

Occam's Razor or Law of Parsimony - A Guide

Two explanations of how a car works might be given. One involves a discussion of combustion and how its effects are transmitted to the wheels. A second explanation states that an elf hides in the engine block whenever someone tries to see the elf, but at times s/he is running like "mad" under the engine invisibly. The former explanation would probably be selected as the better answer by most of the readers.

An explanatory statement should conform to what is called the Law of Parsimony. This law is also known as the Principle of Economy, or as Occam's Razor (after William of Occam, who first proposed it); so called because it "shaves assumptions". The Law of Parsimony states that when two or more different explanations exist, the explanation that should be preferred is the one which is simplest and requires the smallest number of unobservable explanatory concepts.

In psychology this law has been stated by Lloyd C. Morgan, and it has become known as Morgan's Canon. According to Morgan's Canon, a behavioral act must not be attributed to the activity of a high psychic faculty, if it can be explained equally well as a result of the activity of a faculty lower on the psychological scale.

18-1 The law of gravity compared with "spirit of downwardness and upwardness" makes it possible to:
A. use a smaller number of unobservable explanatory concepts
B. use a greater number of unobservable explanatory concepts (A)

18-2 The law of Parsimony states that we prefer those explanations which are based on the _____ explanatory concept. (Simplest)

18-3 Another word for economy is parsimony. A law which states that an explanation should be preferred because it is most economical would, therefore be called:
A. the law of parsimony
B. the law of gravitation
C. the law of the land
D. the law of science
E. the law of learning (A)

18-4 When one prefers to use a feedback principle rather than a construct or infer mental or psychic, she or he is using:
A. parsimony
B. homeostasis
C. experimental-lab inquiry
D. operational definition
E. all of the above (A)

S.B. 18-1

18-5 Given a choice between two equally effective explanations, the scientist prefers the one that is simpler in its assumptions.
A. True

- B. False (A)
- 18-6 Name the principle that states that the simpler of two explanations is to be preferred. (Law of Parsimony)
- 18-7 If an explanation covers a maximum of facts with a minimum of inferences, it is:
- A. abstract
 - B. hypothetical
 - C. operational
 - D. parsimonious
 - E. variable (D)
- 18-8 In the past, in psychology, considerable time was devoted to conjectures about "hunger instinct," "sexual instinct," "maternal instinct," etc. In recent times, physiological studies and data from the learning lab account for more of these behaviors in functional relationships. Learning and physiological data are therefore,
- A. less economical concepts than the concept of instinct
 - B. more economical concepts than that of instinct (B)
- 18-9 Instinct theories of human behavior have been criticized for violating the law of parsimony.
- A. True
 - B. False (A)
- 18-10 Morgan's Canon states that a behavioral act must not be attributed to the activity of a "higher" psychic faculty if it can be explained equally well as a result of the activity of a faculty "lower" on the psychological scale. For example, let us say that factor X, Conceptual Nervous System, (see chapter on theory) is higher on the psychological scale than factor Y, $B = f(Y)$. Therefore, if a behavioral act can be explained equally well as: (1) due to the activity of the Conceptual Nervous System, and (2) due to the formula $B = f(Y)$,:
- A. explanation (1) should be preferred
 - B. explanation (2) should be preferred (B)
- 18-11 "In no case may we interpret an action as the outcome of the exercise of a higher faculty, if it can be interpreted as the outcome of one which stands lower in the psychological scale," is a statement of the characteristic(s) of science best referred to as:
- A. Morgan's Canon
 - B. parsimony
 - C. Occam's Razor
 - D. economy
 - E. all of the above (E)
- S.B. 18-2
- 18-12 Morgan's Canon states that, if a behavioral act can be explained equally well as a result of activity of a _____ level on the psychological scale, it should not be attributed to the activity of a faculty at a _____ level of the psychological scale. (lower; higher)

18-13 An English psychologist named Lloyd C. Morgan reformulated the Law of Parsimony for the purpose of psychology. His formulation is called, appropriately:

- A. Lloyd's Law
- B. C's Code
- C. Morgan's Canon
- D. The English Law
- E. Psychological Law

(C)

Teacher: Do you believe in life after death?

Student: Yes.

Teacher: Then everything is in order, because after you left yesterday to go to your father's funeral, he came here to talk to you.