

Questions

I. Terms, Etc.

1. What is a Term? Explain and illustrate the chief divisions of Terms. What is meant by the Connotation of a Term? Illustrate. [S]

2. “The connotation and denotation of terms vary inversely.” Examine this assertion, explaining carefully the limits within which it is true, if at all. [S]

3. Exemplify the false reasoning arising from the confusion of Contrary and Contradictory Terms. [S]

4. Discuss the claims of the doctrine of Terms to be included in a Logical System. Distinguish between a General and an Abstract Term. [S]

5. Explain and illustrate what is meant by the Denotation and Connotation of a Term. What terms have both, and what have one only? [S]

6. Distinguish between Abstract and Concrete Names. To which of these classes belong (a) adjectives, (b) names of states of consciousness? Are any abstract names connotative? [S]

7. Distinguish between (a) Proper and Singular Terms, (b) Negative and Privative, (c) Absolute and Relative. Illustrate.

8. What connection is there between the Connotation and the Relativity of Names?

9. Examine the logical relations between the following pairs of terms: (a) happy and happiness; (b) happy and unhappy; (c) ‘the juryman’ and ‘the jury’; (d) parent and offspring.

Explain the technical words used in your answer. [C]

10. Distinguish between name; part of speech; term: and illustrate by reference to the following—use, useful, usefully. [C]

11. Describe the nature of Collective terms; examine in particular any difficulties in distinguishing between these and general or abstract terms. [C]

12. Distinguish between positive, negative, and privative names. Of what kind are the following, and why—parallel, alien, idle, unhappy? What ambiguity is there in the use of such a term as “not-white”? [C]

II. PROPOSITIONS AND IMMEDIATE INFERENCE.

13. What is meant by (1) the Conversion, and (2) the Contraposition of a proposition? Apply these processes, as far as admissible, to the following:—

(a) All invertebrates have cold blood.

(b) Some cold-blooded animals are not invertebrates.

(c) No wingless birds are songsters.

(d) Some winged birds are not songsters.

What can you infer from (a) and (b) jointly, and what from (c) and (d) jointly? [S]

14. “The author actually supposes that, because Professor Fawcett denies that all wealth is money, he denies that all money is wealth.” Analyse the differences of opinion implied in the above passage. [S]

15. Take any universal affirmative proposition; convert it by obversion (contraposition); attach the negative particle to the predicate, and again convert. Interpret the result exactly, and say whether it is or is not equivalent to the original proposition. [S]

16. What information about the term “solid body” can we derive from the proposition, “No bodies which are not solids are crystals”? [S]

17. Discuss the proposal to treat all propositions as affirmative.
18. Convert the proposition “A is probably B.” What information does the proposition give us concerning B? [S]
19. Show in how many ways you can deny the following assertions: All cathedral towns are all cities; Canterbury is the Metropolitan see. [S]
20. Explain the nature of a hypothetical (or conditional) proposition. What do you consider the radical difference between it and a categorical? [S]
21. What is the function of the copula? In what different manners has it been treated? [S]
22. Convert “A killed C unjustly”; “All Knowledge is probably useful”; “The exception proves the rule”; “Birds of a feather flock together.” [S]
23. What is modality? How are modals treated by (a) formal logic and (b) by the theory of induction? [S]
24. What is the subject of an impersonal proposition? Give reasons for your answer. [S]
25. Is the categorical proposition sufficiently described as referring a thing or things to a class? [S]
26. Enumerate the cases in which the truth or falsity of one proposition may be formally inferred from the truth or falsity of another. Illustrate these cases, and give to each its technical name. [S]
27. Illustrate the relation of Immediate Inferences to the Laws of Thought.
28. Explain what is meant by (a) Symbolic Logic; (b) the Logic of Relatives. Describe some method of representing propositions by means of diagrams; and indicate how far any particular theory of

the import of propositions is involved in such representation. [S]

29. Explain the exact nature of the relation between two Contradictory propositions; and define Conversion by Contraposition, determining what kind of propositions admit of such conversion.

Give the contradictory and the contrapositive of each of the following propositions:—

(a) All equilateral triangles are equiangular;

(b) No vertebrate animal has jaws opening sideways;

(c) Wherever A and B are both present, either C or D is also present. [S]

30. Define Obversion and Inversion, and apply these processes also to the above three propositions.

31. Propositions can be understood either in extension or in intension. Explain this, and discuss the relative value of the two interpretations. [S]

32. Distinguish between real and verbal propositions; and explain the importance of the distinction.

33. Illustrate the process called ‘change of Relation.’

III. SYLLOGISM AND MEDIATE INFERENCE.

34. What is a Syllogism? Find, without reference to the mnemonic verses, in what different ways it is possible to prove syllogistically the conclusion No S is P; and show the equivalence between these different ways. [S]

35. From what points of view can the syllogism be regarded

(1) as being, (2) as not being, a *petitio principii*? [S]

36. What are the figures of syllogism? For what kind of arguments are they severally adapted? [S]

37. What is meant by Mood and Figure? How can the validity of a Mood be tested? Should there be four Figures or three? [S]

38. Construct syllogisms in Camenes, Datisi and Baroco, and reduce them to the corresponding moods of the first figure.

39. Explain the meaning of “ostensive” and “indirect” Reduction. Show that any Mood of the second Figure may be reduced in either way.

40. Show that A cannot be proved except in the First Figure. Express the following reasoning in as many syllogistic figures as you can: Some theorists cannot be trusted, for they are unwise. [S]

41. Discuss the possibility of reducing the argument a fortiori to the syllogistic form. [S]

42. Can a false conclusion be reached through true premises, or a true conclusion through false premises? Give reasons for your answer. [S]

43. Can we under any circumstances infer a relation between X and Z from the premises—

Some Y's are X's_Some Y's are Z's? [S]

44. Take an apparent syllogism subject to the fallacy of negative premises, and inquire whether you can correct the reasoning by converting one or both of the premises into the affirmative form. [S]

45. Enumerate the faults to which a syllogism is liable, giving instances of each. [S]

46. State any Enthymeme, and expand it into (1) a Syllogism, (2) an Epicheirema, (3) a Sorites; and give in each case the technical name of the Mood or Order that results.

47. State any Disjunctive Syllogism, and change it (1) into a Hypothetical, (2) into a Categorical; and discuss the loss or gain, in cogency or significance involved in this process.

48. Can the Syllogism be treated as merely a consequence of the “Laws of Thought”? If not, why not; and what else does it imply?

49. Prove that with three given propositions (of the forms A., E., I., O.) it is never possible to construct more than one valid syllogism. [C]

50. Distinguish between a Constructive and a Destructive Hypothetical Syllogism; and show how one may be reduced to the other. [C]

IV. INDUCTION, ETC.

51. What constitutes a Valid Induction? Distinguish it from a legitimate hypothesis. [S]

52. Is it possible to form true universal propositions about facts if we have not actually observed all the individuals designated by the subject of the proposition? If so, how? [S]

53. “Perfect induction is demonstrative and syllogistic; imperfect induction is neither.” Explain the difference between perfect and imperfect induction, and examine the truth of this assertion. [S]

54. Why is it that one should not regard night as the cause, nor even as a universal condition of day? Explain “cause” and “condition.” [S]

55. What do you understand by an experiment? Can you say how many experiments are required to establish (1) a fact, (2) a law of nature?

56. How would you define antecedent, cause, effect, consequent? [S]

57. England is the richest country in the world, and has a gold currency. Russia and India, in proportion to population, are poor countries and have little or no gold currency. How far are such kind of facts logically sufficient to prove that a gold currency is the cause of a nation's wealth? [S]

58. A man having been shot through the heart immediately falls dead. Investigate the logical value of such a fact as proving that all men shot through the heart will fall dead. [S]

59. Explain the process of induction called the Method of Difference, and give some new instances of its application. How is it related to the Method of Concomitant Variations? What is the Major Premise implied in all these methods? [S]

59A. Examine the position, that the Canons of Experiment are useless, because the work of preparing the experiments must have been done before the canons can be applied.

60. Explain the logical cogency of experiments in the search for physical causes. [S]

61. If the effects of A B C D are fully expressed by a b c d, and those of B C D by b c d, what inductive inference can be drawn and on what principle? State the canon according to which it is drawn. [S]

62. Compare the advantage of observation and experiment as means of gaining data for Reasoning. [S]

63. Compare the cogency of different Inductive Methods, showing the kind of evidence each requires, and the principle on which it is based. [S]

64. Compare the Canons of Agreement and Difference (1) as to the difficulty of finding or preparing actual Instances for them, and (2) as to their conclusiveness.

65. Describe what is meant by residual phenomena, and estimate their value in inductive science. [S]

66. What is the argument from Analogy? How does it differ from (a) Induction, (b) metaphorical argument? [S]

67. What are the various senses in which the word Analogy has been used? Distinguish, giving instances, between good and bad analogies. [S]

68. How do you distinguish between what Mill calls the Geometrical, Physical, and Historical Methods?

68A. The Comparative Method is appealed to where direct evidence is wanting. Explain this.

69. What is meant by a doctrine being unverifiable? If a conclusion reached by deduction does not agree with the facts, where must we look for error?

70. There are certain cases in which failure of verification is fatal to a theory, and other cases in which it is of comparatively little cogency. How would you distinguish between these classes of cases? [S]

71. Taking the “evolution,” or any other proposed hypothesis, how should one proceed (a) to show whether it satisfies the conditions of a legitimate hypothesis sufficiently to entitle it to investigation, and (b) to test it with a view to its acceptance or rejection as a truth of science? [S]

72. What do you mean by saying that “a phenomenon has been satisfactorily explained”?

73. Explain and illustrate the Historical Method of Sociological inquiry. [S]

74. What is the relation of the theory of Probability to Logic? [S]

75. Explain and discuss the doctrine that Induction is based upon the Theory of Probability. [S]

75A. What are the logical grounds of the Law of Error?

76. Explain the nature and use of Classification, the means to, and tests of, its successful performance. [S]

77. What is Definition and what is its use? Mention various difficulties that occur in the process, and show how they are to be met. [S]

78. Propose rules for a good Division and a good Definition, and exemplify the breach of them. [S]

79. Examine the validity of the idea of Real Kinds. [O]

80. What kind of words are undefinable, and why? When do we define by negation and by example? [S]

81. Distinguish between the province and aims of classification and (logical) division. Illustrate. [S]

82. What is an infima species or species specialissima? Compare the use of the terms genus and species in Logic with that which is common in speaking of animals or plants. [S]

83. How far does the formation of Definitions and Classifications constitute the end of Science? [S]

84. Examine the methodological relations between Definition, Classification and Nomenclature. [S]

85. Give instances of “Differentia,” “Property,” “Inseparable Accident”; and examine, with reference to your instances, how far it is possible to distinguish them. [S]

V. MISCELLANEOUS.

86. “People can reason without the help of Logic.” Why is this not a sufficient objection to the study? In your answer show distinctly why Logic should be studied. [S]

87. What is the meaning of the assertion that Logic is concerned

with the form, and not with the matter, of thought? [S]

88. “Neither by deductive nor inductive reasoning can we add a tittle to our implicit knowledge.” (Jevons.) Explain and criticise. [S]

89. What is the logical foundation of the indirect method or *reductio ad absurdum*? Is it applicable to non-mathematical subjects? [S]

90. On what grounds do we believe in the reality of an historical event? [S]

91. “Facts are familiar theories.” Explain and discuss this. [O]

92. Wherein lies the difficulty of proving a negative? [O]

93. Can any limits be assigned to the possible unification of the sciences? [O]

94. Are the results of inductive inference necessarily certain? [O]

95. The method of deductive science is hypothetical. Explain and discuss. [O]

96. “The uniformity of Nature can never be more than a working hypothesis.” Explain and criticise.

97. “Without speculation there is no good and original observation.” Why? [O]

98. Can the provinces of induction and deduction be kept separate? [O]

99. How far is the relation of logical dependence identical with that of causation? [O]

99A. Discuss the position that the forms of Logic are meaningless apart from their application.

100. State in syllogistic form (mood and figure) the following arguments:—

- (a) As polygamy is in many countries legal, we may infer the variability of the moral standard.
- (b) If gold is wealth, to export it diminishes the national resources.
- (c) If all good people are happy, unhappiness is an indication of vice.
- (d) One may be sure of the benefits of inuring young children to cold, from the strength exhibited by all men and women thus treated in infancy.
- (e) Where there is no law, there is no injustice.
- (f) “Dissimulation is but a faint kind of policy or wisdom; for it asketh a strong wit and a strong heart to know when to tell the truth, and to do it; therefore it is the weaker sort of politicians that are the greatest dissemblers.” (Bacon.)
- (g) Money being a barren product, it is contrary to nature to make it reproduce itself. Usury, therefore, is unnatural, and, being unnatural, is unjustifiable.
- (h) The study of mathematics is essential to a complete course of education, because it induces a habit of close and regular reasoning. [S]

101. Explain and illustrate the following terms:—Subalternans, Vera Causa, Plurality of Causes, Law of Nature, Empirical Law, Summum Genus, Predicament, Arbor Porphyriana, Axiom, Universe of discourse (suppositio), Antinomy, Dilemma, Realism, Dichotomy, etc.

102. Is there any distinction and, if so, what, between a complete Description and an Explanation? [C]

103. On what principles have fallacies been classified? To what

extent do you think a satisfactory classification of Fallacies possible? [C]

104. Examine how far conceptions of Persistence and of Invariable Concomitance of Properties are involved in the methodological application of the conception of Cause.

104A. Inquire whether the two following propositions can be reconciled with one another: (a) The same conjunction of antecedents is invariably followed by the same consequent; (b) We never find the same concurrence of phenomena a second time. [C]

105. Using the term Logic in a wide sense, so as to include Methodology, inquire how far a Logic of Observation is possible, and show in what it will consist. [C]

106. What is Proof?

Explain and discuss the following dicta:—(a) Qui nimium probat, nihil probat: (b) A bad proof is worse than no proof; (c) The exception proves the rule; (d) Negatives cannot be proved. [C]

107. Examine how far the rules of immediate and syllogistic inference are modified by differences of interpretation of the categorical proposition in respect of the existence of the subject. [S]

108. “An effect is but the sum of all the partial causes, the concurrence of which constitutes its existence.” “The cause of an event is its invariable and unconditional antecedent.” Explain and compare these two theories of causation. Does either alone exhaust the scientific conception of cause? [S]

109. Under what logical conditions are statistical inferences authorised, and what is the nature of their conclusions? [S]

110. Distinguish between Psychology, Metaphysics, and Logic; and discuss briefly their mutual relations. [S]

111. All processes of inference in which the ultimate premises are

particular cases are equally induction.

Induction is an inverse deduction.

Explain and contrast these two theories of the relation of induction to deduction. [S]

112. What are the Fallacies specially incident to Induction?—or to the application of the theory of Probabilities? [S]

113. What is meant by the personal error (or personal equation) in observation? Discuss its importance in different branches of knowledge. [S]

114. Define and illustrate:—Paralogism, ignoratio elenchi, fallacia accidentis, argumentum ad verecundiam, illicit process, undistributed middle, etc.

115. State the three fundamental laws of thought, explain their meaning, and consider how far they are independent of each other? [L]

116. Enumerate the “Heads of Predicables” and define their meaning. Discuss their logical importance. [L]

117. Upon what grounds has it been asserted that the conclusion of a syllogism is drawn, not from, but according to, the major premise? Are they valid? [L]

118. “Experiment is always preferable to observation.” Why is this? Explain from the example of any science how observation and experiment supplement each other. [L]

119. What is a hypothesis? Distinguish between a working hypothesis and an established hypothesis, so as to bring out the conditions on which the latter depends. [L]

120. Explain how good scientific nomenclature and terminology are connected with the purposes of good classification. [L]