

## 5 major contributions in cognitive psychology.

① 1956 - Miller

② 1957 - Chomsky

③ 1958 - AI

④ 1959 - Skinner reviews by Chomsky.

⑤ 1967 - Neisser book "Cognitive Psychology"

1) A classic paper focusing on capacity limitations was authored by George Miller, in 1956.

This paper entitled, "The Magical Number Seven, Plus or Minus Two", observed that

a) the number of unrelated things we can perceive distinctly without counting

(b) the number of unrelated things on a list we can immediately remember

(c) the number of stimuli we can make absolute discriminations among are for most normal adults between 5 and 9

② 1957

Chomsky said that underlying people's language abilities is an implicit system of rules, collectively known as a generative grammar.

These rules allow speakers to construct, and listeners to understand sentences that are "legal" in the language.

For eg, "Did you eat all the oat bran cereal?"

is a legal, well formed sentence

but

"Bran the did eat all oat eat you cereal?" ~~is~~ not.

is not.

Our generative grammar, a mentally represented system of rules, tells us so, because it can produce (generate) the first sentence but not the second one.

Chomsky (1957, 1965) did not believe that all the rules of a language are consciously accessible to speakers of the language.

Instead he, believed the rules operate implicitly. We don't necessarily know exactly what all the rules are, but we use them rather easily to produce understandable sentences and to avoid producing gobbledygook.

③ 1958

John McCarthy coined the term AI "Artificial Intelligence" in 1955 in connection with a proposed summer workshop at Dartmouth College which saw many of the leading thinkers in computing attended. As part of refining his ideas about AI, he also invented the programming language in 1958.

John McCarthy is the father of AI.

He <sup>would</sup> be defined as "the science and engineering of making intelligent machines".

④

1959

Chomsky gave reviews on B.F. Skinner's Theory of Verbal Behaviour

Verbal behaviour is a communication theory that proposes that language, like any other observable action, is a learned behaviour that can be acquired, developed and sustained through the application of behavioural strategies (i.e. prompting, reinforcing, planning, ignoring, etc.)

Skinner believed that language is learned, whereas Chomsky believes that <sup>the</sup> language is innate, and is simply developed

⑤

1967

The father of Cognitive Psychology Ulric Neisser published the book "Cognitive Psychology"

It attempts at a comprehensive and accessible survey of Cognitive Psychology

Its chapters are organised so that they begin with stimulus came "inward"

through organs of sense, through its many transformations and reconstructions and finally through to its essential use in thought and memory.

## Subject Matter of Cognitive Psychology.

- Sensory / Sensation
- Perception
- Pattern recognition
- Attention
- Consciousness
- Memory
- Language
  - Artificial Intelligence
- Decision Making
- Thinking
- Cognitive Neuroscience.