Computational Modelling

Devising computational model based on a cognitive theory – essentially computer imitates human brain. We can then assess the plausibility of the suggested theory, as well as produce new predictions regarding the theory.

Advantage – We can test theories.

Summary of the Theories

- Each theory has its own advantages and disadvantages.
- Not every approach can be used for a particular problem.

The greatest promise lies in combining different approaches.
Eg. Experimental may be good for devising a hypothesis, whereas cognitive and computational may be better for testing.

Introduction to Perception

Perception: The ability to interpret external stimuli in order to act upon them.
Different to sensation
Sensation is simply the effect stimuli have on sensory organs.

Perception is the elaboration and interpretation of sensory stimuli.
Eg. Sensation I being hit on the thumb with a hammer.
It can also be the elaboration of something in terms of emotion.
Eg. Taste buds are sensory organ – they react to a smell of a new burger at McDonald’s. (feeling)
Perception may be “I don’t like it”. (evaluation)

Perception seems effortless – it is an extremely complex process.
Visual perception takes up 1/3 of the brain, perception overall takes up about 1/2.
- It only seems effortless because we’re so good at it.

Visual Perception

Eyes are simply part of a neuro-network. The brain (and eyes) are involved in active construction of a percept from the pattern of light which falls on the retina.
It is not the case that the eyes do all the seeing and the brain simply translates it.
Most of the work is done in the brain.
Eg. Kanizsa’s (1976) illusory square.

There is no square present at all. We make that percept with our brains.