

The Cognitive Perspective

A. *Main focus and assumptions:*

Cognitive Psychology revolves around the notion that if we want to know what makes people tick then the way to do it is to figure out what processes are actually going on in their minds. In other words, psychologists from this perspective study cognition which is 'the mental act or process by which knowledge is acquired.' They focus on the way humans process information, looking at how we treat information that comes in to the person (what behaviourists would call stimuli) and how this treatment leads to responses. In other words, they are interested in the variables that intervene between stimulus/input and response/output.

The main areas of study in cognitive psychology are: Perception, Attention, Memory and Language. The first, perception, is concerned with the way we acquire knowledge. The second, attention, is also concerned with acquisition. The third, memory, is concerned with organising and retaining knowledge and the final area is concerned with how we use knowledge.

B. *The development of the cognitive perspective:*

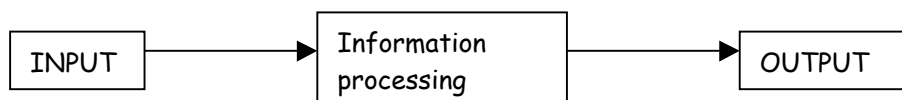
Cognitive psychology became of great importance in the mid-1950s. Several factors were important in this: -

- ∅ Dissatisfaction with the behaviourist approach in its simple emphasis on behaviour rather than internal processes
- ∅ The development of better experimental methods
- ∅ The start of the use of computers allowed psychologists to try to understand the complexities of human cognition by comparing it with something simpler and better understood i.e. an artificial system such as a computer (See *Artificial Intelligence* below)

The emphasis of Psychology shifted away from the study of biologically driven behaviour, conditioned behaviour and psychoanalytical notions about the study of the mind in unscientific terms towards the understanding of human information processing, using strict and rigorous laboratory investigation.

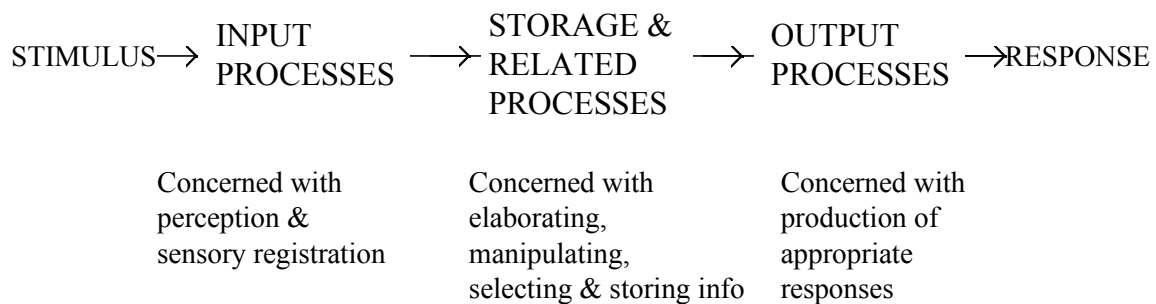
C. *More on the information processing model:*

The information processing approach became very popular (the dominant paradigm) and cognitive psychologists often work with models of the human mind. One of the difficulties facing cognitive psychologists is that they are trying to study processes that are not directly observable. Consequently they suggest that we can imagine what is going on in between input and output and make a model of this which can then be tested by experimental or other means. The findings then influence any modifications we might make to the model. An information-processing model has the following structure:



The model might be slightly more detailed: -

BASIC INFORMATION PROCESSING MODEL



Cognitive Psychologists do study the “mind”, but not quite in the way that previous researchers had done. It really represented a shift even further towards Psychology as a science. Many researchers began to follow Broadbent’s (1958) idea that much of cognition consists of a sequence of stages (input/attention/perception, storage, retrieval, or whatever).

D. One application of the information processing model: Artificial Intelligence

Artificial intelligence (AI) is the *science of making machines do the sort of things that are done by human minds* (Boden 1987). During the 1960s and 1970s there was an increased interest in how people process information. One of the factors that allowed this was advances in technology, in particular the development of the computer. The **computer metaphor** involves viewing the brain as being like a computer. One major assumption of AI is that both humans and some machines are information processors. The information processing machines (computers) are artificial in that we made them. If the inputs and outputs of the human and the machines are identical, then given that we understand the functioning of the artificial system, this should throw some light on how a human mind functions. AI models assume the human mind functions in an analogous way to the computer and so in AI, computers are tools that are used to try and understand how information is processed by the human mind.