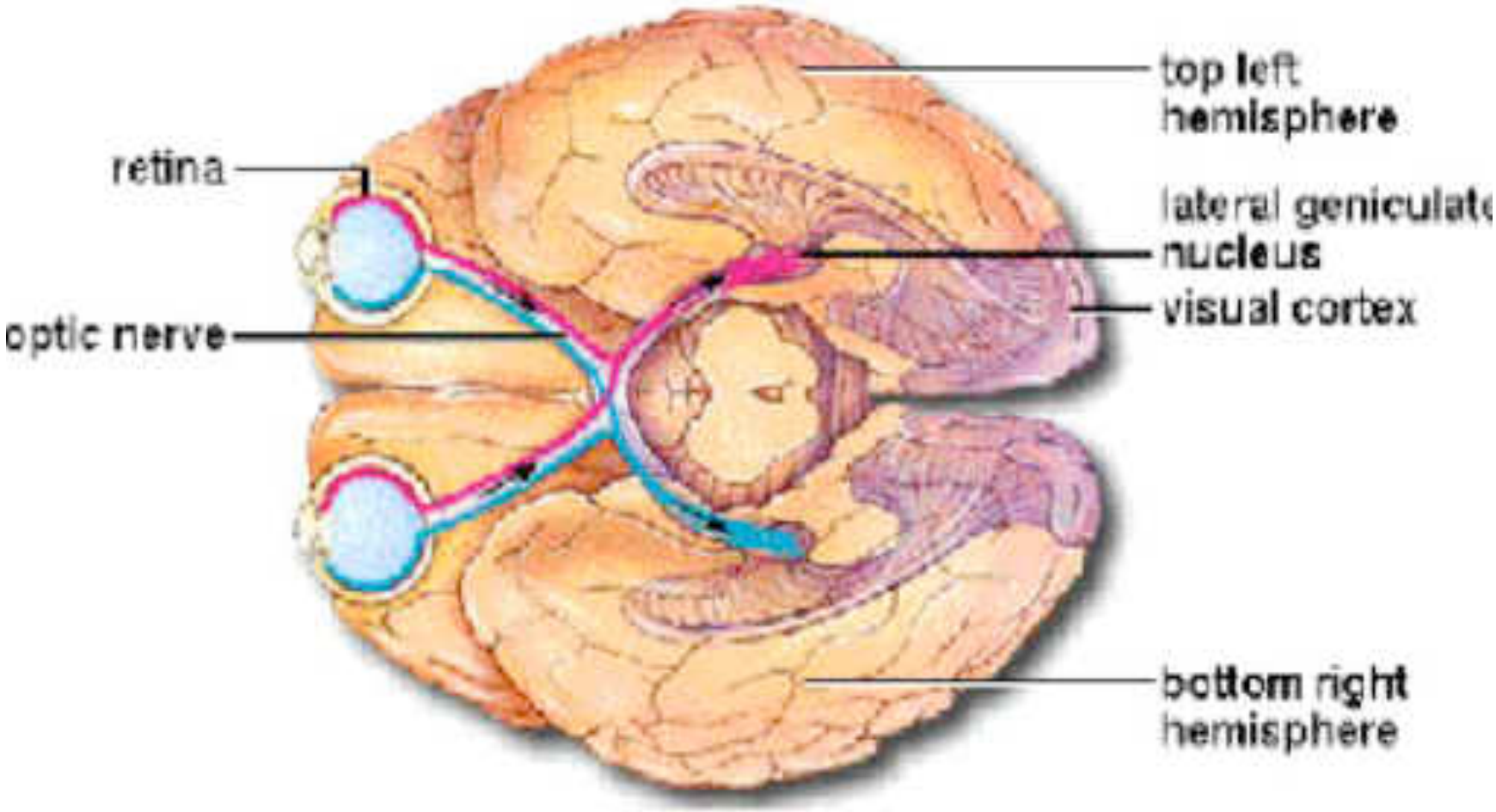
An important technical term

Intentionality: the property of being *about* something else (which need not exist).

"Intentionality" might be just another name for *representation* or *referential meaning*.

(In this class, when we mean the intention to do something, we will say "volition." Thus, "intentionality" will always mean this aboutness.)

Remember your wiring



How much internal representation does perception require?

- **Theory 1: Perception as passion (or call it: "classical representationalism")**: perception is primarily the reception (and perhaps the integration of different receptions) of sense stimuli in a form determined by how the stimuli are received, creating internal representations. These representations exist independently of action, but in that form can be used to guide action. **(This explanation relies heavily on representations.)**

Blind spots

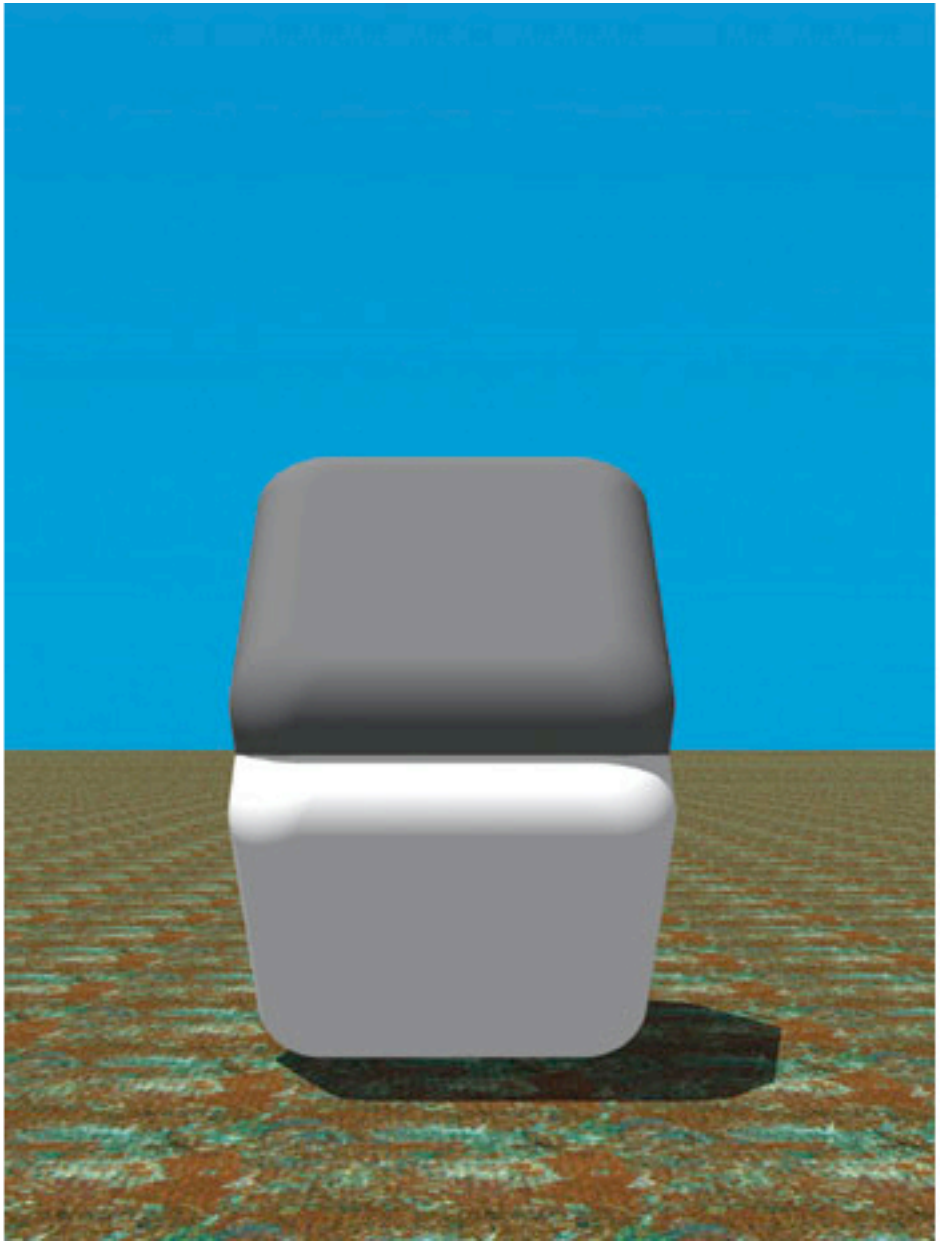
- Does the brain
  - Fill in?
  - Ignore the lack?
- Peripheral color lack
- Example of touch
  - Continuance of object identity after recognition
  - Gaps?

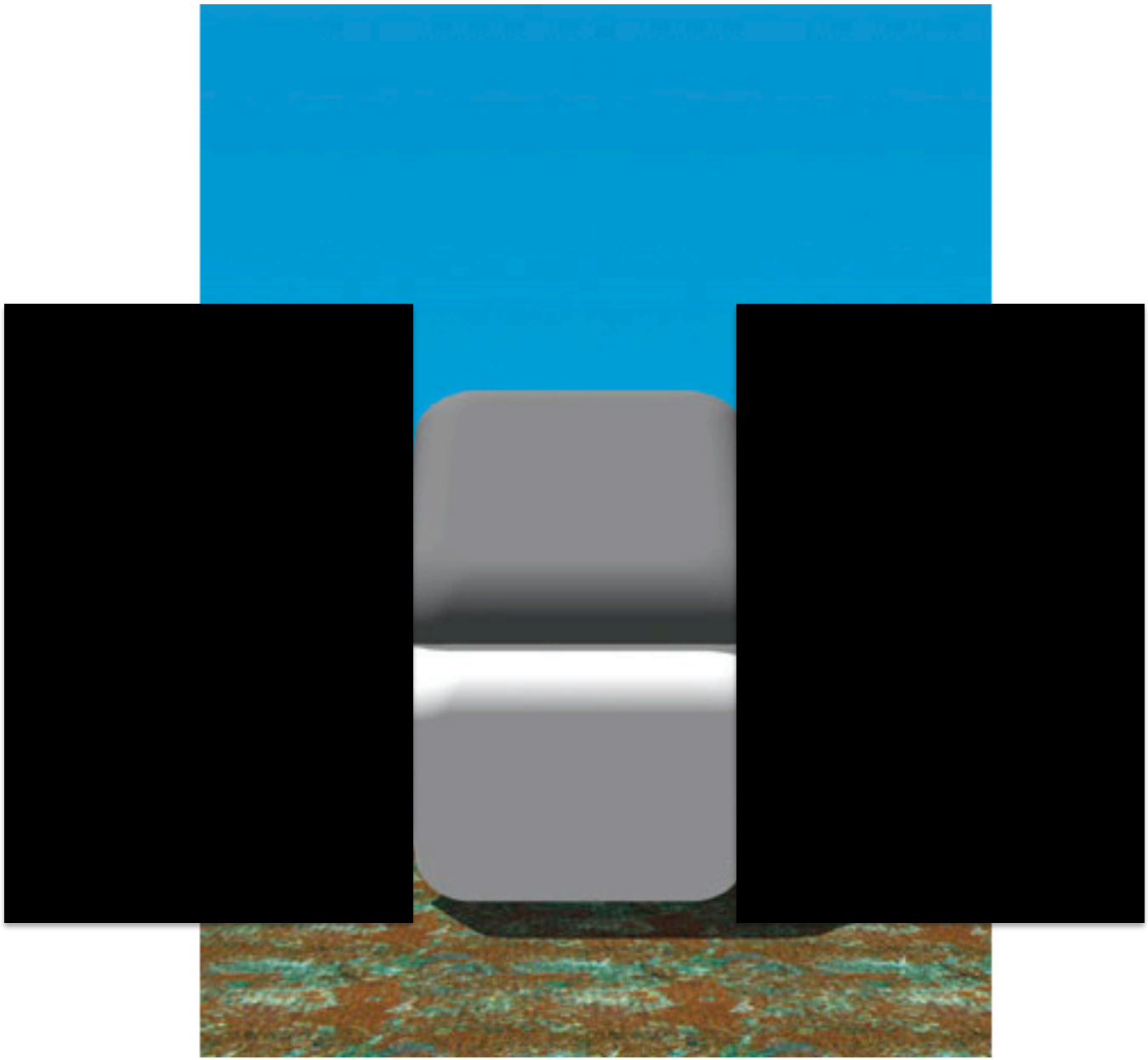
Do you dream in color?

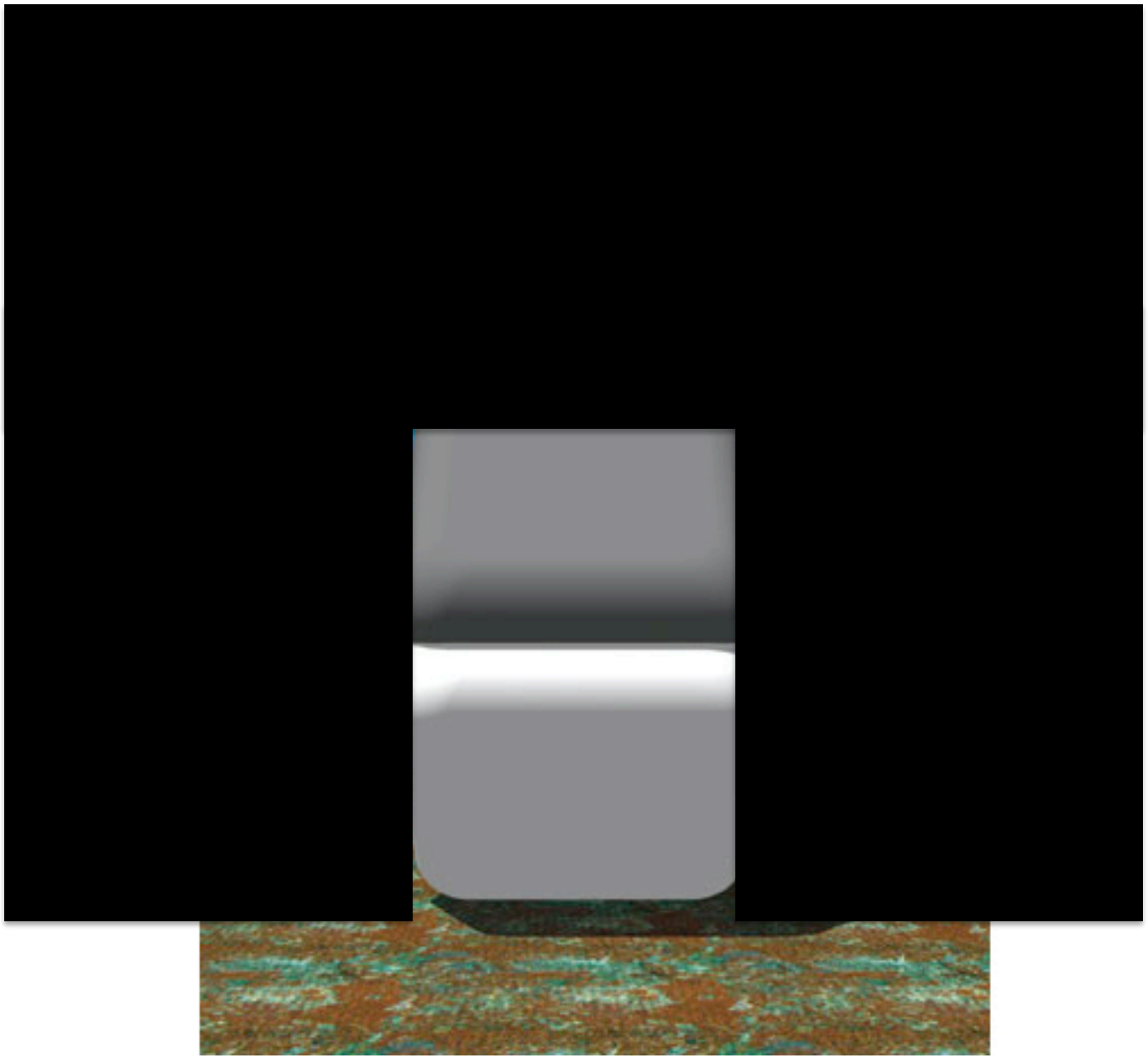
- Were our dreams in color and we didn't notice?
- Are they black and white and we misremember?
- Are they neither in color nor in black and white, and we fill in color (when remembering) because we think we ought to dream in color?
- Are they neither in color nor in black and white, and we ignore this fact?

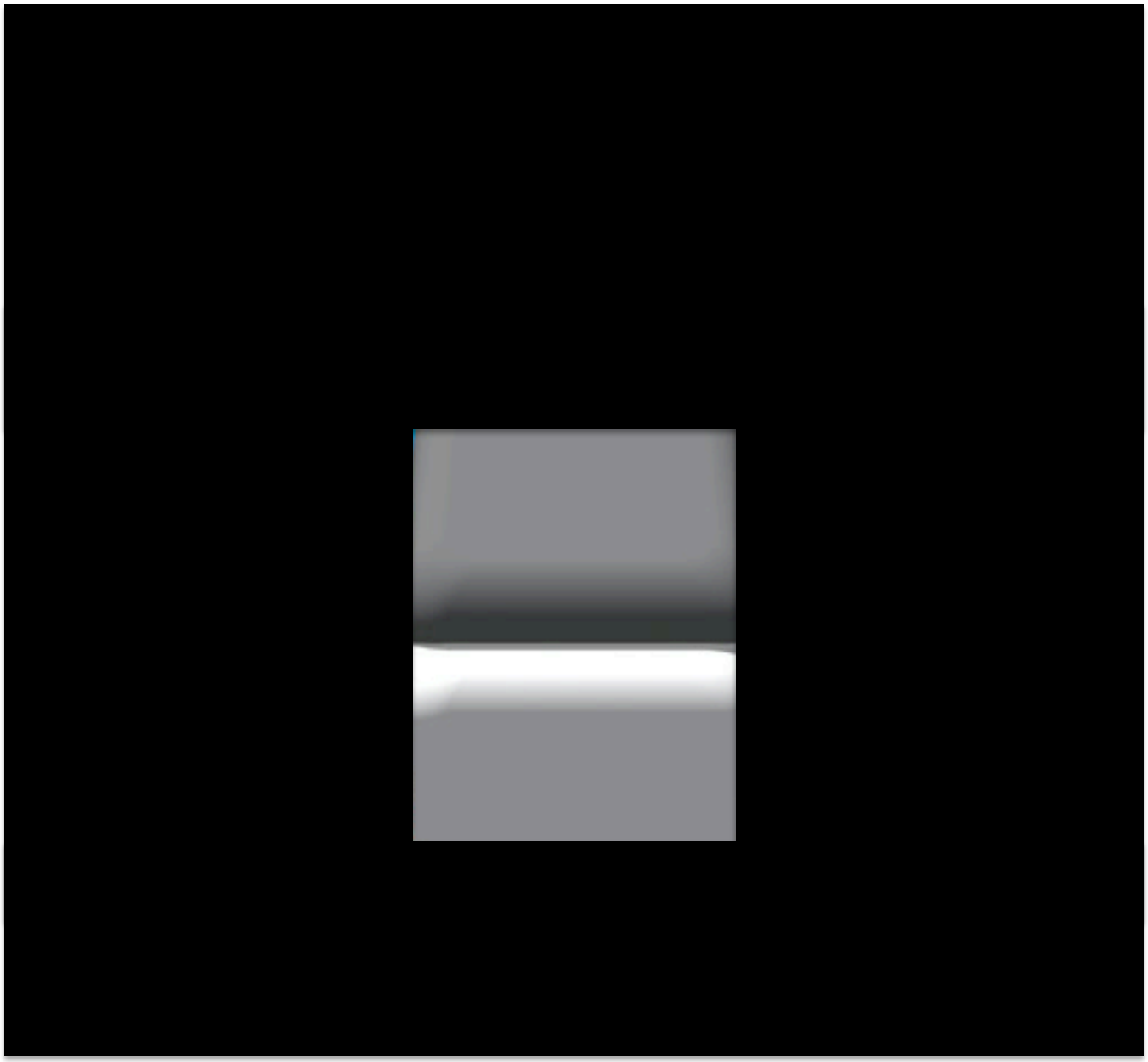
Whodunnit

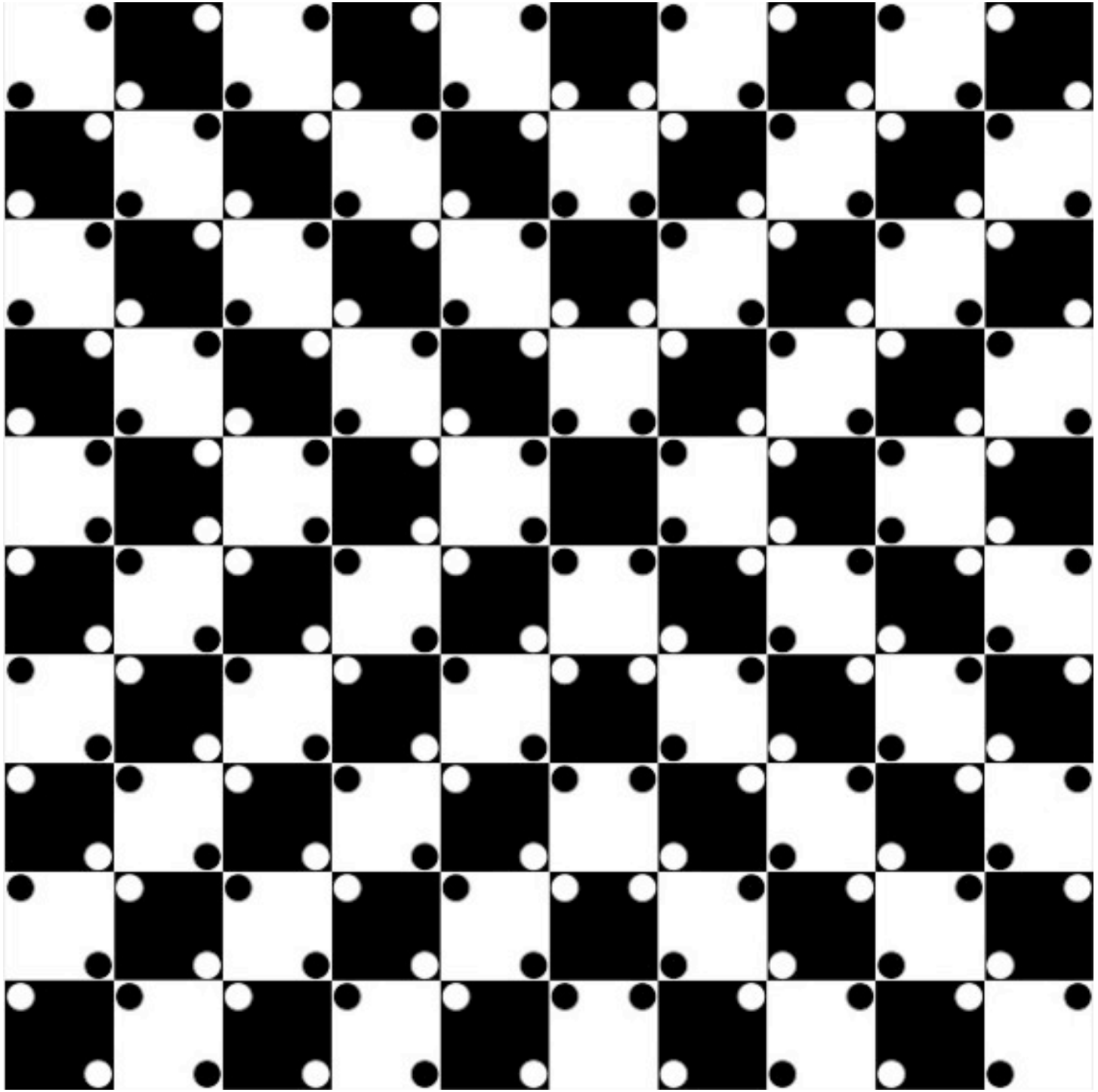
https://www.youtube.com/watch?v=LW_ZVvjP_Ms

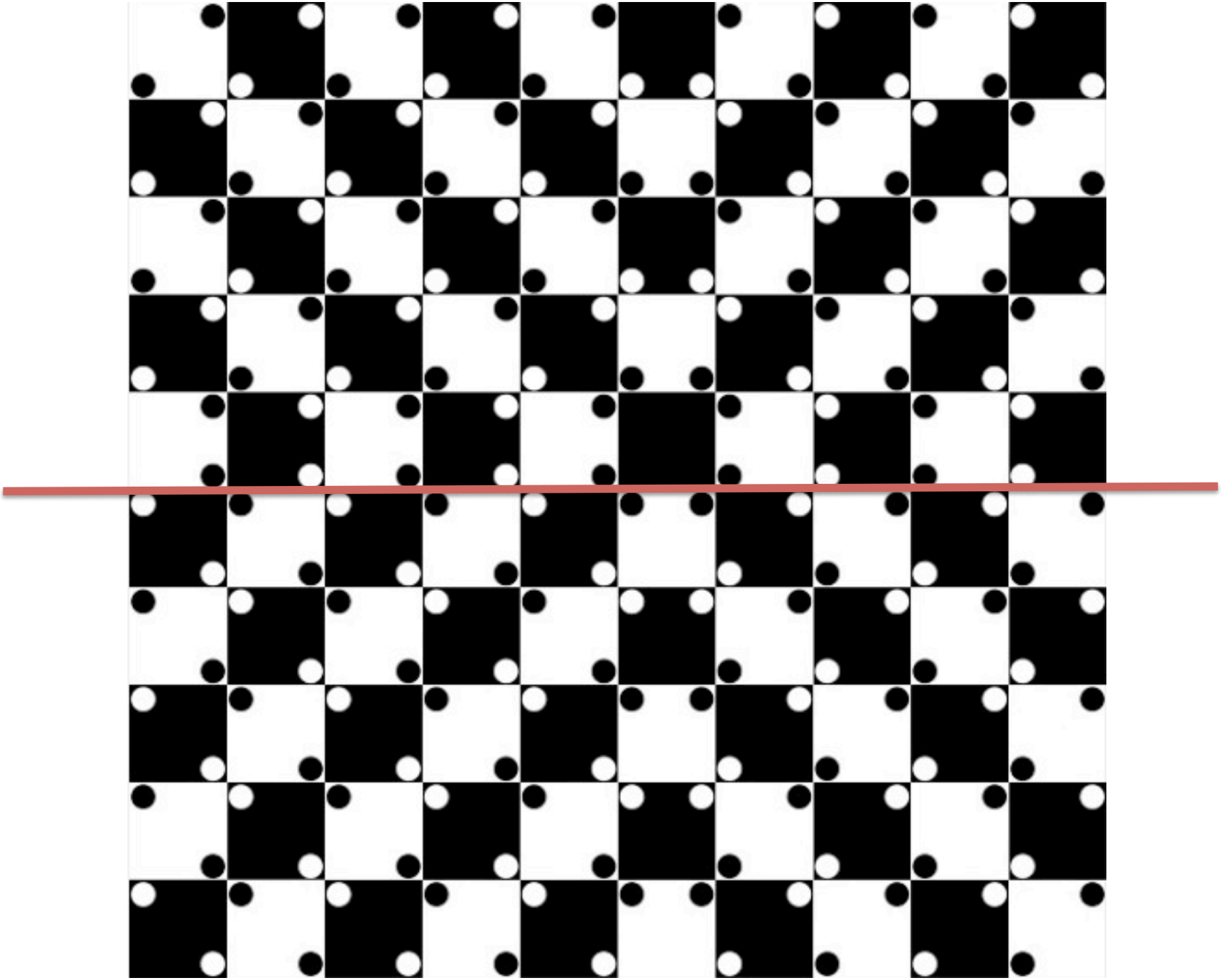


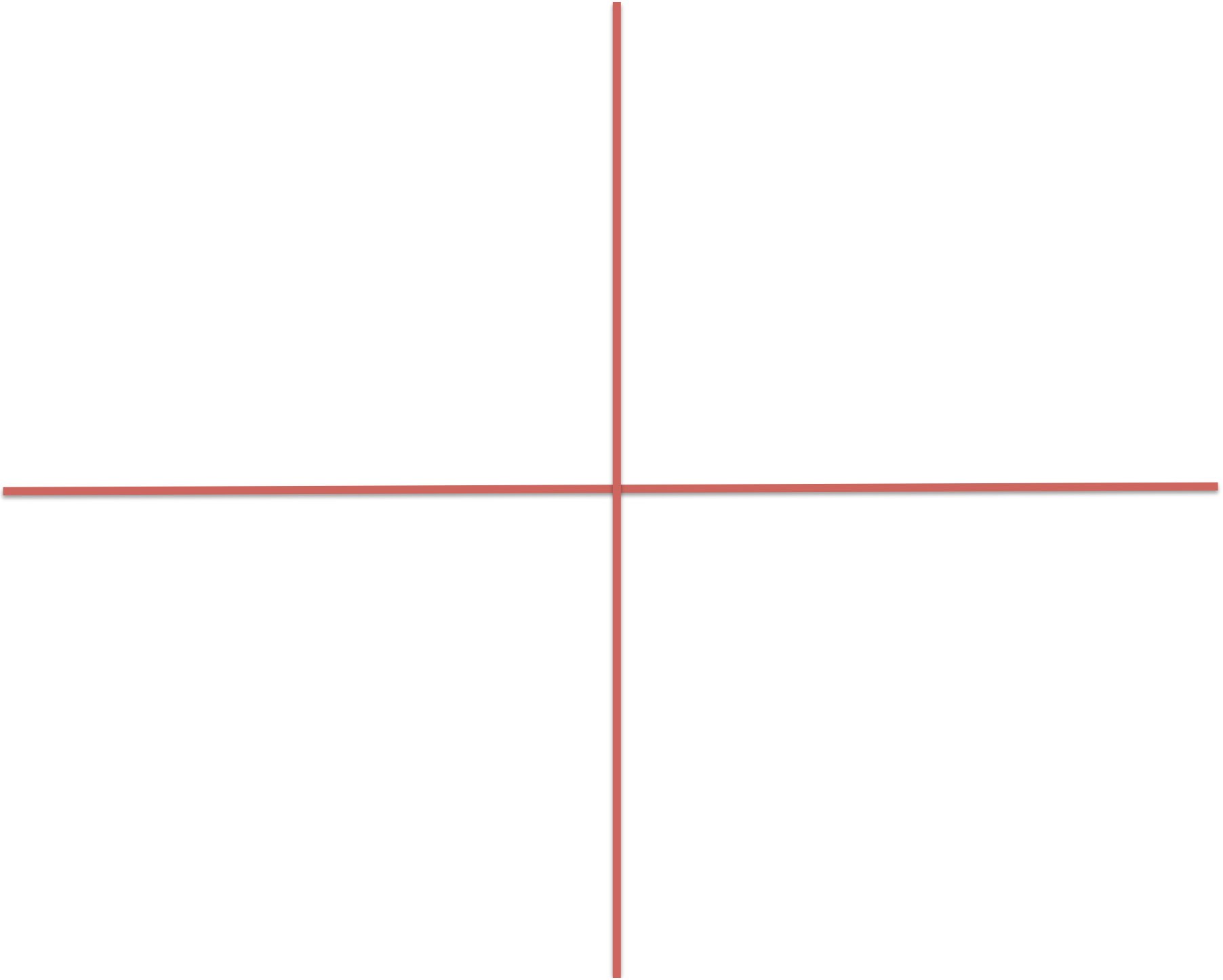


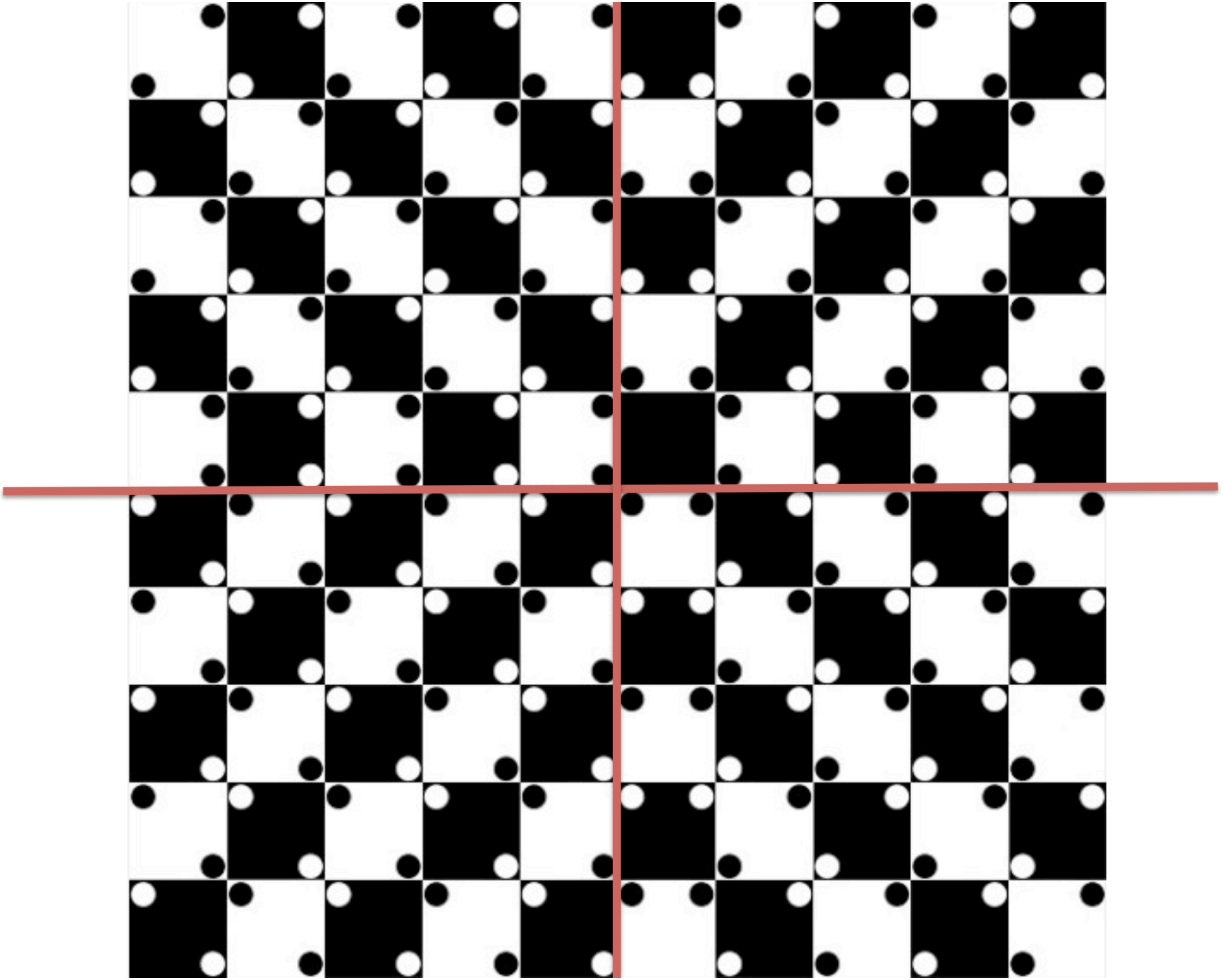


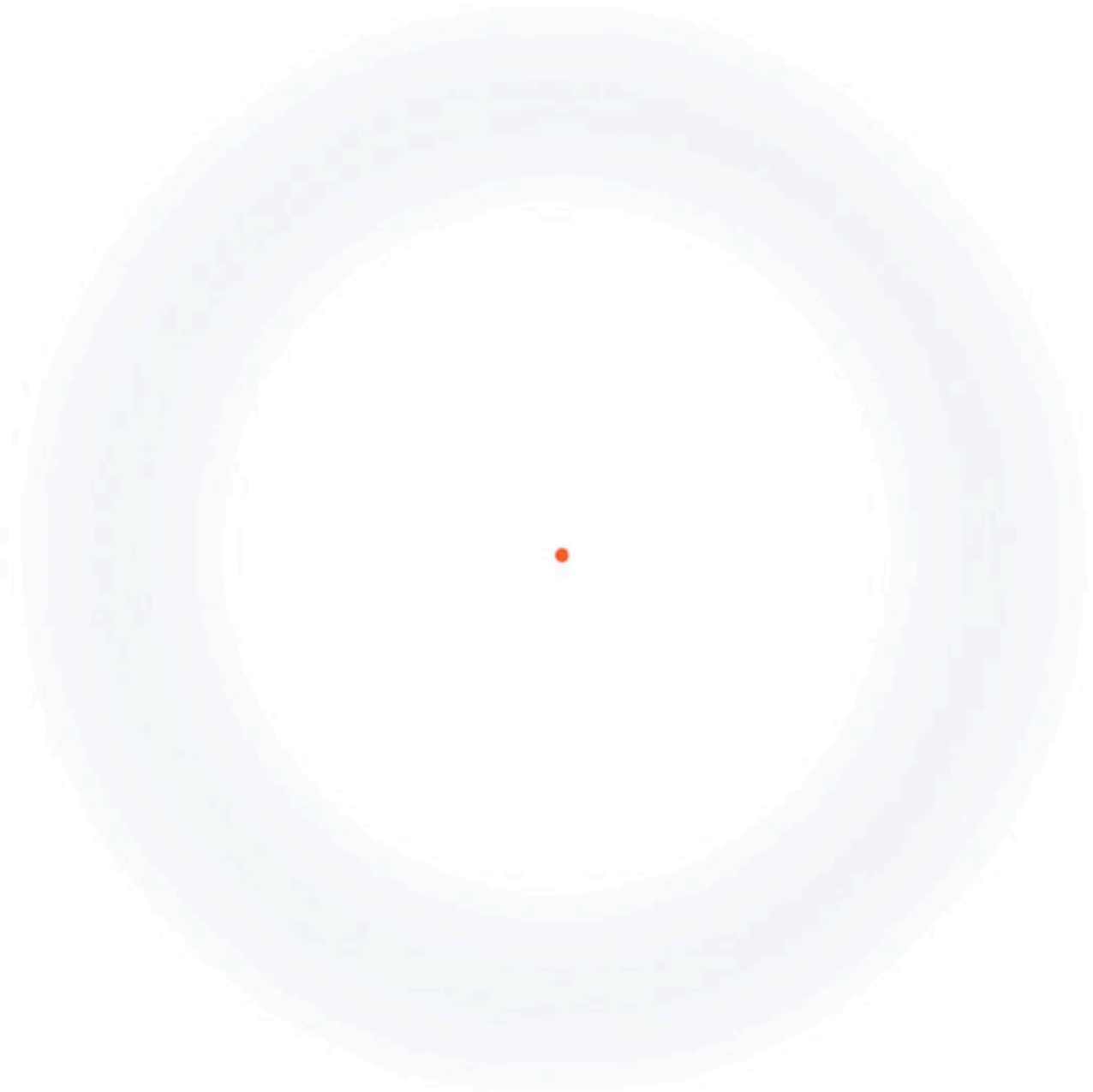












Shephard Tone

- http://upload.wikimedia.org/wikipedia/commons/6/61/DescenteInfinie.ogg

McGurk Effect

- https://www.youtube.com/watch?v=G-lN8vWm3m0
- http://auditoryneuroscience.com/McGurkEffect

The classic change-blindness experiment recreated

- https://www.youtube.com/watch?v=JSoyOOQz1Ic

O'Regan's Example

http://myscienceacademy.org/2012/08/07/a-video-illusion-can-you-spot-the-change/

O’Regan’s Example

Kohler Glasses

- https://www.youtube.com/watch?v=z1HYcN7f9N4
- https://www.youtube.com/watch?v=-kohUpQwZt8

Blindsight example

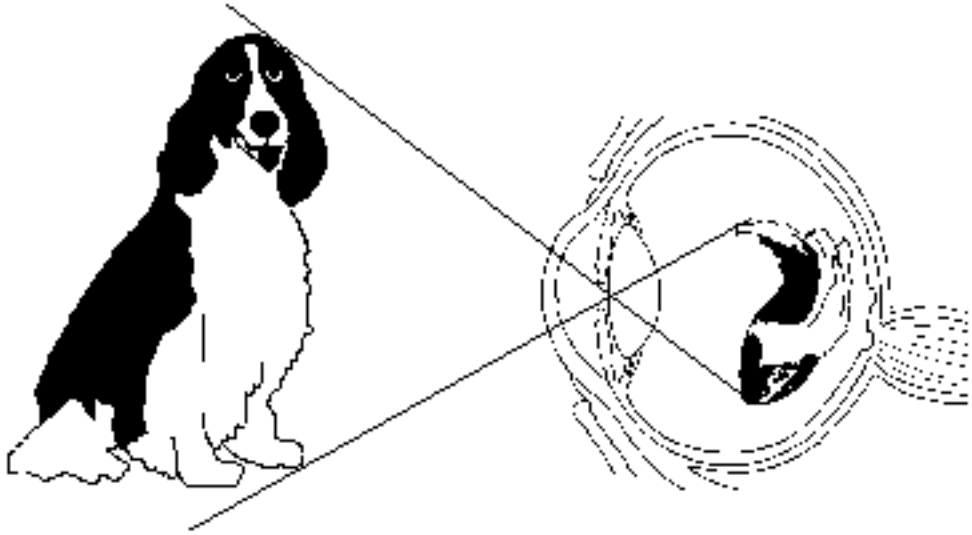
https://www.youtube.com/watch?v=GwGmWqX0MnM

Noe's Experiential Blindsight Thought Experiment

- Is it possible to have the opposite of blindsight: some experience of the sense, but the inability to integrate it with action?
- If the enactivists are right, then such a thing
  - should be possible
  - would be experienced as (like) blindness.

An Older, Simpler Case

- The image on the back of our eyes is “upside down” relative to the world
- But: is the image upside down?
- And: inverted with respect to what?
- Does the image need to be re-verted by the brain?



Which interpretation is best?

- **Perception as passion (or "picture")**: we adjust to the Kohler glasses because we must learn to invert the stimuli.
- **The Enactivist View**: we adjust to the Kohler glasses because we learn to relate visual stimuli to motor control and motor expectations in a way that facilitates action.

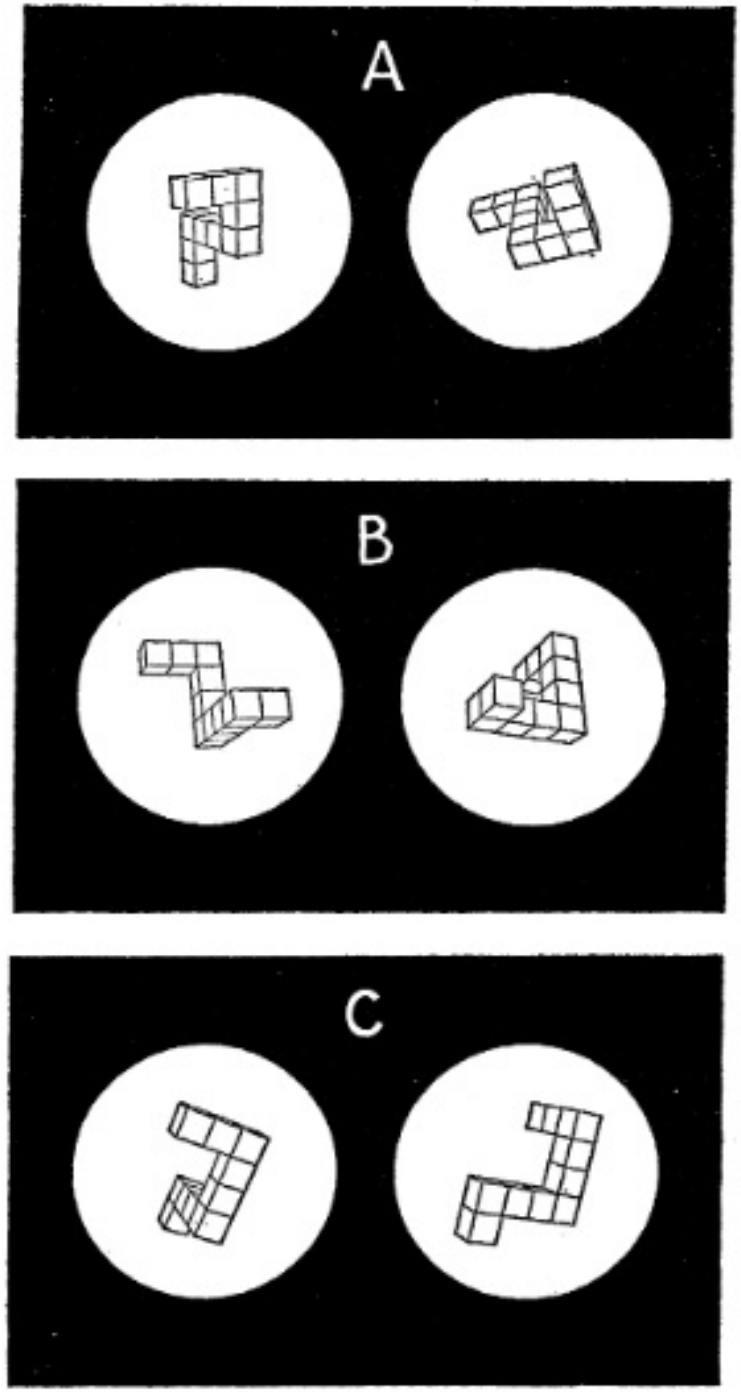
What did we learn from illusions and related phenomena?

1. Attention is required to form a memory of, and to recall, the perception or stimulus (e.g.: Whodunnit?). Is attention required to even perceive something?
2. We often fail to perceive significant changes in our stimuli when they are not salient (change blindness).
3. Context of stimulus can change perception of the stimulus (e.g.: the grays that seem different).
4. Stimuli can become invisible if too static (e.g.: the disappearing circle).
5. Some stimuli alter our perception of other stimuli, including across sense modalities (e.g.: the McGurk effect).

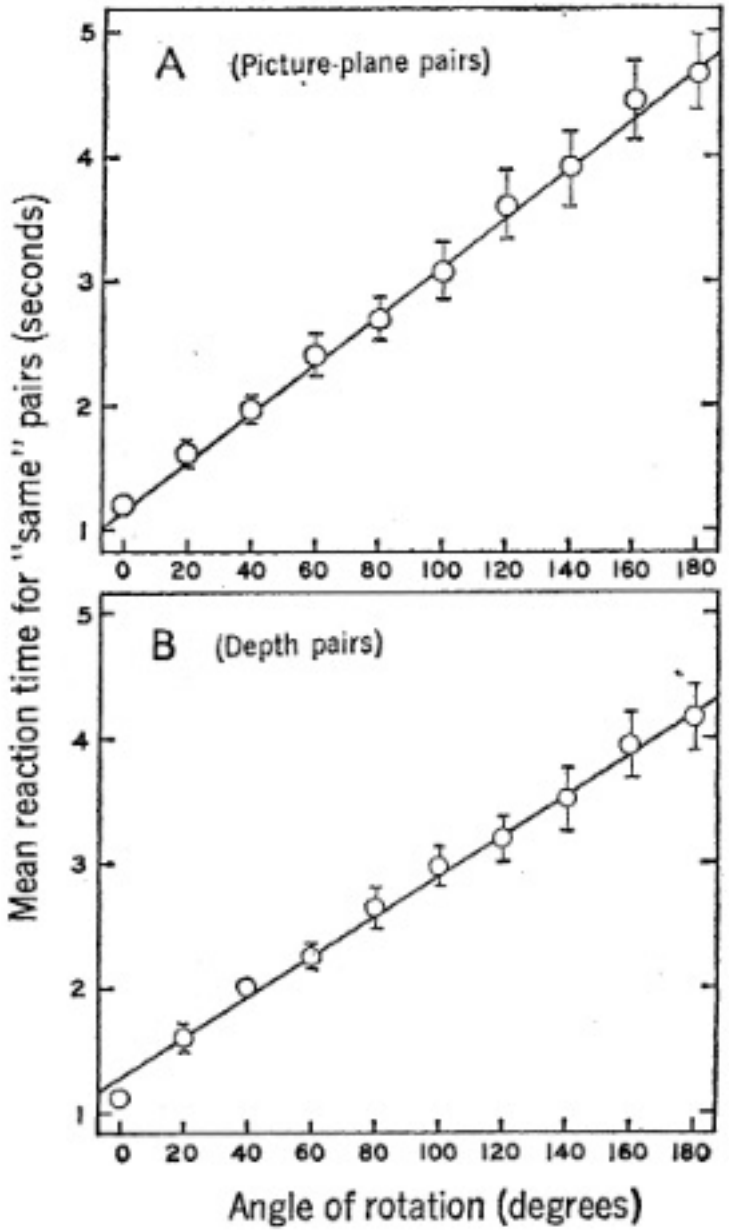
How much internal representation does perception require?

- **Theory 1: Perception as passion (or call it: "classical representationalism")**: perception is primarily the reception (and perhaps the integration of different receptions) of sense stimuli in a form determined by how these stimuli are received, creating internal representations. These representations exist independently of action, and in their existing form can be used to guide action. **(This explanation relies heavily on representations.)**
- **Theory 2: Perception as action (the Enactivist view)**: perception is primarily created by, and experienced as, a relation between sense stimuli and either motor activity or motor expectations. **(In this explanation, representations play a reduced role.)**

Shephard & Metzler (1971)



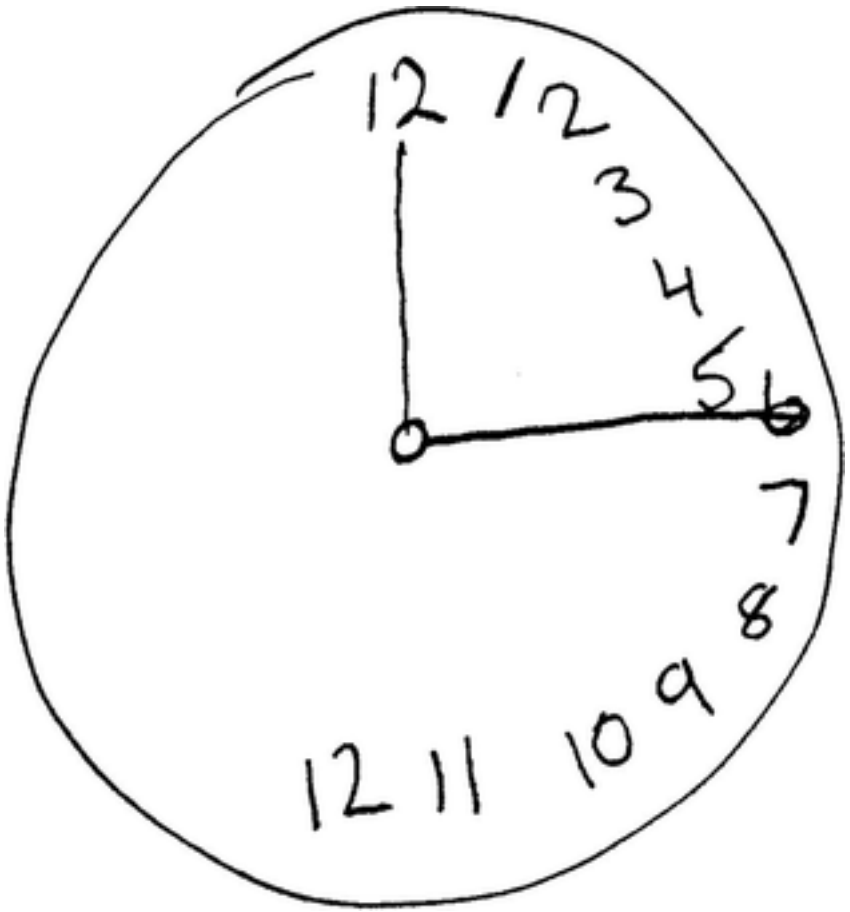
Shephard & Metzler (1971)



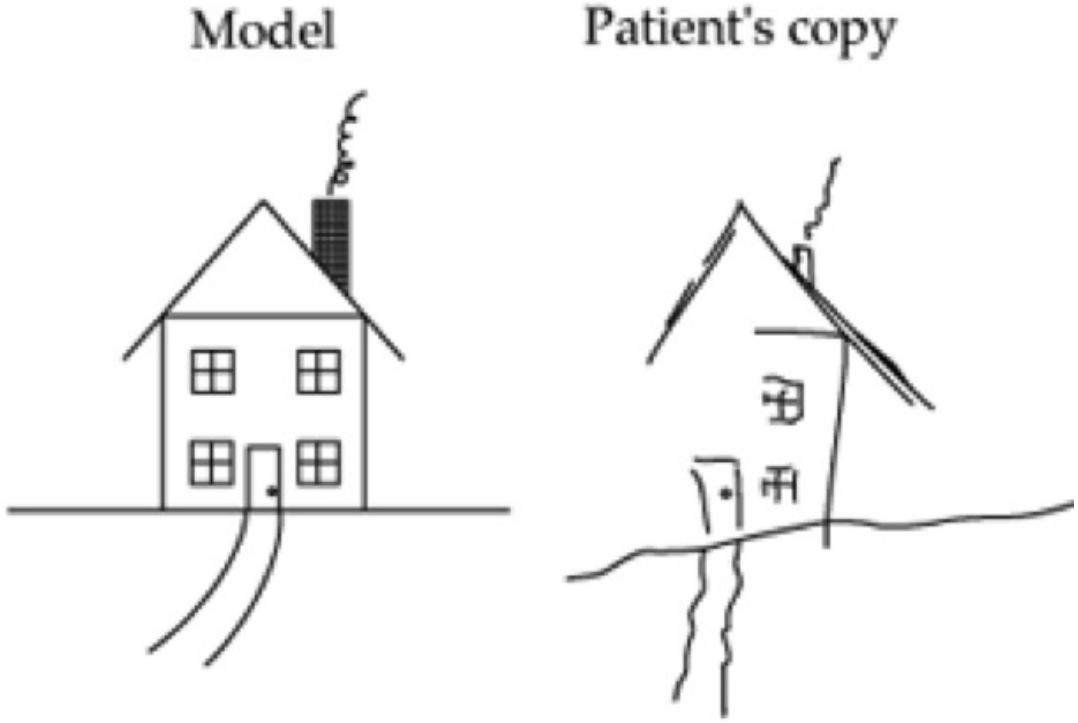
Hemispatial neglect

https://www.youtube.com/watch?v=d4FhZs-m7hA

Hemispatial neglect



Hemispatial neglect



Hemispatial neglect

Ray-Ban

Hemispatial neglect

- What is the best way to explain neglect in active visual perception?
- What is the best way to explain neglect in recalled visual perception?

Contrast:

-- Acquiring a coordination of stimulus and motor control and motor expectations

-- Acquiring and making use of representations of the environment

Synthesia

- What is the source and nature of the additional phenomenal content? It is not relating to action in the same way.

The classical representational model

Stimulus/environmental-information

→

Transformation of information by low level processing

→

(mostly) independent representation.

Attention to, and utilization of, that representation

=

Perception.

A minimally representational model

Stimulus/environmental-information

→

Transformation of information by low level processing

→

Interaction between motor expectations and motor feedback (feedback while acting in world) and the transformed stimulus information

=

Perception.

Does either side fair better?

1. Attention is required to perceive something
2. Change blindness
3. Context of stimulus change perception of the stimulus
4. Stimuli can become invisible if too static
5. Some stimuli alter our perception of other stimuli, including across sense modalities.
6. Mental rotation.
7. Hemispatial neglect.