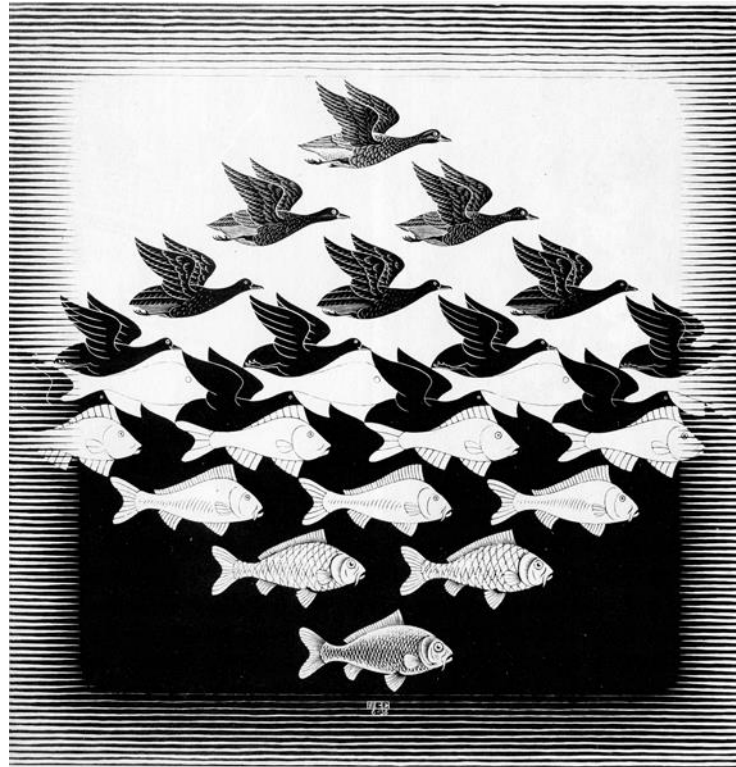


Perceptual organisation and Gestalt Laws



Gestaltists

Gestalt Psychology

- Prominent figures:
 - Koffka, Köhler, and Wertheimer
- Fundamental principle: the law of Prägnanz (also known as law of simplicity)
 - “Of several geometrically possible organisations ... one will actually occur which possesses the best, simplest and most stable shape” (Koffka, 1935, p. 138)



Perceptual Organisation

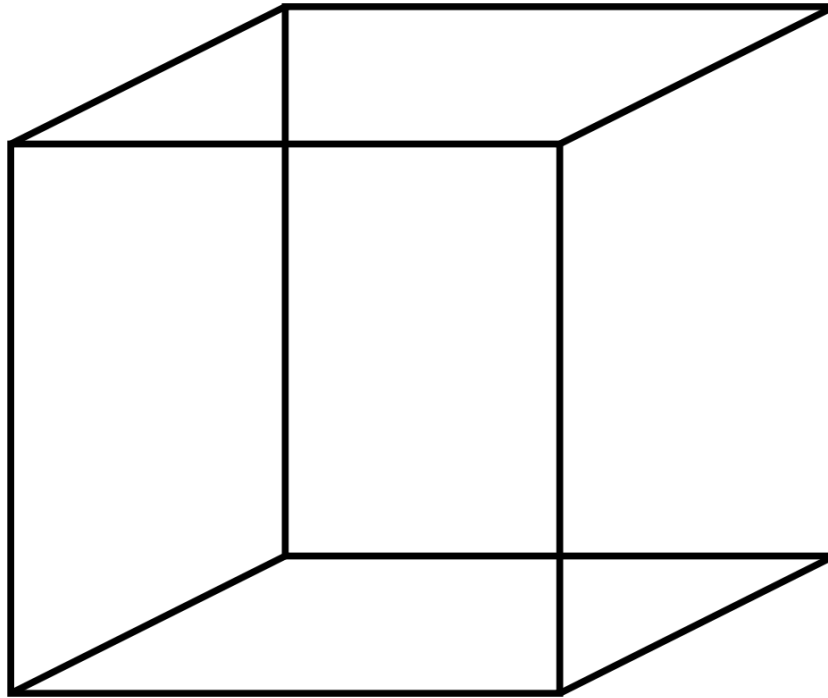
Perceptual segregation:

- Separating visual input into individual objects
- Thought to occur before object recognition

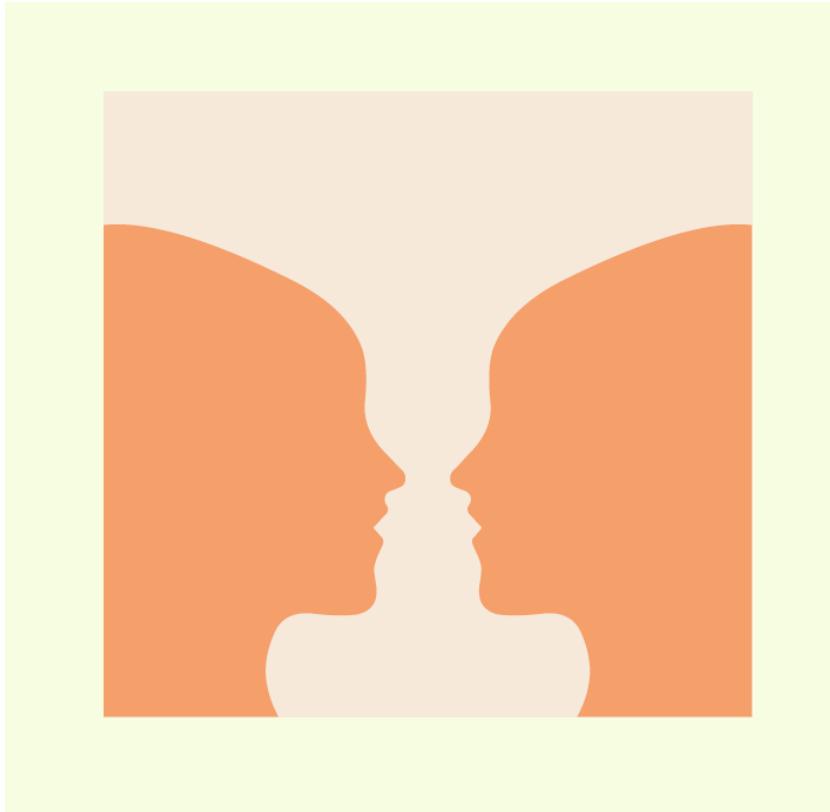




Necker cube



Figure–Ground Segregation



Rubin's vase: an ambiguous drawing which can be seen either as two faces or as a goblet

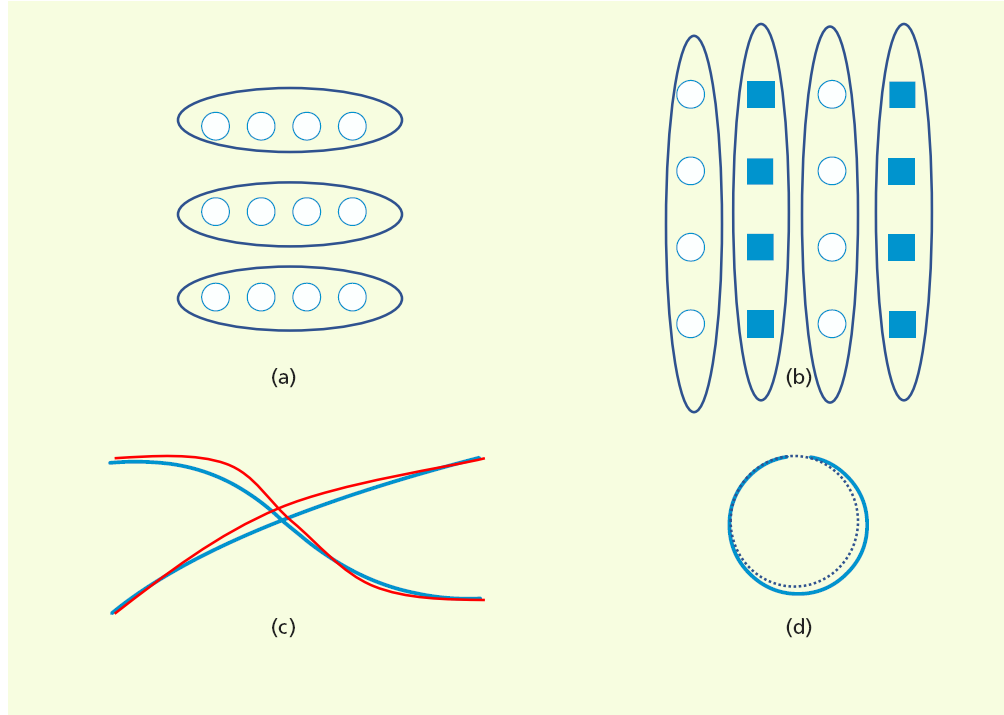
- Top down processing must occur in some circumstances, such as when it isn't clear which is the figure or the ground



Perceptual Illusions



Gestalt Laws of Perceptual Organisation



- a) The law of proximity
- b) The law of similarity
- c) The law of good continuation
- d) The law of closure

These are automatic and require no learning.

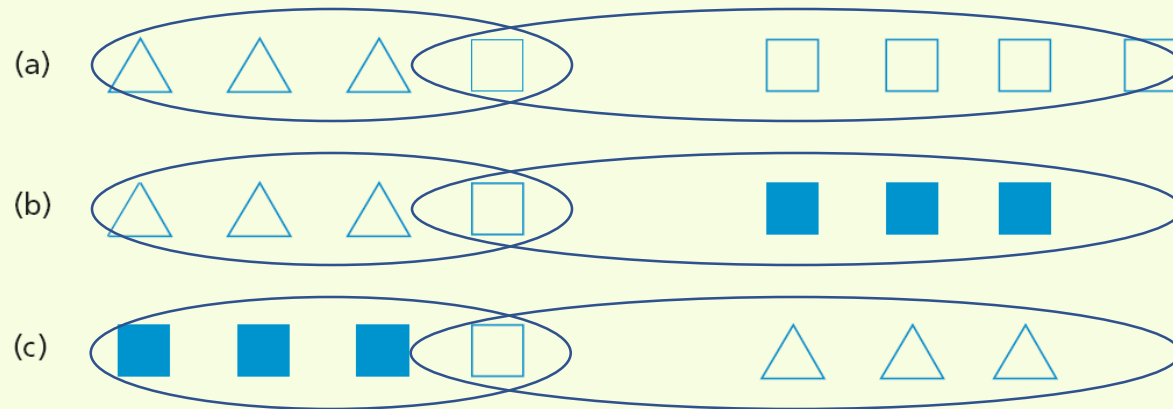
Bottom-up processes.

Supposedly “fundamental laws” of human perception



Quinlan and Wilton (1998)

Gestaltists de-emphasised the complexities involved when laws of grouping are in conflict



- a) Conflict between proximity and similarity
- b) Conflict between shape and colour
- c) Another example of conflict between shape and colour

Approximately a 50/50 distance/similarity split.



Geisler et al. (2001)



- Studied naturalistic pictures
- Emphasized two new principles:
 - Adjacent segments of any contour have very similar orientations
 - Segments of any contours that are further apart have slightly different orientations
- Concluded that we use existing knowledge of real objects when making decisions about contours
 - Top-down processing
 - Lots of complex stuff goes on

