

Aims.

The aims are as followed :-

- 1) An understanding, which refers to the explanation of the casual system
 - 2) Controlling, refers to systematic variations in the casual systems so as to yield desired results.
 - 3) Predicting means forecasting the probable outcomes with fair degree of confidence and accuracy on the basis of the knowledge regarding the casual system and control mechanisms of a given phenomena.
- To gain familiarity with a phenomena or to achieve new insights into it
(exploratory, formulative research)
 - To portray accurately the characteristics of a particular individual, in situations or a group. (descriptive research)
 - To determine the frequency with which something occurs or with which it is associated with something else.
(diagnostic) research

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To test a hypothesis of a causal relationship
(hypothesis-testing research)

Science and Common Sense
(Realism and truth)

— Science is a scientific thinking. This sort of thinking has 2 understanding features

• Firstly, it is goal oriented, Its goal is uncovering the truth

• Secondly, it is controlled through 2 overlapping systems of logic namely,
→ inductive logic system, in which specific instances belonging to a particular class of instances are studied/observed on the basis of the communality existing among them a principle is arrived at which applies to all instances belonging to that particular class of instances

Eg - Mr A is mortal
Mrs B is mortal

Mrs C is mortal

Therefore all the humans are mortal.

- deductive logical system, some principles or generalisations is used as a base for arriving at a deduction that is applicable logically to a particular case. So here the direction of the logical thinking is from general to specific.

For eg - All human beings are mortal
 Mr. S is a human being

 Mr. S is a mortal.

The difference between science and common sense

① Layman uncritically accepts the fanciful explanations of the natural phenomena where as scientist builds theoretical structures, verify them through empirical tests and offers scientific explanations to the human and natural phenomena.

② Like scientists, layman also tests his theories and hypotheses but this testing is always selective and subjective. On the other hand, scientists always guards against selectivity in the thinking and tries to become more and more

objective and bias free while verifying his theories and hypotheses.

③ Layman rarely tries to control his causal explanations of the observed phenomena in a systematic way and he is always satisfied with a partial truth because he believes in a singular causal system. Whereas, scientists always tries to offer a complete causal explanation of the observed phenomena.

④ Layman's preoccupations with causal relations is unsystematic and uncontrolled whereas scientist's preoccupations with such relations is a conscience and systematic pursuits.

⑤ The layman always prefers a mystical metaphysical explanations whenever baffled with respect to the cause of an event, whereas the scientist while attempting to explain the causal systems of the phenomena carefully rules out such explanations.

Four Methods of Knowing.

Charles Peirce, the great American philosopher, said that there are 4 general ways of knowing, or as he puts it, of fixing beliefs.

- 1) The first method of tenacity
- 2) The second method of authority
- 3) The third method of intuition /
a priori method
- 4) The fourth method of science