

Self-quiz on Popper for Fun!

I. True or False and a Short Answer Question

1. If a deductively valid argument has all false premises, then its conclusion must be false.
2. If a deductively valid argument has a false conclusion, then it cannot be sound.
3. Give an example of a positive instance of the following generalization:

All rats treated with drug X lose weight.

(This could be written as All R's are L's, where R is the property of being a rat treated with drug X, and L is the property of losing weight)

II. Explain what is being expressed by each passage below:

- 1) "The kind of repetition envisaged by Hume can never be perfect; the cases he has in mind cannot be cases of perfect sameness; they can only be cases of similarity. Thus *they are repetitions only from a certain point of view*".
- 2) "the belief that science proceeds from observation to theory is still so widely and so firmly held that my denial of it is often met with incredulity."
- 3) Confirming evidence should not count except when it is the result of a genuine test of the theory; and this means that it can be presented as a serious but unsuccessful attempt to falsify the theory."
- 4) "Irrefutability is not a virtue of a theory (as people often think) but a vice."
- 5) "Having refuted the logical idea of induction [Hume] was faced with the following problem; how do we actually obtain our knowledge,...? There are two possible answers: (i) We obtain our knowledge by a non-inductive procedure. This answer would have allowed Hume to retain a form of rationalism. (2) We obtain our knowledge by repetition and induction, and therefore by a logically invalid and rationally unjustifiable procedure.. . It seems that Hume never seriously considered the first alternative....I proposed to turn the tables upon this theory of Hume's."
- 6) "The fate of a theory, its acceptance or rejection, is decided by observation and experiment---by the result of tests. So long as a theory stands up to the severest tests we can design, it is accepted; if it does not, it is rejected. But it is never inferred, in any sense, from the empirical evidence....*Only the falsity of the theory can be inferred from empirical evidence, and this inference is a purely deductive one....*This solves....Hume's problem of induction."

- 7) “One should..be careful not to confuse the problem of the reasonableness of the scientific procedure and the (tentative) acceptance of the result of this procedure--- i.e., the scientific theories---with the problem of the rationality...of *the belief that this procedure will succeed.*”

III. Multiple choice: indicate the best answer for each:

1. Among the 4 theories Popper mentions, Einstein’s theory of relativity, Marx’s theory, Adler’s theory and Freud’s theory:

- a) only Adler’s Einstein’s ranked as scientific
- b) only Marx’s theory was scientific
- c) only Einstein’s theory was scientific
- d) only the two psychological theories were *unscientific*

2. What bothered Popper about certain theories and what made them pseudoscientific in his eyes may be traced to their lack of

- a) explanatory power
- b) precision
- c) inductive warrant
- d) testability

3. Which of the following best describes Popper's position?

- (a) It is true that we cannot justify induction, but we can still show science to be rational by recognizing that no prediction can be derived without the use of auxiliary theories.
- (b) It is true that we cannot justify induction, but we can still show science to be rational by providing it with a logic of confirmation based upon inductive probability.
- (c) It is true that we cannot justify induction, but we can still show science to be rational by recognizing that it does not use induction, but rather relies on the reasonable method of conjecture and refutation (by deductive falsification).
- (d) It is true that we cannot justify induction, but we can show that our belief in any particular law is justified by the fact that it has held in so many different cases in the past.

5. The point that Popper is making by means of his experiment with a group of physics students in Vienna: “Take pencil and paper; carefully observe, and write down what you have observed!” is best stated as:

- (a) observation, while resting upon assumptions of care and detachment, are our most reliable foundations for empirical science.
- (b) the empirical method is inductive, proceeding from observation and experiment.
- (c) good scientists have the moral responsibility to be passive and detached while observations impress themselves on their unbiased minds
- (d) observation is always selective and makes sense only as related to interests, needs and problems.

6. According to Popper, it is rational to accept theories tentatively if our critical efforts to falsify them are unsuccessful because

- (a) theories which have stood up to critical scrutiny are likely to continue to be reliable
- (b) there is no more rational course of action open to us
- (c) such theories are probably true
- (d) we are psychologically incapable of doubting such theories

7. Popper is critical of Adler's reference to his "thousandfold experience" in explaining the behavior of a child because

- a) Popper felt that Adler's thousandfold positive instances only showed he could interpret cases as fitting his theory.
- b) Popper doubted Adler's experience could have given him as many as a thousandfold positive instances
- c) One would require infinitely many positive instances of Adler's sort, a thousandfold would not suffice
- d) Popper felt that Adler suffered from an Oedipal complex that encouraged failed attempts to rescue drowning children.