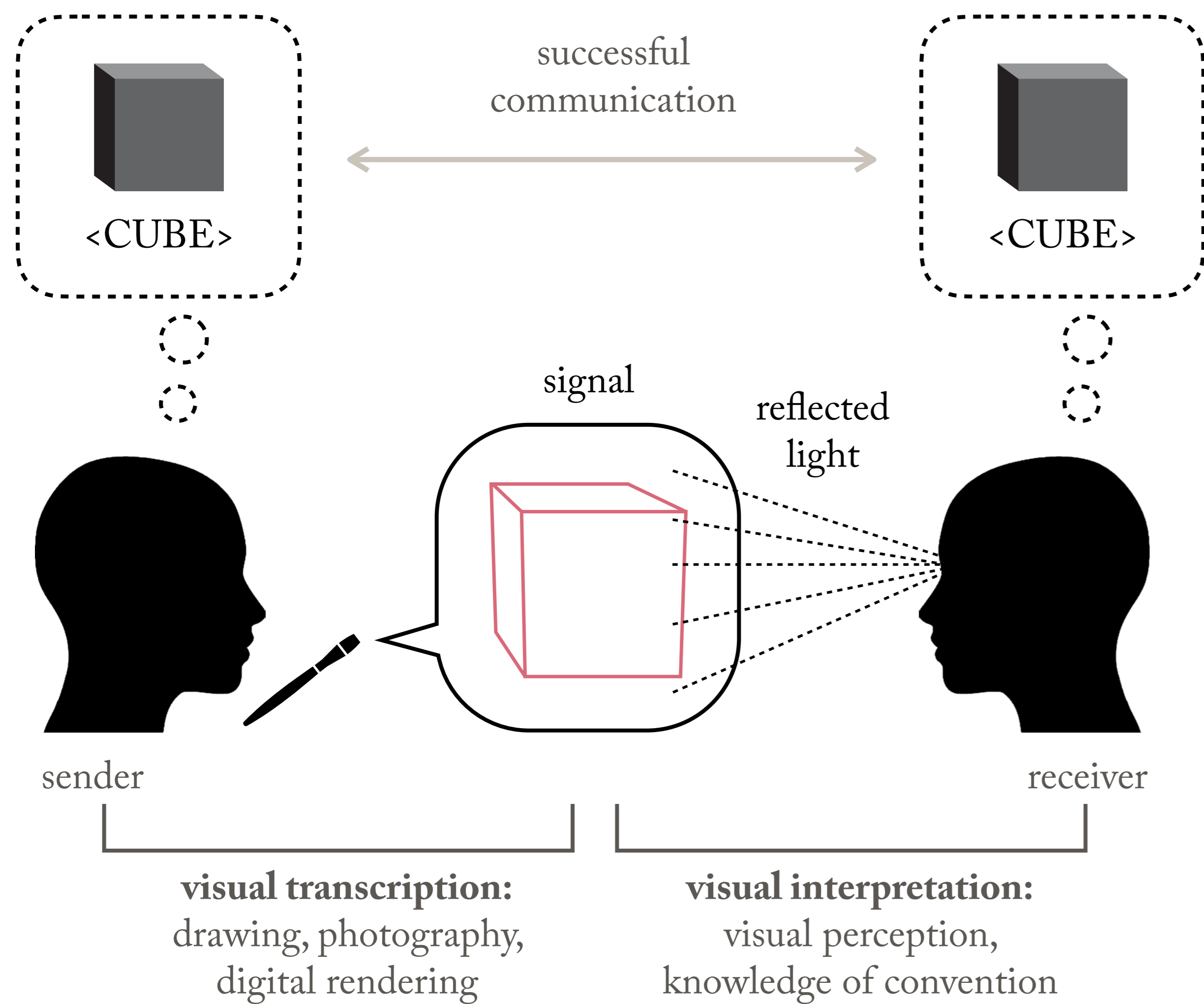


Depiction = Vision + Communication

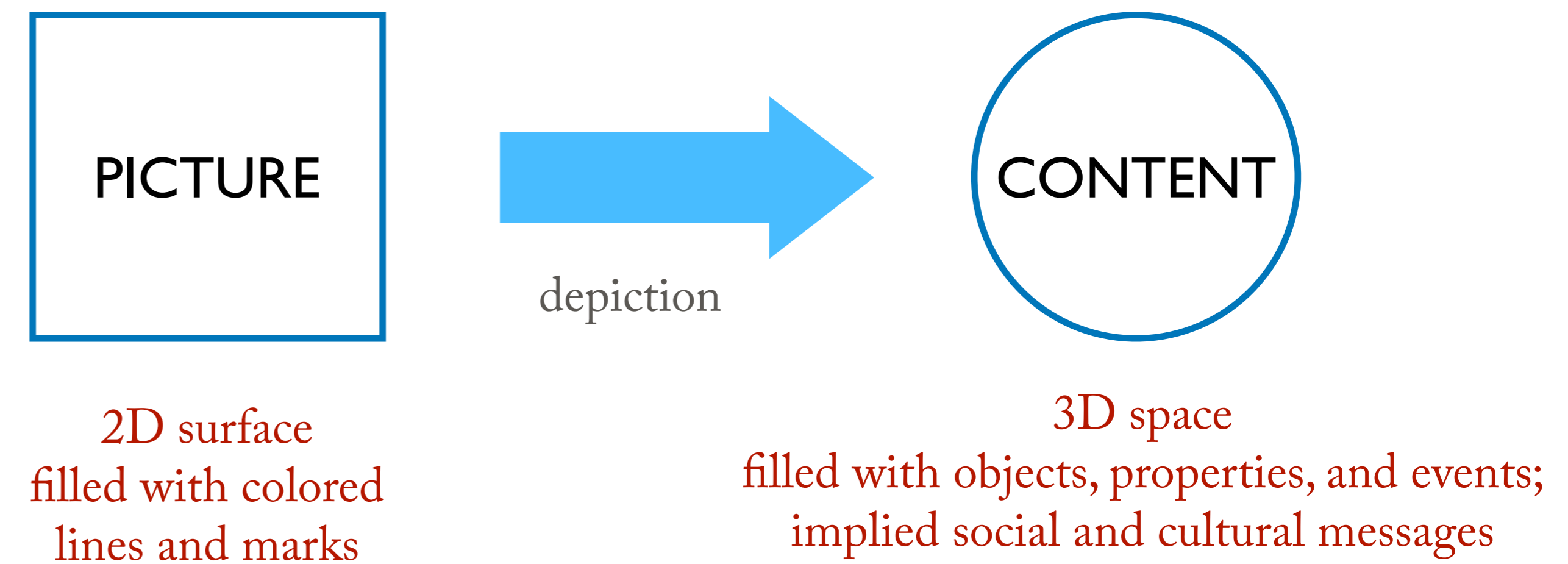


Phil 161: Visual Signs

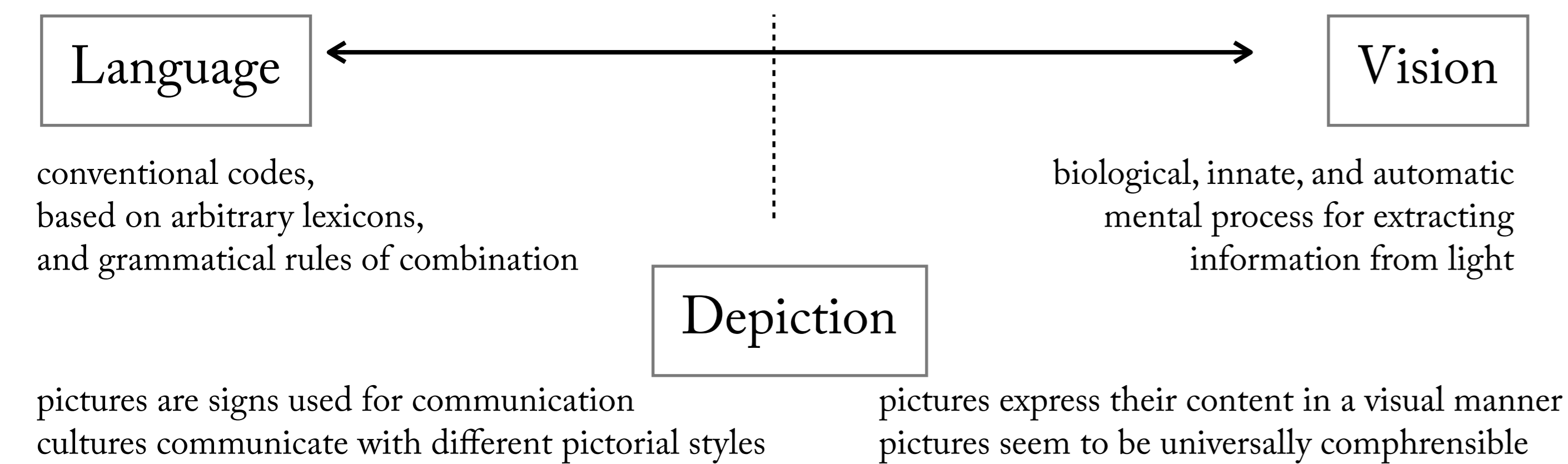
1.5.25 • Prof. G. Greenberg

Depiction

- A **representation** is a physical **sign** that is used to carry or convey **informational content**.
- The relationship between sign and content is called **representation** or **expression**.
- **Pictorial representation** or **depiction** is the special relationship between pictures and their contents.



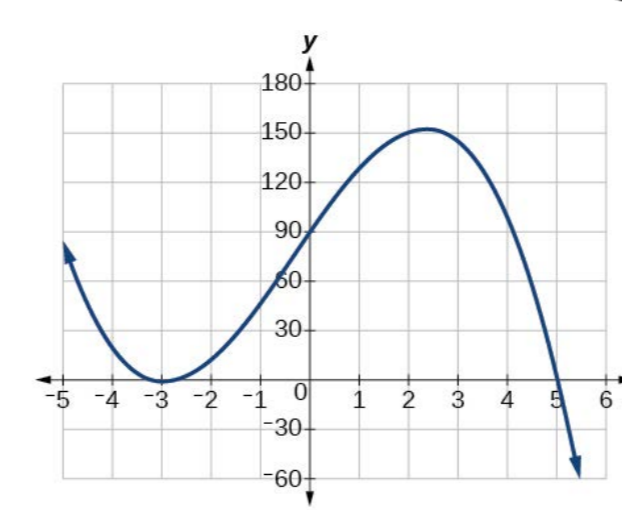
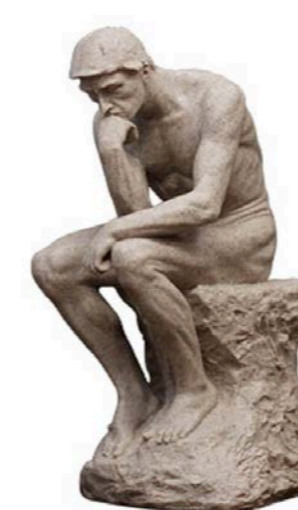
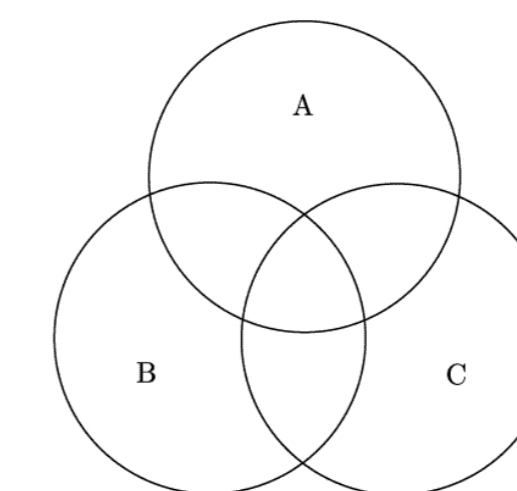
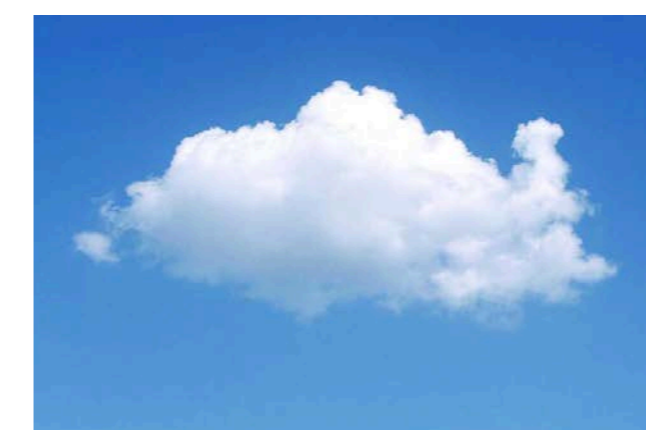
Is depiction more like language or more like perception?



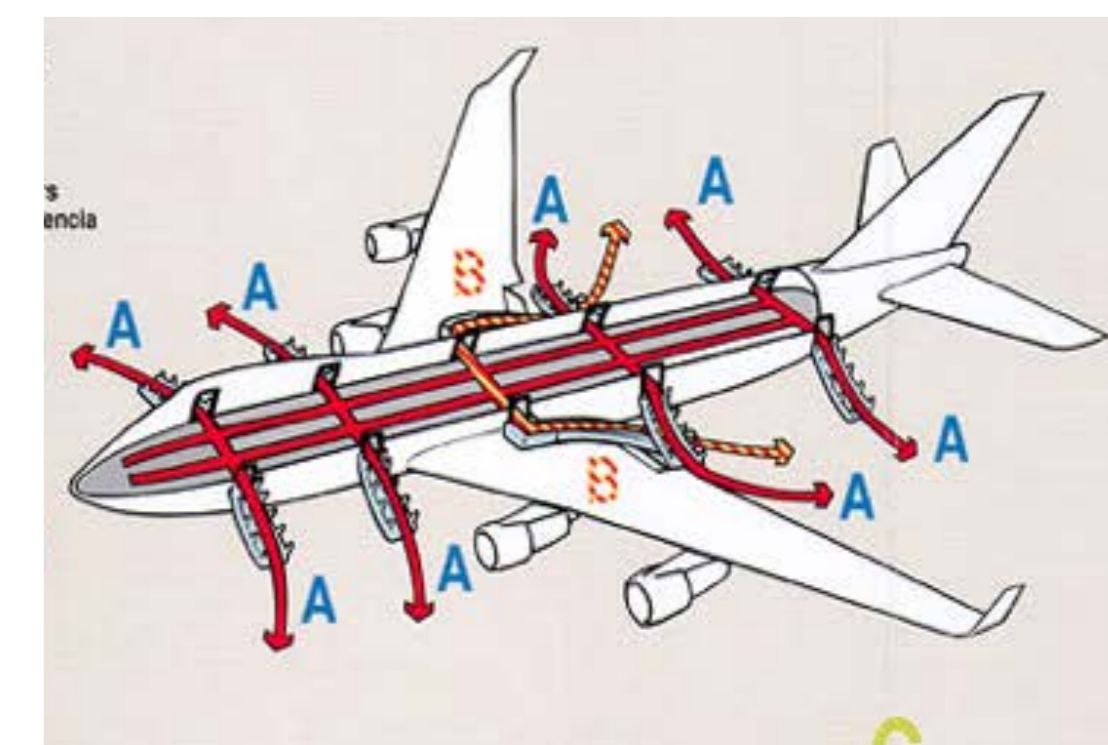
Picture (working definition)

A picture is a representation that:

- has a two-dimensional surface;
- expresses three-dimensional content
- that is centered on a viewpoint.



"A dog to my left is barking at a cat in the distance."



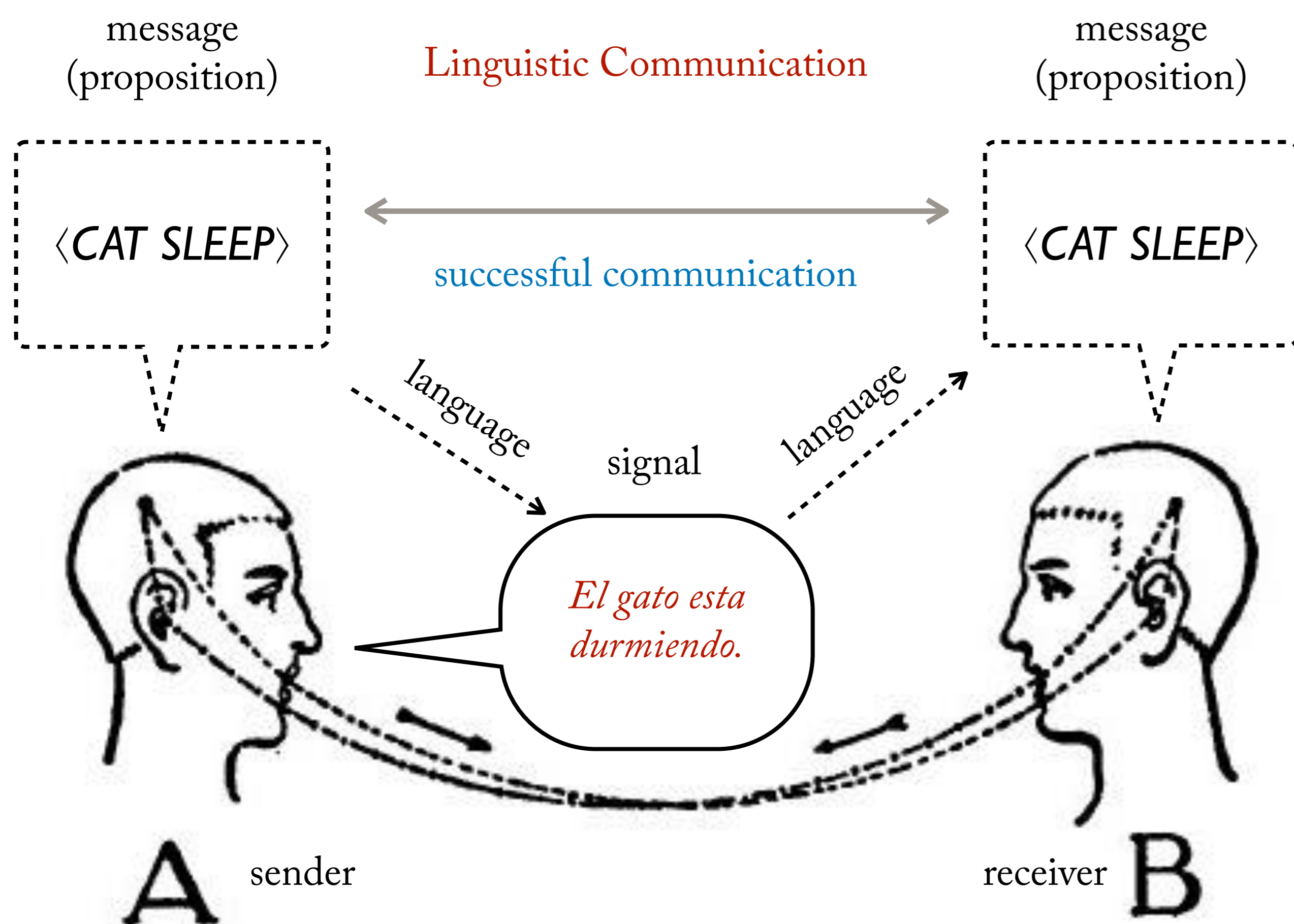
"We look at the object with an intent regard, then at the palette, and thirdly at the canvas. The canvas receives a message dispatched usually a few seconds before from the natural object. But it has come through a post office en route. It has been transmitted in code. It has been turned from light into paint. It reaches the canvas a cryptogram. Not until it has been placed in its correct relation to everything else that is on the canvas can it be deciphered, is its meaning apparent, is it translated once again from mere pigment into light. And the light this time is not of Nature but of Art."

— Winston Churchill

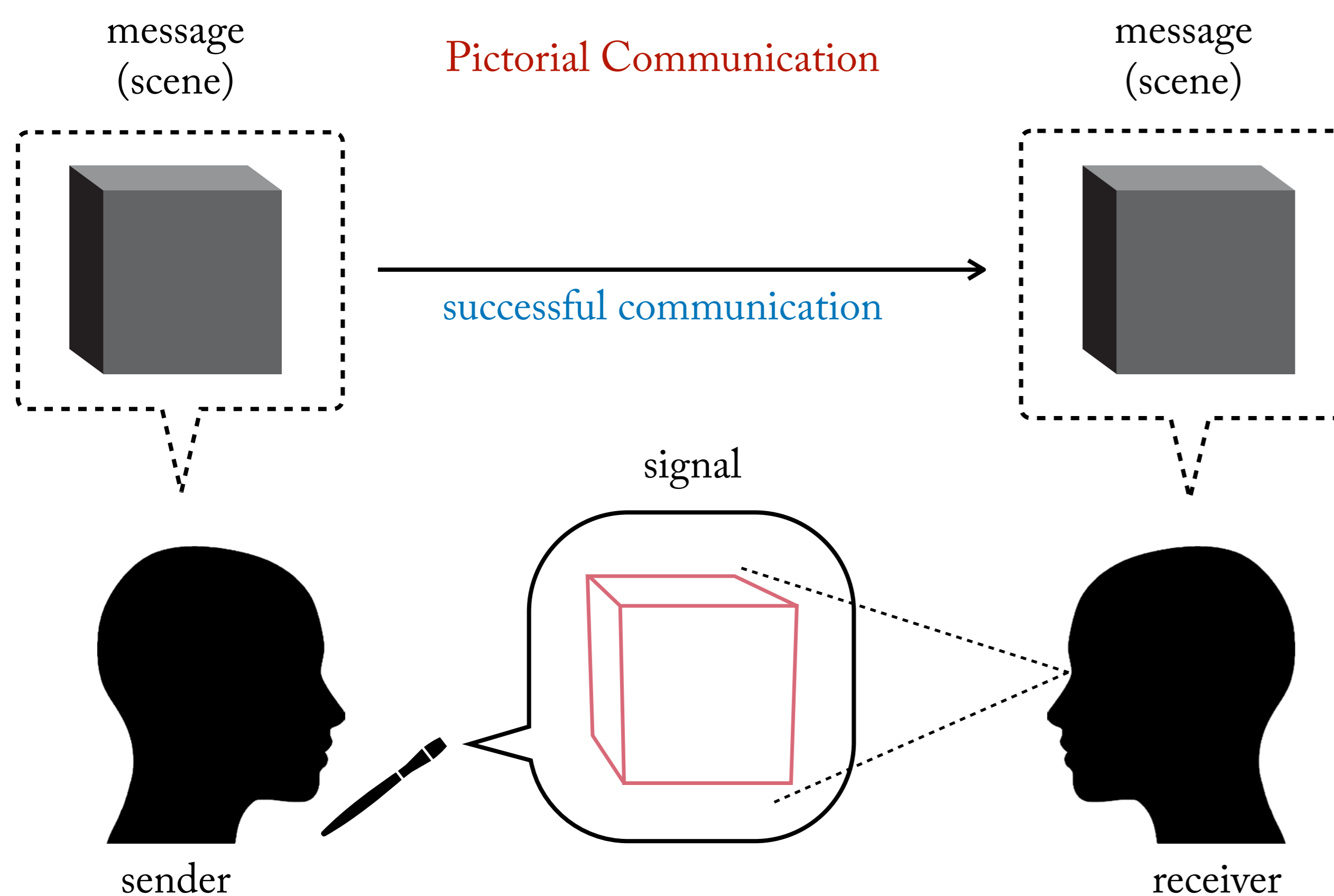
Not pictures

Pictures

The Structure of Communication



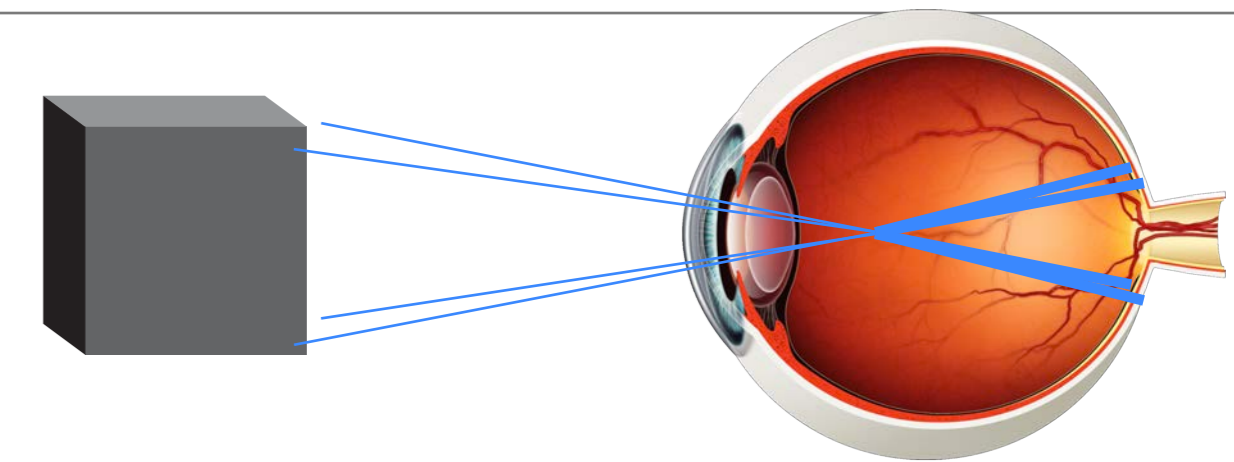
The classical **sender-receiver model of communication**: a send **encodes** a message, or content, in a sentence, via a **language**; the receiver decodes a message from the sentence, via the same language. Communication is successful when the sender message = the receiver message.



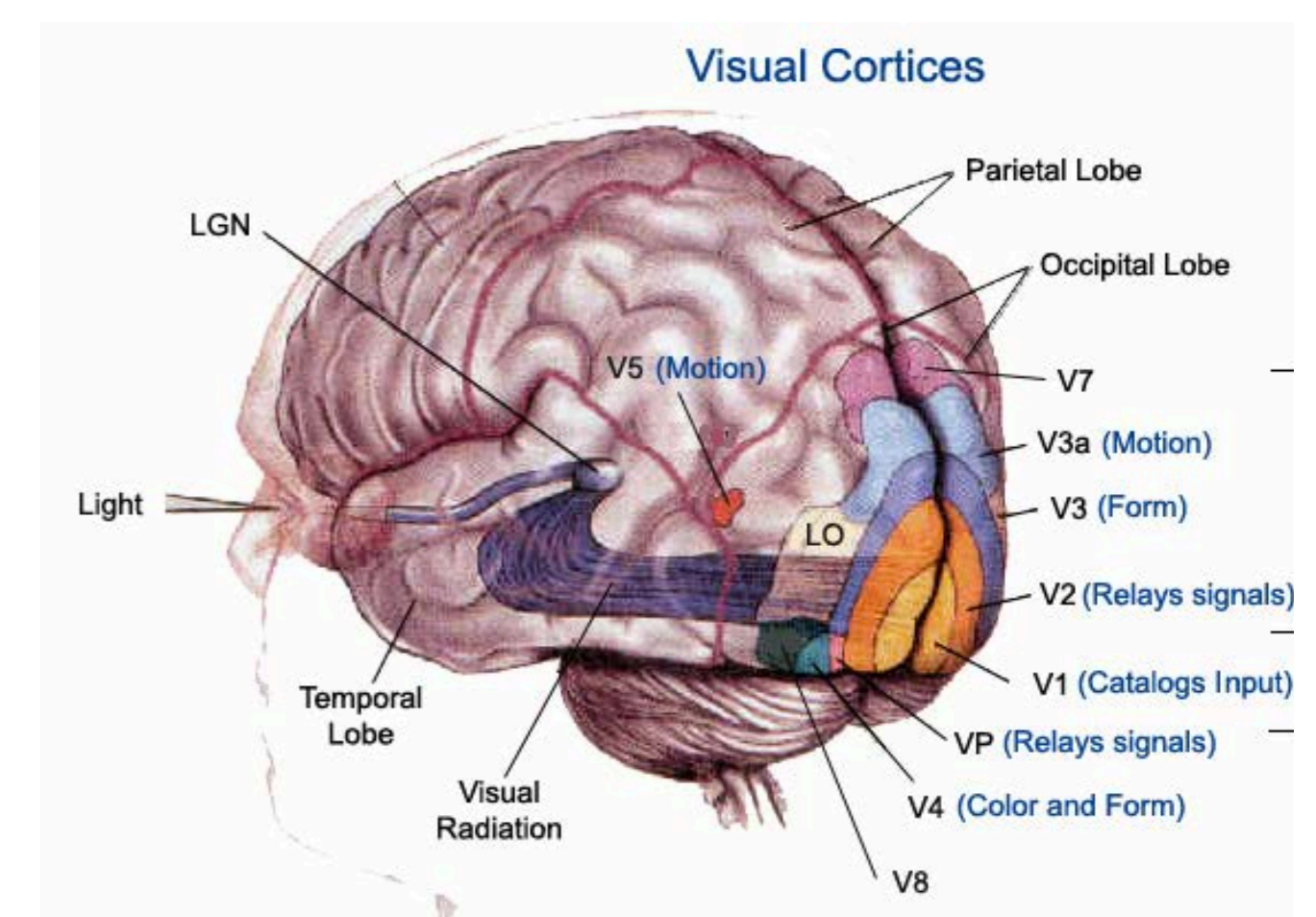
The sender-receiver model applied to pictorial communication.

The Structure of Vision

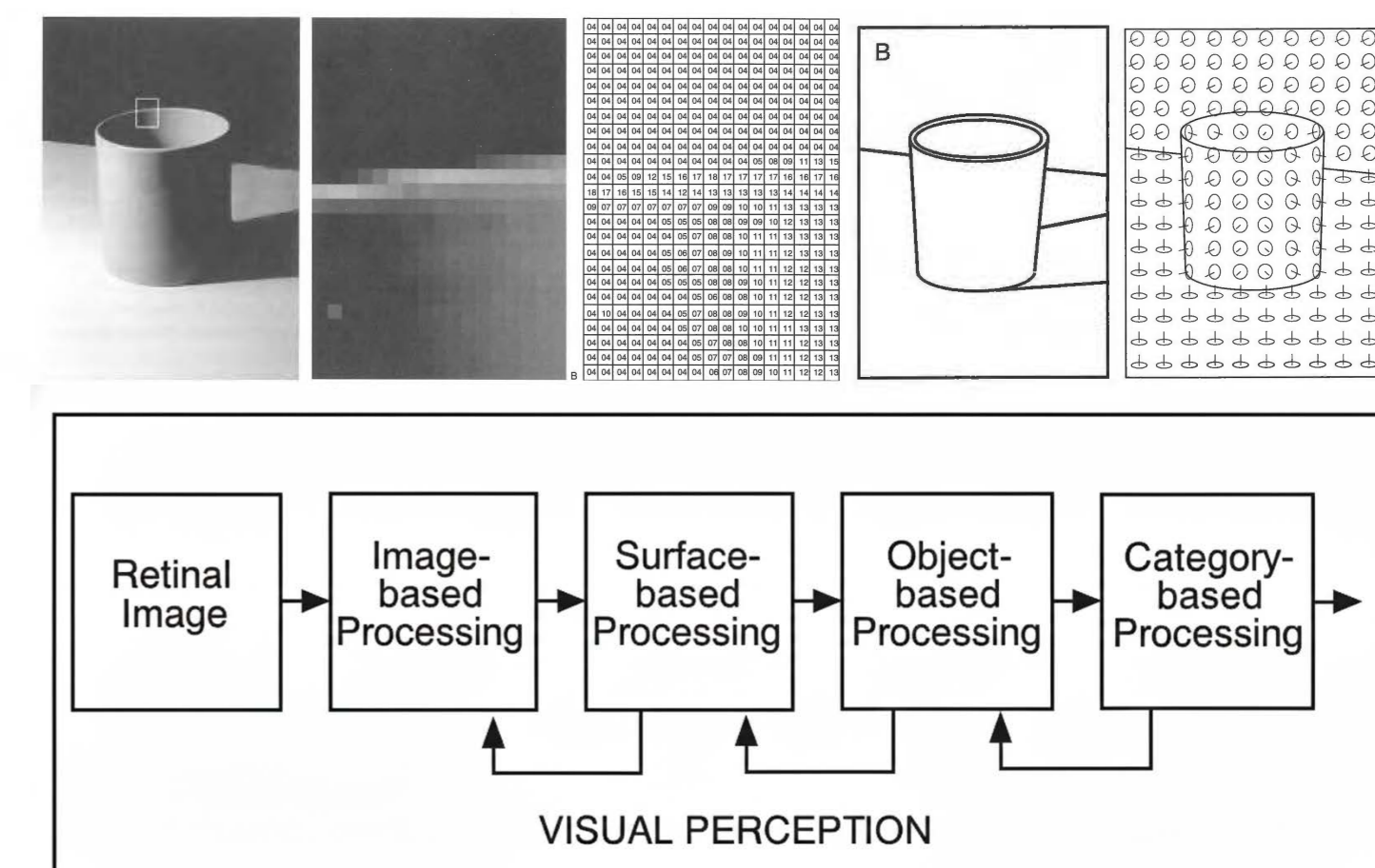
From objects to light. Vision begins with light reflected in straight lines from objects in the environment into the eye.



From light to representation. Visual processing takes place in the visual cortex at the back of the brain. Processing takes places over a series of modular stages.



Visual processing as computation. The function of the visual cortex is take an incoming 2D retinal image and extract a useful internal representation of the 3D external environment.



Vision, by nature, is **constructive**: it fills in and adds information to the retinal image in an attempt to reconstruct a description of the external world.

Vision as **inverse optics**. In a esense, vision functions to invert optics: optics projects a 3D world to a 2D image; vision attempts to reverse this process at the representational level.

Ultimately, vision is always a form of **inference to the best explanation**: it makes a best guess about the causal source of the retinal image.

Visual perception is **successful** when the internal perceptual representation accurately describes the scene that cause the retinal image.

