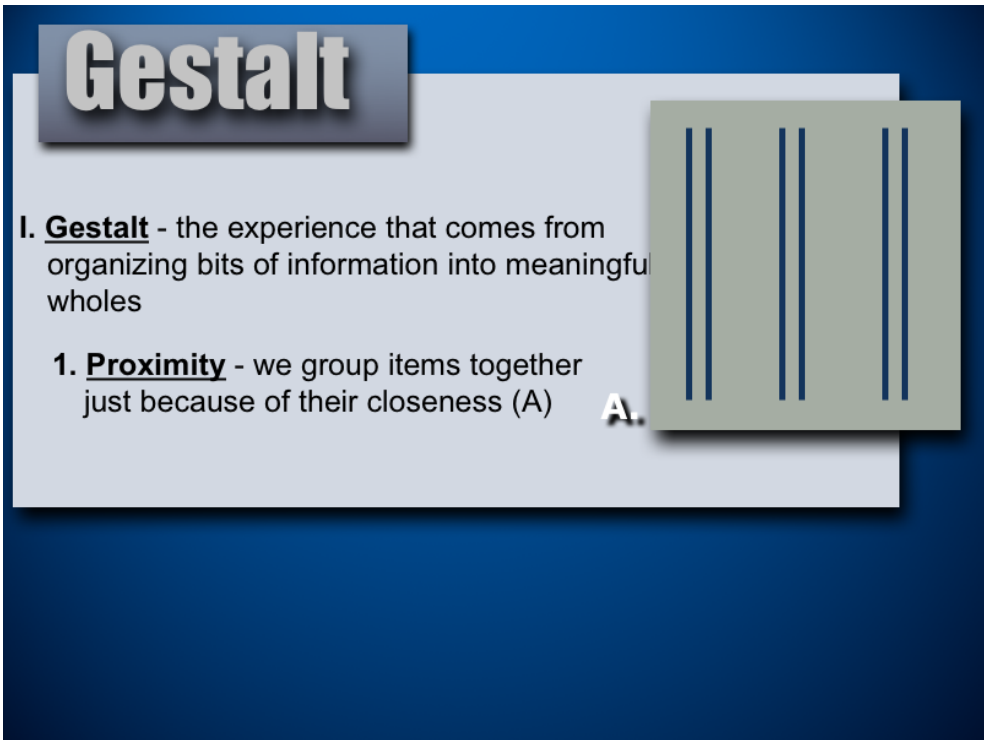
Organizing Our Perceptions

KT 2018


Perception



Gestalt - the experience that comes from organizing bits of information into meaningful wholes

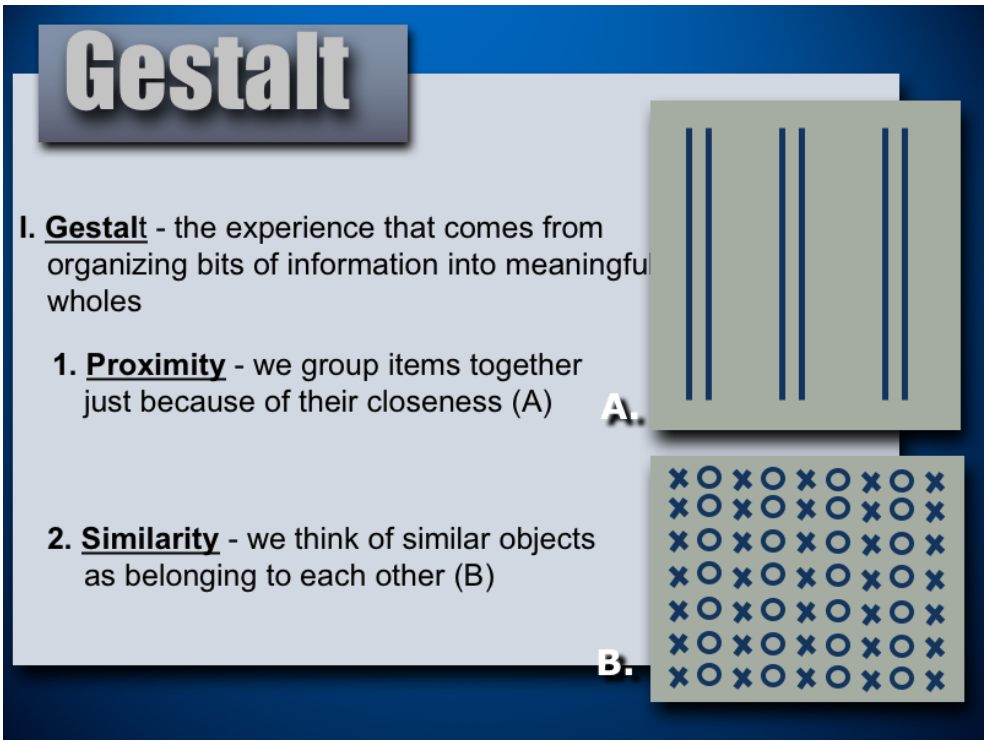
Gestalt psychologist applied the principle that “the whole is more than the sum of its parts” to study perception.

Through the process of perception, the brain is always trying to build wholes out of the random stimuli that bombards our senses. The “whole” experience that comes from organizing bits the information into meaningful objects and patterns is called Gestalt.

- Gestalt psychologist have tried to identify the principles the brain uses in constructing perceptions. We are going to go through a few of those gestalt principles that the brain uses in constructing perceptions.

Diagram - Ask student, *"If I were to ask you to describe figure A, how would you describe it?* 6 lines? or 3 pairs? If you said three pairs, you were influenced by PROXIMITY.

--It works with sound too. In music you tend to group notes and beats on the basis of their closeness in time, or PROXIMITY. You hear melodies or beats rather than single notes or loud booms.



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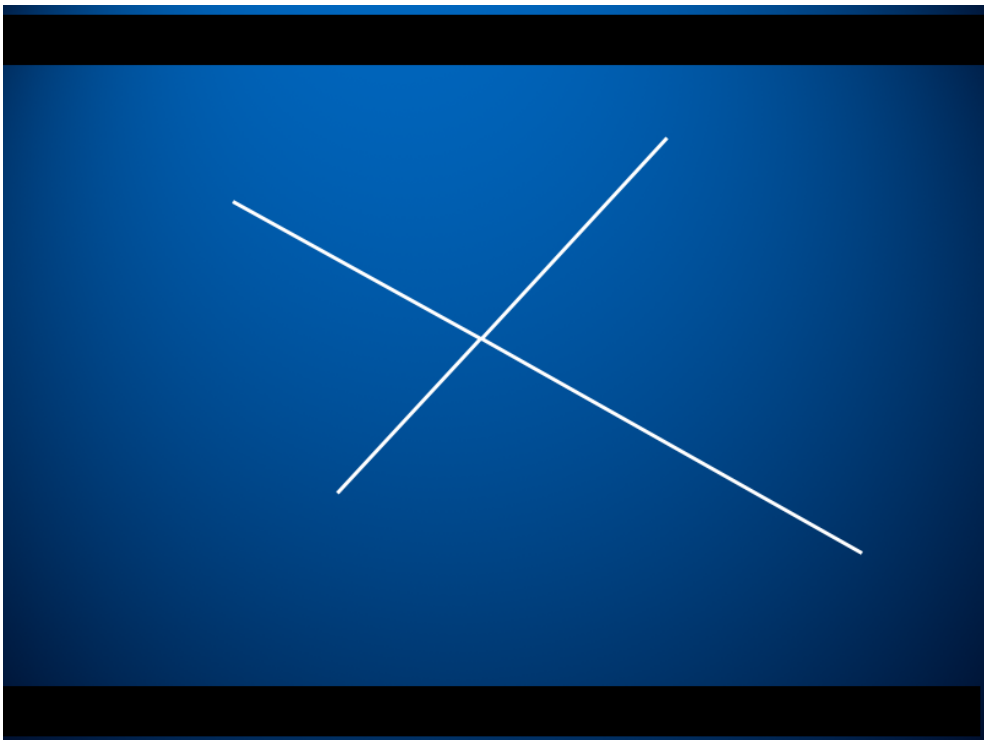
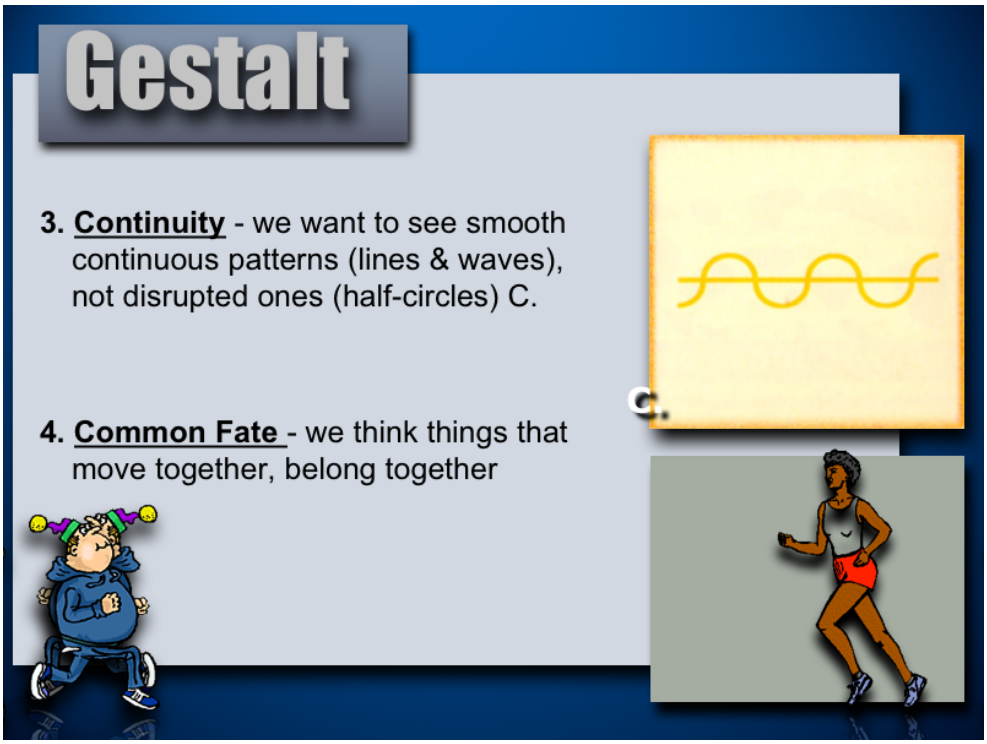


We see lines continuing through other lines, rather than stopping and starting.

In this example, most of us see two straight lines crossing each other.
Click for animation: But maybe it’s really two right angle lines instead.

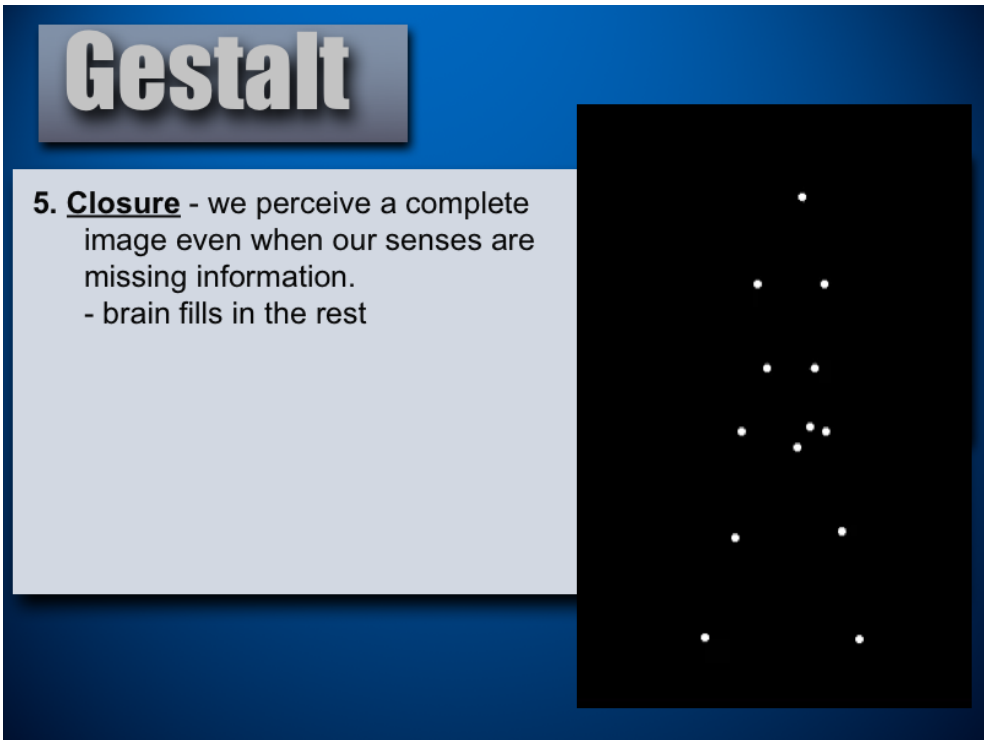
This is an example of continuity, a theory of Gestalt.



Common Fate is when we group things together, meaning we think they belong together, simply because they are moving together.

Animation: What about these two characters? Do we tend to group them together? If so,why do you think? (Click until joggers are in stop position) Look at them, they don't look similar, were they close to one another? Kind of, but even if they weren't we still would have a tendency to group them together. The reason is common fate.
Show that the two joggers have nothing in common. Gender, ethnicity, height, weight,

clothing are all different. Even so, if we saw these two people jogging one after another, we would assume they were together.



Closure is when we perceive a complete image even when our senses are missing information.

Pictures: You are familiar with dogs, so when you see these black spots, your brain automatically fits the pieces of information into a familiar pattern. It even works with motion(Click for animation). You might even be able to recognize the gender. Male or female? Answer: Male. Closure allows us to recognize a male human walking with just 13 dots.

Next Slide

Figure ground. - At first you probably see the vase. And either quickly or eventually you see the two people. By now, you seen this a million times, so you know what to look for.

This is pychologists' favoriete illustrations of figure ground relationships. We experience figure-ground everyday. If we look out a window, we may see things framed in a way we see people biuldings,cars etc. We see these objects as figures against a backgound, such as mountains or sky, or a horizon. We usually concentrate on the figure, which is usually the larger image, and since it is in the forground, it appears larger.

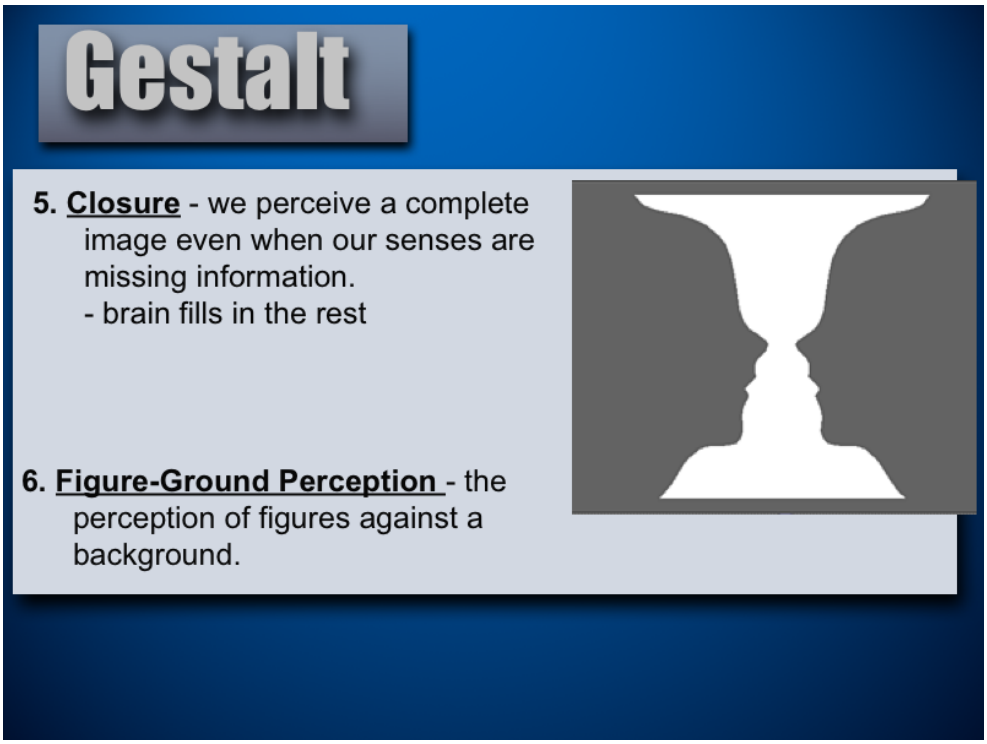


Figure-Ground Perception - the perception of figures against a background.

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- Usually, smaller object is the figure:
- Ambiguities arise when both regions have same size:

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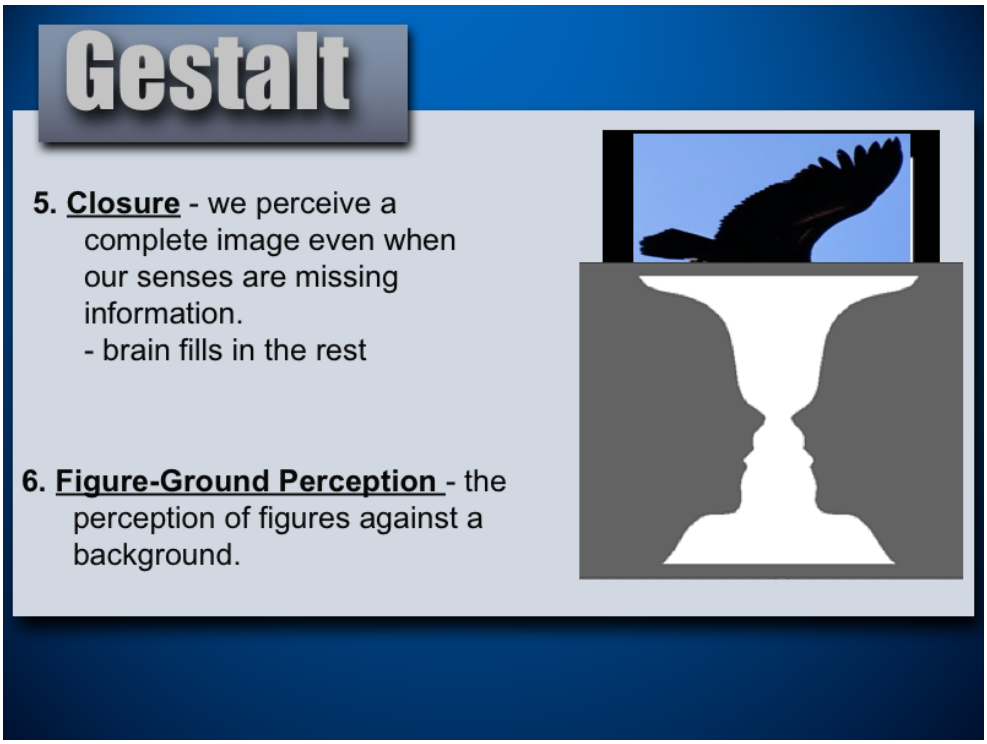

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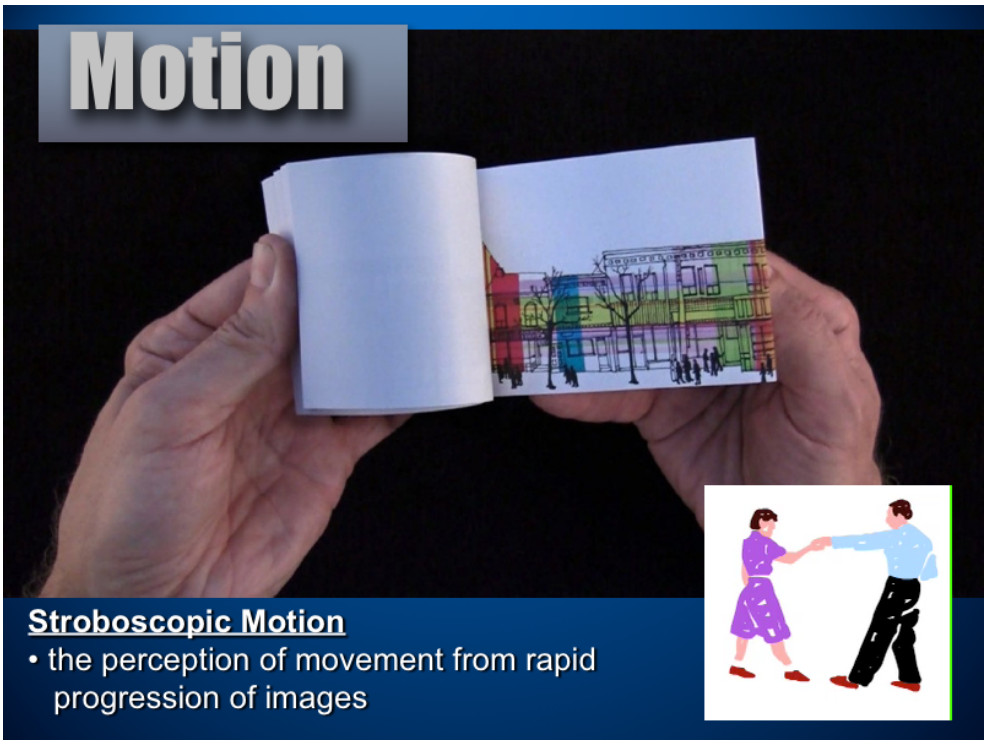


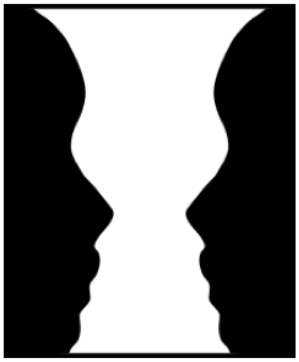
Psychologists have also studied **illusions** of movement. One such illusion of movement is called stroboscopic motion.

Stroboscopic (Stroe - bow- Ska-pic) is the perception of movement from rapid progression of images. Have you ever seen or made a flip book?
Insert a Michael Jackson song for a better effect :)

Perceptual Set

- *(also called perceptual expectancy)*
- *We see what we expect...*

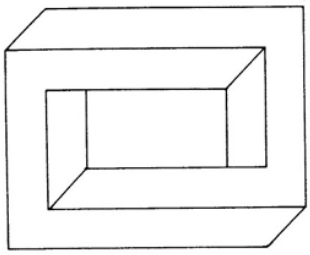
Figure Ground

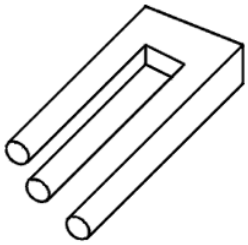


- Elements are perceived as either figure…or ground…

Impossible Figure

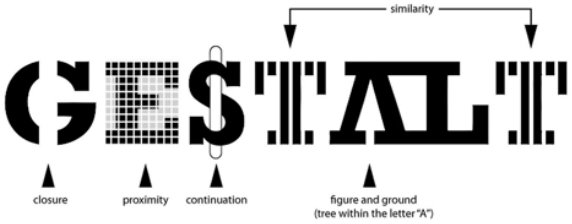
- An impossible object is a type of optical illusion. It consists of a two-dimensional figure which is instantly and subconsciously interpreted by the visual system as representing a projection of a three-dimensional object.





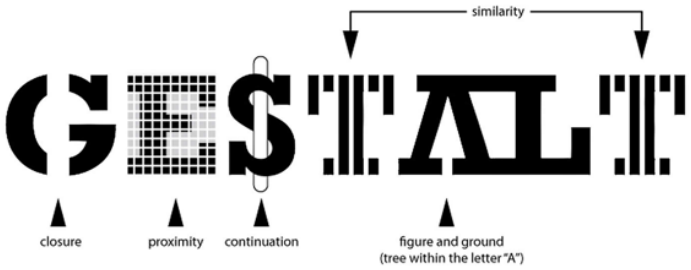
Gestalt Principles

- Humans have a tendency to want to organize their perceptions into meaningful units or wholes.
- an organized whole that is perceived as more than the sum of its parts.
  - Closure
  - Continuation
  - Similarity and proximity



CLOSURE

- We finish off incomplete images based on prior knowledge

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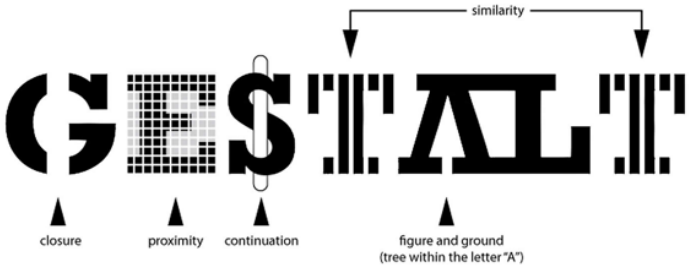
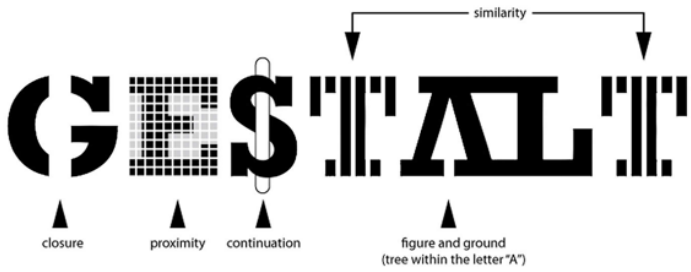
Proximity

- We group similar perceptions together



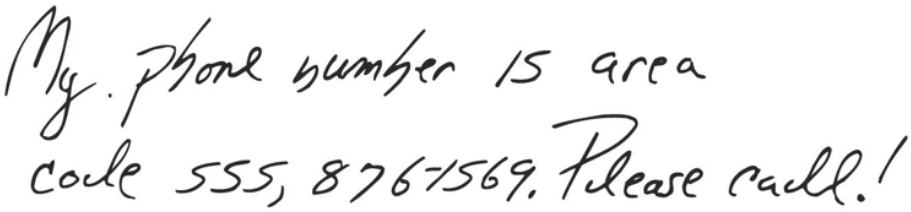
Continuation

- We group objects that seem to ”flow” together…



Context

- The impact of the surrounding environment on our judgements can play a significant role in our reception of images and events
- Cursive handwriting...to decipher we piece together what a letter/word must be in the context of surrounding words.



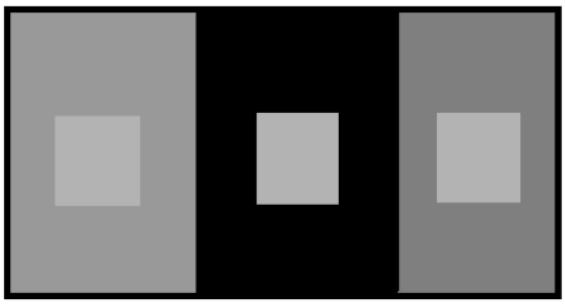
Frame of Reference

- LJ = 6’8” / KH = 5’4”…what is tall/short to them?

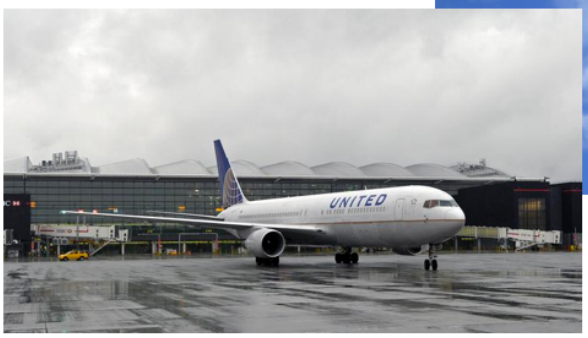
Contrast Effects

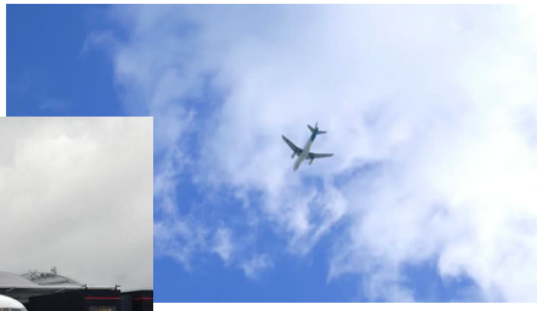
- Context plays a large role in how we see the grey box.

Which center gray box is lighter?



Constant Size





- *We know the plane is large even though the image that falls on our retina is tiny.*

Shape Constancy

Shape constancy refers to the ability to perceive objects as having a constant shape despite receiving different sensory images. This helps us see the door as a rectangle as it opens. Because of this, we may think the red shapes on screen are also rectangles.