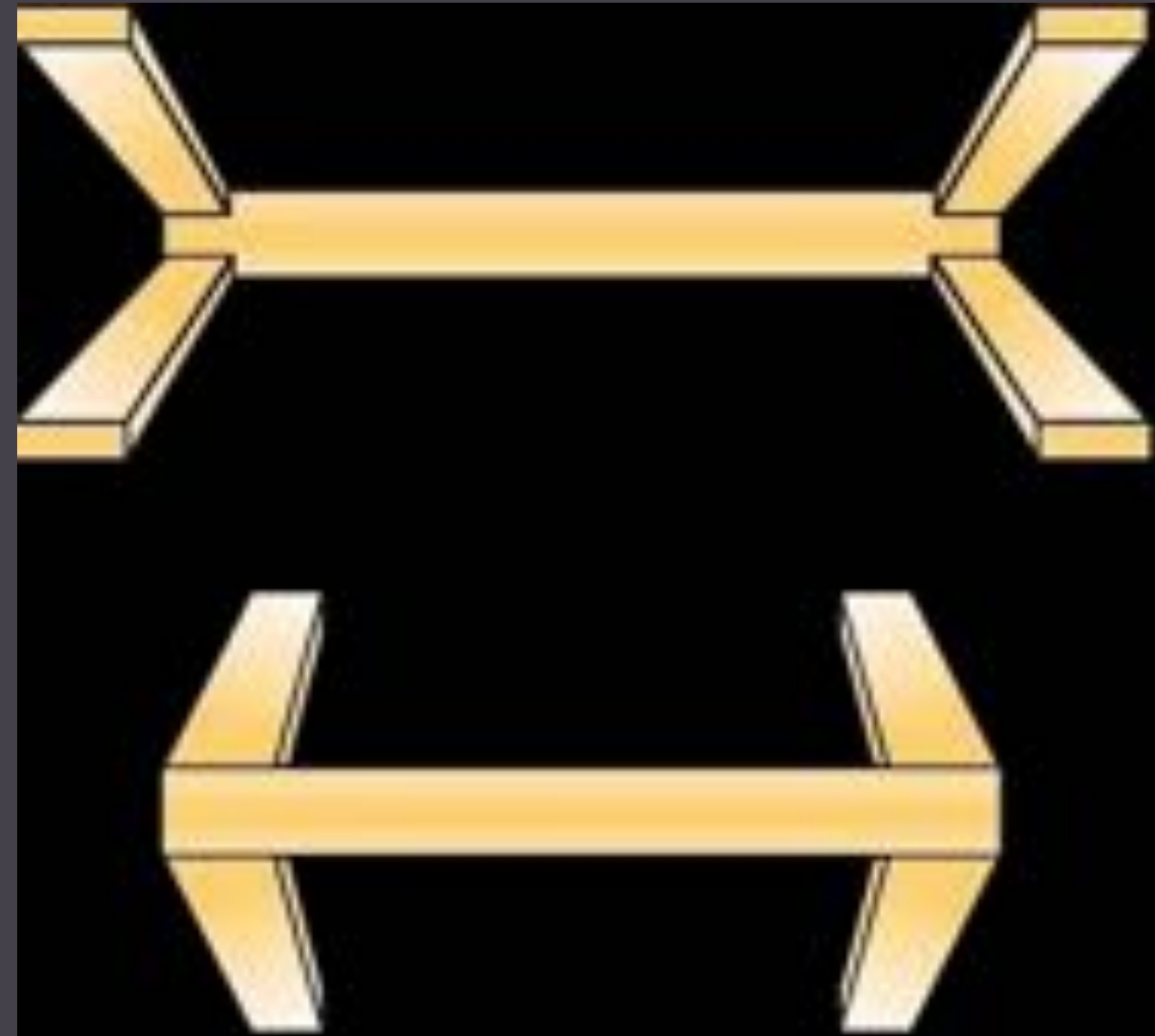
(A) MÜLLER-LYER ILLUSION



(B) PONZO ILLUSION

Muller-Lyer Illusion

- Perceptual psychologists have hypothesized that the top horizontal line looks longer because it also looks farther away.
- Specifically, the inward pointing arrows signify that the horizontal line is closest to you, and the outward pointing arrows signify the opposite case.



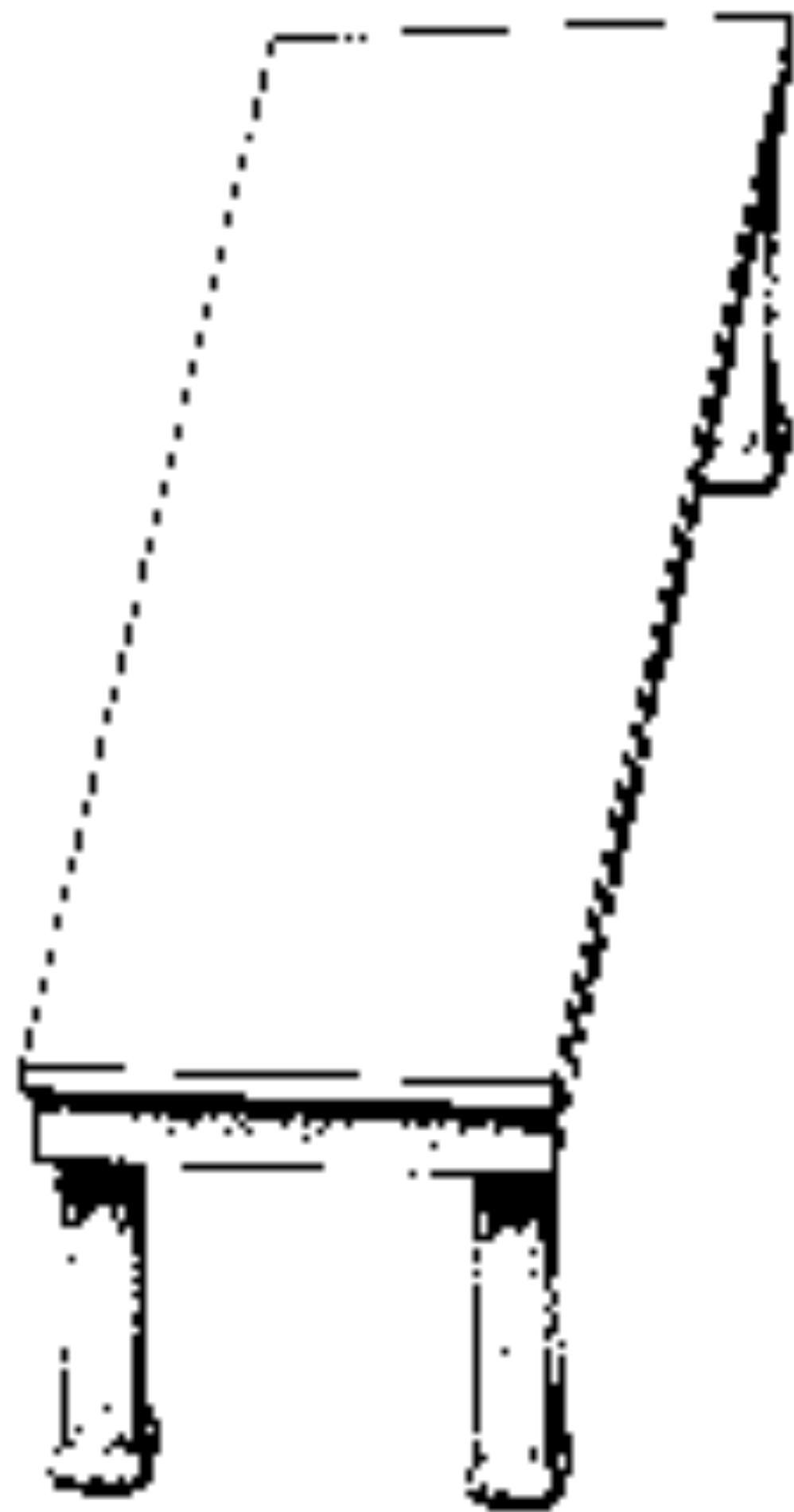
Ponzo Illusion

- Converging lines indicate that top line is farther away than bottom line



Sensation and perception give
us an internal representation of
the world

But...How Accurate/Objective
Is It?



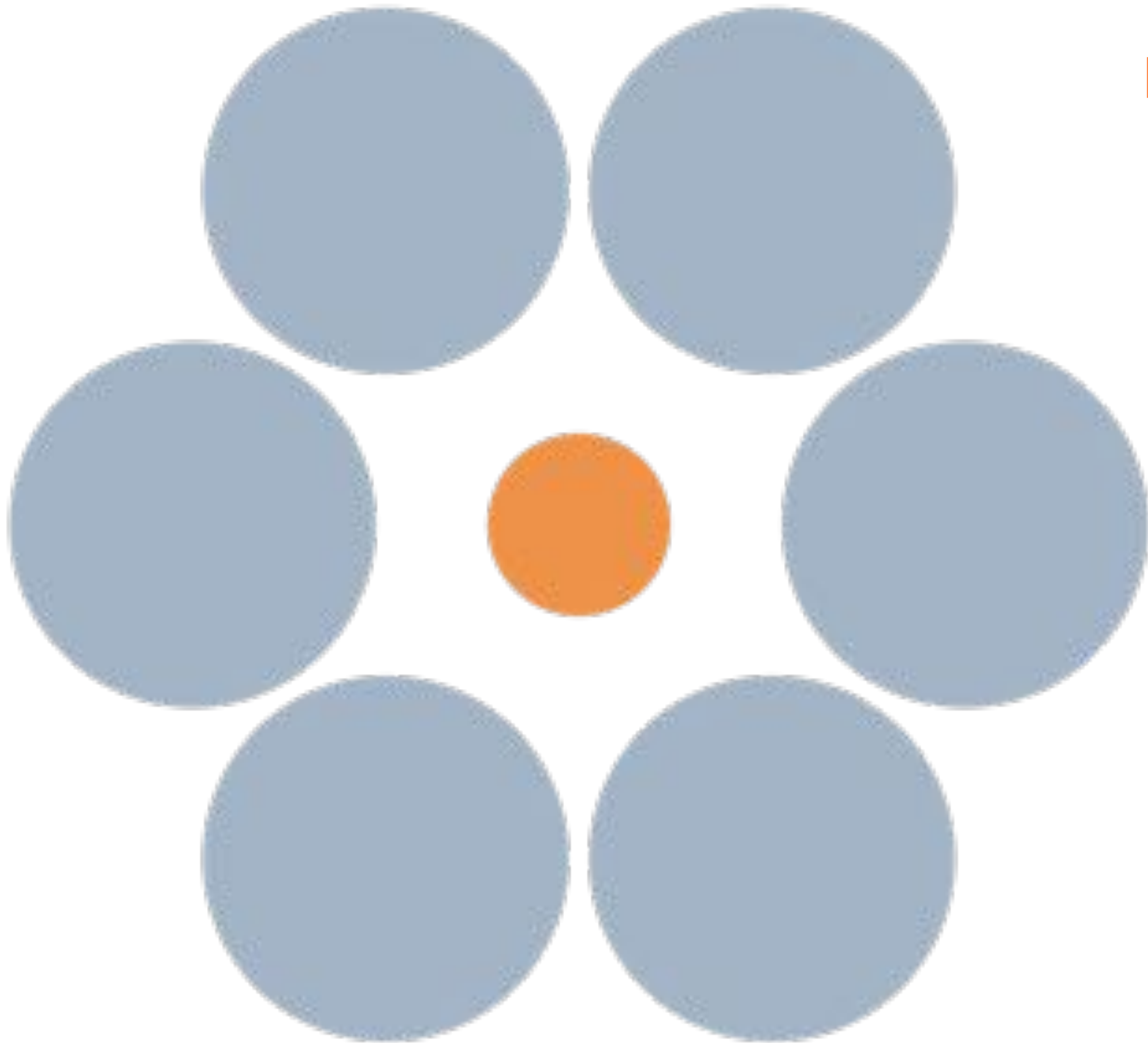
Shepard's Table Illusion

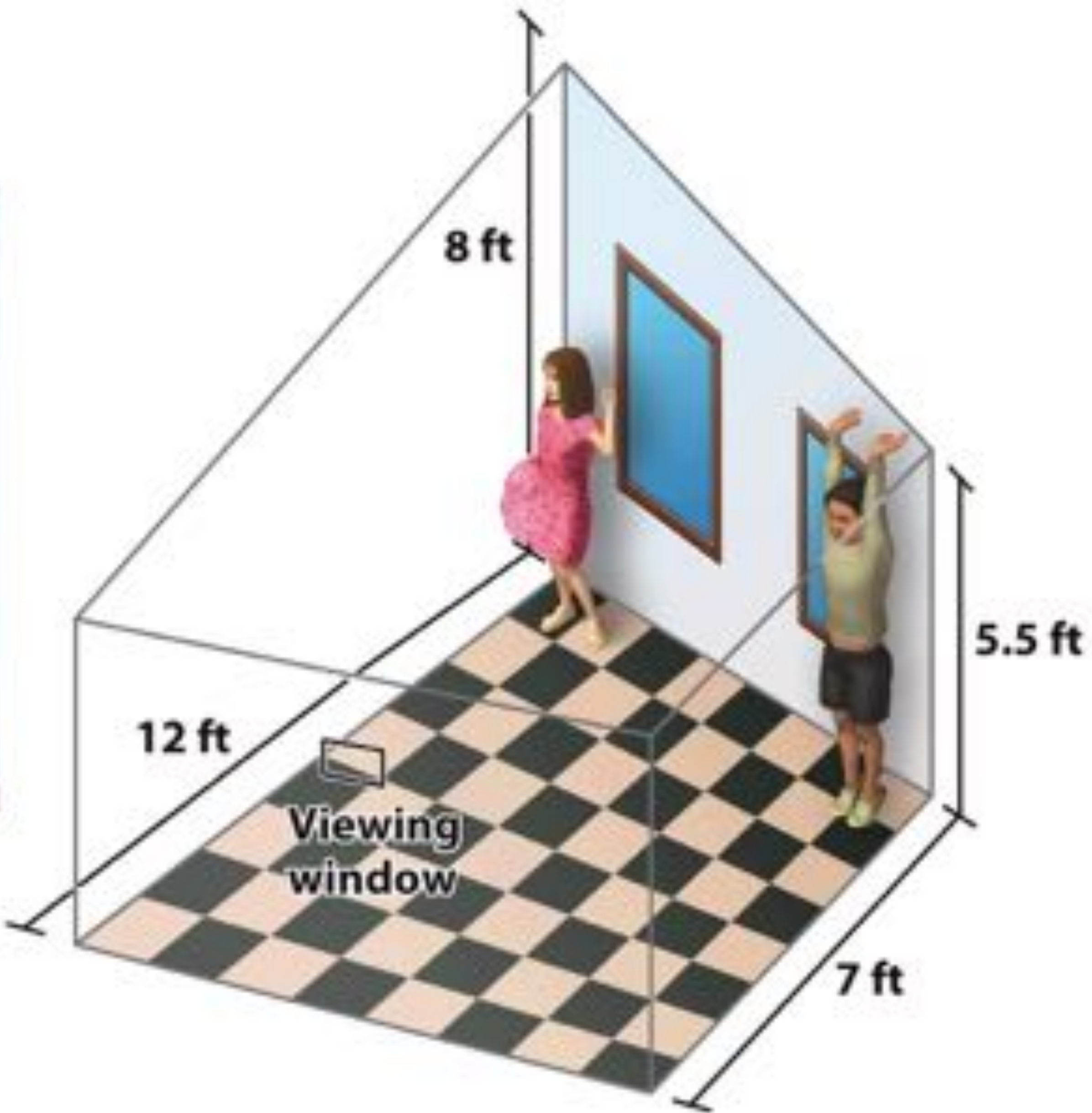


Perception Is Not Perfect

- We are susceptible to a variety of visual illusions
- What we see can vary depending on other visual cues present
 - Visual context: shadows, surrounding lines, etc.

EBBINGHAUS ILLUSION





Perception Is Not Perfect

- We know that we are susceptible to illusions, and that what we see can vary depending on other visual cues present
 - Visual context: shadows, surrounding lines, etc.
- Also shaped by broader context--expectations about what you're perceiving
 - e.g., interpretation of ambiguous figures