Perception

Perception

- The tracks are converging – sensation
- The tracks are parallel – perception

Perception

Gestalt psychology

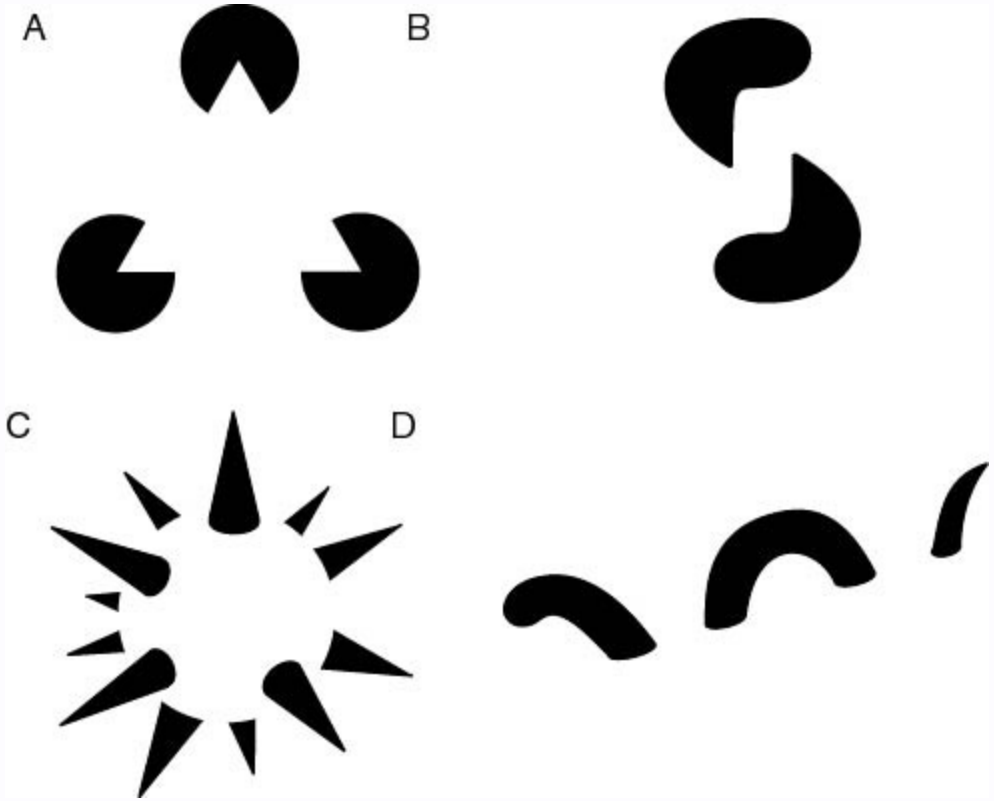
- A movement in German psychology, late 19th century
- It is not possible to describe the human mind by analyzing its structure, one needs to look at the global whole
- *“The whole is something other than the sum of its parts”* (Kurt Koffka)

Gestalt – emergence

Gestalt – emergence

- We see a dog (a Dalmatian?)
- We do not recognize its parts independently (nose, ears, head, paws)
- We see the dog in its entirety, at once
- “The whole is something other than the sum of its parts”

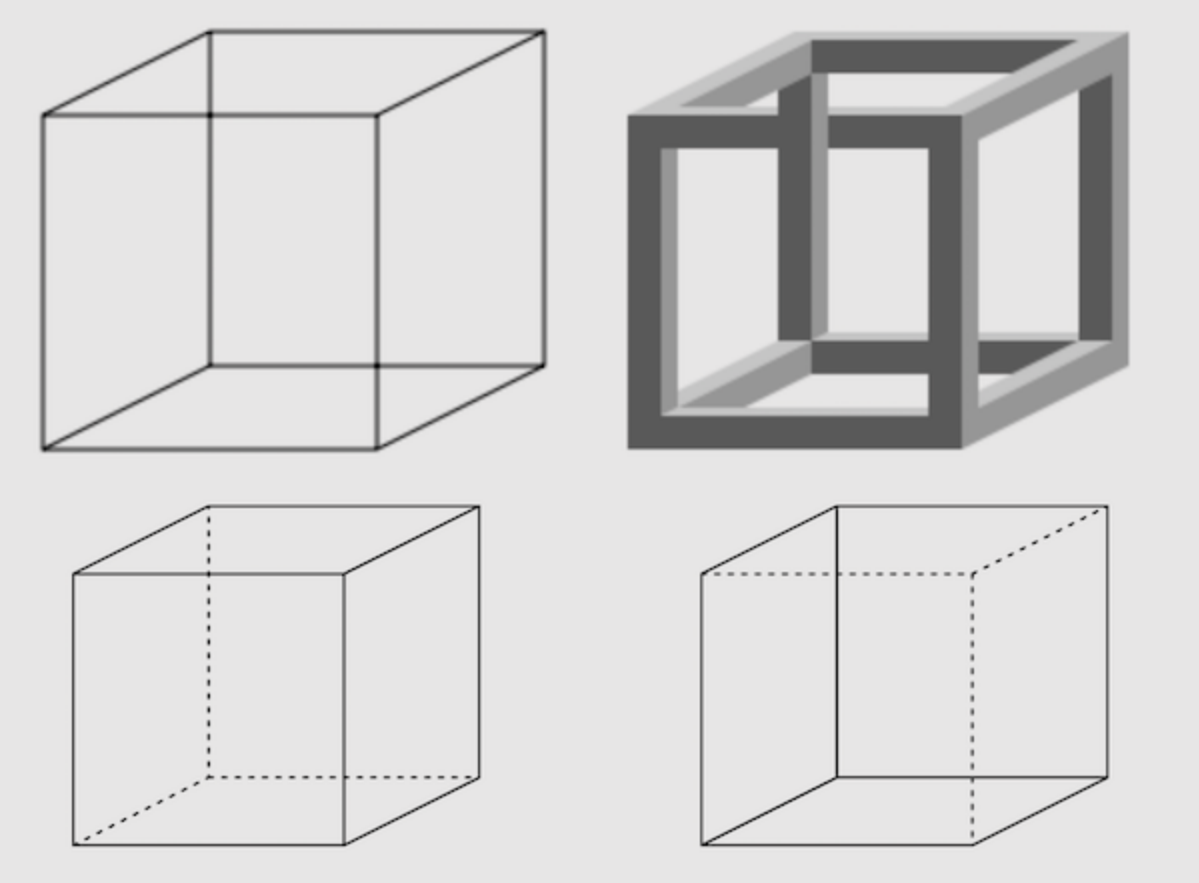
Gestalt – reification



Gestalt – reification

- Our perception can generate more information on the object than it is given in reality
- In picture A we see a triangle, though there is no triangle drawn
- In pictures B and D, the eye recognizes disparate shapes as "belonging" to a single shape
- In C a complete three-dimensional shape is seen, where actually no such thing is drawn

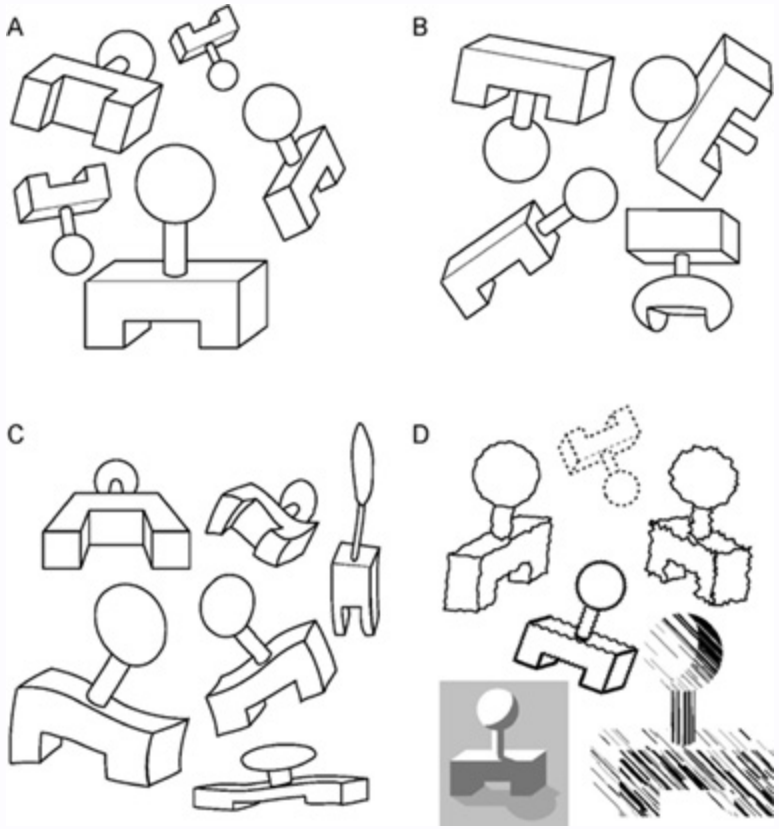
Gestalt - multistability



Gestalt - multistability

- Multistability is a tendency of ambiguous perceptual experiences to pop back and forth unstably between two or more alternative interpretations
- Gestalt psychologists described the effect but did not give an explanation
- The Necker Cube is used today to test computer-based models of perception

Gestalt - invariance



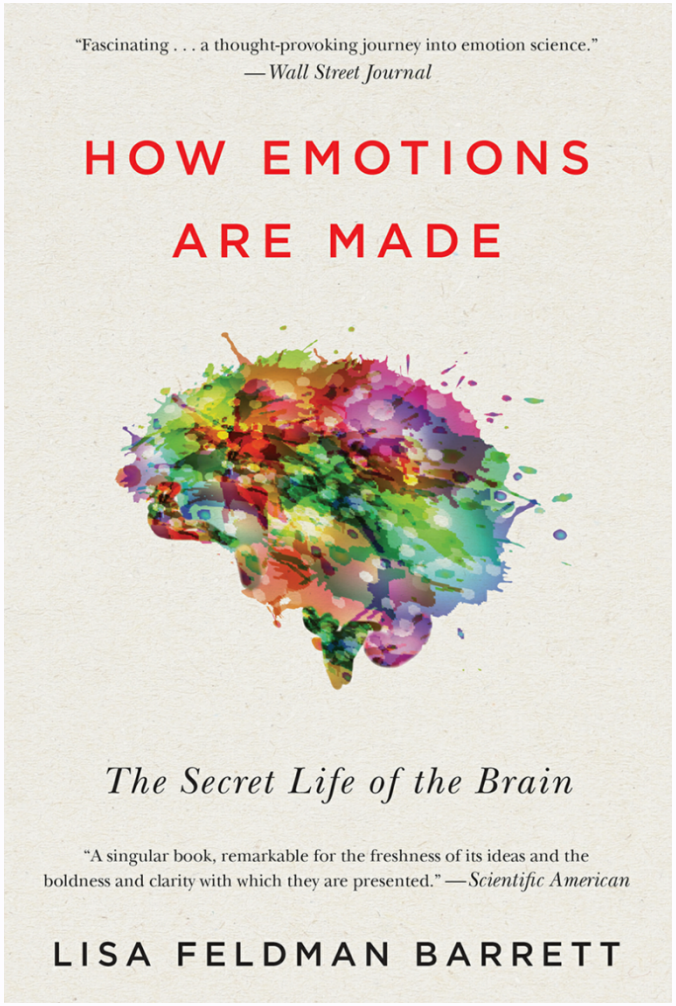
Gestalt - invariance

- Invariance is the property of perception whereby simple geometrical objects are recognized independent of rotation, translation, and scale; as well as several other variations such as elastic deformations, different lighting, and different component features
- These laws of perception were since explored by cognitive psychologists, and some are puzzling to this day

Perception is generative

- We generate the world around us
- Same stimulus may be interpreted in differently depending on:
  - Context
  - Who is looking
  - What actions are taken
  - Motivational state
  - Previous experiences

Predictive processing



Lisa Feldman Barrett - How Emotions Are Made? The Secret Life of the Brain

Predictive processing

- Brain is in the business of **predicting future states**
- Your senses **predict future percepts**