

Carlo Cellucci

Why Still Philosophy

Preface

Introduction

1. The trauma of the birth of modern science, p. - 2. Radical answers, p. - 3. Moderate answers, p. - 4. Death of philosophy? p. - 5. Criticisms by Scientists, p. - 6. Why still philosophy? p. - 7. Other views about philosophy, p. - 8. Priority of questions concerning knowledge, p. - 9. The chimeras of knowledge, p. - 10. The statute of knowledge, p. - 11. The means of knowledge, p. - 12. The fine texture of knowledge, p. - 13. Coda, p. - 14. About this book, p.

I The nature of philosophy

1. The heuristic view

1. What is philosophy? p. - 2. Philosophy and the world, p. - 3. Philosophy and globality, p. - 4. Centrality of questions about knowledge, p. - 5. Continuity with sciences, p. - 6. Making use of results of sciences, p. - 7. Method of philosophy and method of sciences, p. - 8. Philosophy and the search for new knowledge, p. - 9. Philosophy and the search for new methods of discovery, p. - 10. Philosophy and the birth of new sciences, p. - 11. Philosophy and history of philosophy, p. - 12. Conclusiveness of solutions of philosophical problems, p. - 13. Philosophy and professionalism, p. - 14. The heuristic view, p.

2. The foundationalist view

The justificationalist view, p. - 2. The foundationalist view, p. - 3. The infinite regress argument, p. - 4. The appeal to intuition, p. - 5. Mathematical knowledge, p. - 6. Knowledge of the external world, p. - 7. Inadequacy of the architectonic metaphor, p. - 8. The weak foundationalist view, p.

3. The untenability of sceptical doubt

1. The trilemma of the ancient sceptical schools, p. - 2. Aristotle and the ancient sceptical schools, p. - 3. Self-defeating character of the ancient sceptical schools, p. - 4. Sextus Empiricus's sceptical argument, p. - 5. Ancient sceptical schools and the foundationalist view, p. - 6. Descartes's sceptical argument, p. - 7. Descartes's sceptical argument and the foundationalist view, p. - 8. Scepticism and the foundationalist view, p.

4. The concept of knowledge

1. Knowledge as true justified belief, p. - 2. Ramsey, p. - 3. Goldman, p. - 4. Plantinga, p. - 5. Nozick, p. - 6. Dretske, p. - 7. Zagzebski, p. - 8. Lewis, p. - 9. Analytic philosophy and knowledge, p. - 10. Justificationalist view and knowledge, p.

II The chimeras of knowledge

5. The chimera of truth

1. Questions concerning knowledge, p. - 2. The chimeras of knowledge, p. - 3. The nature of truth, p. - 4. Truth as correspondence, p. - 5. Popper's argument, p. - 6. Truth as intuition of essence, p. - 7. Truth and modern science, p. - 8. Concept of truth and criterion of truth, p. - 9. Truth as consistency, p. - 10. Truth as systematic cohesion, p. - 11. Truth as provability, p. - 12. Plausibility in place of truth, p. - 13. Analytic philosophy and truth, p.

6. The chimera of objectivity

1. The objectivity problem, p. - 2. Centerlessness, p. - 3. Invariance, p. - 4. Primarity, p. - 5. Agreeability, p. - 6. Mathematics and agreeability, p.

7. The chimera of certainty

1. The search for certainty, p. - 2. The foundational programs, p. - 3. Fall of the foundational programs, p. - 4. Objections against the use of the incompleteness theorems, p. - 5. Weak foundationalist view and certainty, p. - 6. Uncertainty and the possibility of knowledge, p. - 7. A self-defeating argument? p.

8. The chimera of intuition

1. The role of intuition, p. - 2. Intuition and principles of scientific theories, p. - 3. Intuition and axioms of mathematical theories, p. - 4. Fallibility of intuition, p. - 5. Counterintuitive mathematical properties, p. - 6. Redundancy of intuition, p. - 7. Fallible intuition, p.

9. The chimera of deduction

1. Deductivism, p. - 2. First problems with deductivism, p. - 3. Nineteenth century mathematics and deductivism, p. - 4. Euclid and deductivism, p. - 5. Hilbert and deductivism, p. - 6. Use of diagrams and intuition, p. - 7. Proofs and formal proofs, p. - 8. Deductivism and incompleteness theorems, p. - 9. Deductivism and irrationalism, p.

10. The chimera of rigour

1. Philosophical method and mathematical method, p. - 2. A distorted view of mathematics, p. - 3. The role of definitions in mathematics, p. - 4. Axiomatic method and problem solving, p. - 5. Rigour and logic, p. - 6. Rigour and fruitfulness, p.

11. The chimera of mind

1. The invention of mind, p. - 2. Functionalism and mind, p. - 3. Disembodied mind and disembodied knowledge, p. - 4. Problems with the disembodied view of mind, p. - 4.1. Inseparability from the world, p. - 4.2. The role of body, p. - 4.3. The role of emotions, p. - 4.4. The homuncular problem, p. - 4.5. The disjunction problem, p. - 5. Embodied mind, p. - 6. Antecedents of the embodied view of mind, p. - 7. Implications of the embodied view of mind, p. - 8. Embodied Knowledge, p. - 9. Anti-subjectivism of the embodied view of knowledge, p.

III The statute of knowledge

12. The characters of knowledge

1. Basic characters of knowledge, p. - 2. Plausibility, p. - 2.1. Probability, p. - 2.2. Truth, p. - 2.3. Non-falsification, p. - 2.4. Verisimilitude, p. - 2.5. Corroboration, p. - 2.6. Consistency, p. - 3. Agreeability, p. - 3.1. Subjectivity, p. - 3.2. Objectivity, p. - 4. Uncertainty, p. - 4.1. Ignorance, p. - 4.2. Lack of evidence, p. - 5. Fruitfulness, p. - 5.1. Capability of finding and remembering axiomatic proofs, p. - 5.2. Capability of checking theorems by formal proofs, p.

13. Knowledge and nature

1. The statute of knowledge, p. - 2. Origin of knowledge, p. - 3. Biological role of knowledge, p. - 4. Knowledge and evolution, p. - 5. Cultural role of knowledge, p. - 6. Biological evolution and cultural evolution, p. - 7. Objections against the continuity thesis, p. - 8. Scientific knowledge and evolution, p. - 9. Mathematical knowledge and evolution, p. - 10. Objections against a relation between mathematics and biological evolution, p. - 11. Evolution and unreasonable effectiveness of mathematics, p. - 12. Evolution and teleology, p.

14. Knowledge as problem solving

1. Centrality of problems for knowledge, p. - 2. Problem solving and analytic method, p. - 3. First theorization of the analytic method, p. - 4. Origin of the analytic method, p. - 5. Fortune of the analytic method, p. - 6. Objections against the analytic method, p. - 7. Search for hypotheses and inference, p. - 8. A more detailed description of the analytic method, p. - 9. Some remarks about the analytic method, p. - 10. Knowledge as problem solving, p.

15. Problem solving vs. theorem proving

1. Opposition between two theses about knowledge, p. - 2. The analytic-syntetic method, p. - 3. Difference between analytic and analytic-syntetic method, p. - 4. The direction of analysis in the analytic-synthetic method, p. - 5. Origins of the opposition between two theses on knowledge, p. - 6. Reasons of the opposition, p. - 7. Opposition between two alternative views on knowledge, p. - 8. Asymmetric character of the opposition, p. - 9. Impossibility of a self-foundation, p. - 10. Rationalism vs. irrationalism, p. - 11. The paradox of inquiry, p.

16. Perceptual knowledge

1. Vision and the eye as a camera, p. - 2. Vision and mental images, p. - 3. Vision as problem solving, p. - 4. Vision and the limitations of the eye, p. - 5. Origins of vision as problem solving, p. - 6. Vision and the foundationalist view, p. - 7. Arguments for vision as problem solving, p. - 7.1. Size constancy, p. - 7.2. Shape constancy, p. - 7.3. Color constancy, p. - 7.4. Illusory contours, p. - 7.5. Blind persons recovering sight, p. - 7.6. Touch as a surrogate for vision, p. - 8. Objections against vision as problem solving, p. - 8.1. Existence of invariants, p. - 8.2. Inference as a metaphor, p. - 8.3. Inference as propositional transformation, p. - 8.4. Checking visual hypotheses, p. - 8.5. Constraints on the visual system, p. - 9. Vision and movement, - 10. Sight and touch, p.

17. Natural logic and artificial logic

1. Distinction between natural and artificial logic, p. - 2. Characters of the two logics, p. - 3. Objections against natural logic, p. - 3.1. Biological evolution, p. - 3.2. Truth, p. - 3.3. Objectivity, p. - 3.4. Prescriptiveness, p. - 3.5. Justification, p. - 3.6. Soundness, p. - 4. Necessity of extending the concept of logic, p. - 5. Discursive logic and visual logic, p. - 5.1. Representation, p. - 5.2. Information, p. - 5.3. Effectiveness, p. - 5.4. Homomorphy, p. - 5.5. Kind of information, p. - 6. Relationship between discursive logic and visual logic, p. - 7. Limitations of visual logic, p. - 8. Integration between discursive and visual logic, p. - 9. Logic and reason, p. - 10. Logic and evolution, p. - 11. Relation between natural logic and artificial logic, p.

18. A priori knowledge

1. Character of a priori knowledge, p. - 2. Other views on a priori knowledge, p. - 2.1. Evolution, p. - 2.2. The trial and error method, p. - 2.3. Preconditions of investigation, p. - 3. Objections against Kant's view, p. - 3.1. Absolute independence of experience, p. - 3.2. Rigorous universality, p. - 3.3. Intrinsic necessity, p. - 3.4. Certainty, p. - 3.5. Intuition, p. - 3.6. The method of conjectures and refutations, p. - 4. A priori knowledge and innate knowledge, p.

19. Knowledge and error

1. Heterogeneity of knowledge and error, p. - 2. Limitations of the heterogeneity view, p. - 3. A priori knowledge and error, p. - 4. Logic and error, p. - 5. Mathematics and error, p. - 5.1. Intuition, p. - 5.2. Formalization, p. - 6. Proof and error, p. - 7. Positivity of error, p.

20. Knowledge and emotions

1. Biological role of emotions, p. - 2. Cultural role of emotions, p. - 3. Positivity of emotions, p. - 4. Emotions and problem solving, p. - 5. Emotions and doubt, p.

21. Embodied knowledge

1. Procarvates and thermostats, p. - 2. Processes internal and processes external to mind, p. - 3. Processes external to mind, p. - 3.1. Writing, p. - 3.2. Proofs in elementary geometry, p. - 3.3. Elementary arithmetical operations, p. - 3.4. Use of algebraic symbols, p. - 3.5. Logical deduction, p. - 4. Strengthening of mind by external processes, p. - 5. Distributed character of knowledge, p. - 6. The plasticity of mind, p. - 7. Knowledge and other minds, p.

IV The means of knowledge

22. Ampliativity and non-ampliativity

1. The means of knowledge, p. - 2. Hypotheses and inference, p. - 3. Hypotheses and non-deductive inference, p. - 3.1. Trivialization of mathematics, p. - 3.2. Inference and effort, p. - 3.3. Necessity of new individuals, p. - 3.4. Novelty of the conclusion, p. - 3.5. Truth preservation, p.

23. Deductive and non-deductive inferences

1. Differences between deductive and non-deductive inferences, p. - 1.1. Inclusion, p. - 1.2. Ampliativity, p. - 1.3. Necessity, p. - 1.4. Self-sufficiency, p. - 1.5. Truth preservation, p. - 1.6. Certainty, p. - 1.7. Monotonicity, p. - 1.8. Compatibility, p. - 1.9. Formality, p. - 1.10. Mechanicalness, p. - 1.11. Probability, p. - 1.12. Justifiability, p. - 2. Tenability of currently proposed differences, p.

24. Objections against non-deductive inferences

1. Traditional objections, p. - 1.1. Cogency, p. - 1.2. Certainty, p. - 1.3. Instinctuality, p. - 1.4. Truth preservation, p. - 1.5. Justification, p. - 1.6. Algorithmicalness, p. - 2. The nature of non-deductive inferences, p.

25. The justification of non-deductive inferences

1. The justification of induction, p. - 1.1. Degree of confirmation, p. - 1.2. Success, p. - 1.3. Stability of success, p. - 1.4. Intuition, p. - 1.5. Analiticity, p. - 1.6. Accepted practice, p. - 1.7. Natural kinds, p. - 1.8. Inference to the best explanation, p. - 2. Meaning of the inadequacy of current justifications, p.

26. The justification of deductive inferences

1. The Tortoise's argument, p. - 2. Justifications of deductive inferences, p. - 2.1. Truth preservation, p. - 2.2. Self-sufficiency, p. - 2.3. Validity of proofs, p. - 2.4. Cut, p. - 2.5. Intuition, p. - 2.6. Analiticity, p. - 2.7. Agreement with practice, p. - 2.8. Constitutivity, p. - 3. Meaning of the inadequacy of current justifications, p.

27. The nature of deductive and non-deductive inferences

1. Necessity of considering the role of inferences in knowledge, p. - 2. Role of deductive and non-deductive inferences in knowledge, p. - 3. Characterization of deductive and non-deductive inferences, p. - 4. Justification of deductive and non-deductive inferences, p. - 5. Content and sense, p. - 6. Objections and replies, p. - 6.1. Externalism, p. - 6.2. Contentualism, p. - 7. Contrast with the currently proposed differences, p.

28. Demonstrative and non-demonstrative reasoning

1. Two kinds of reasoning, p. - 2. The Aristotle-Pólya tradition, p. - 3. The truth of premisses in mathematics, p. - 3.1. Truth as possession of a model, p. - 3.2. Truth as consistency, p. - 3.3. Truth as convention, p. - 4. Truth of premisses in natural sciences, p. - 5. Relationship between demonstrative and non-demonstrative reasoning, p. - 6. The Stoics-Popper tradition, p. - 7. The Plato-Ramus tradition, p. - 8. Dialectics and rhetoric, p. - 9. The claims of dialectics, p. - 10. The uncertainty of knowledge, p.

V The fine texture of knowledge

29. The nature of explanation

1. Problems of the fine texture of knowledge, p. - 2. The Aristotle-Pólya tradition, p. - 3. The Popper-Balacheff tradition, p. - 4. The Aristotle-Pólya tradition and set theory, p. - 5. Explanation and incompleteness theorems, p. - 6. Explanation and analytic method, p. - 7. Nature of the connection between hypothesis and problem, p. - 8. Descartes on explanation, p. - 9. Some examples of explanation, p. - 10. Explanation and generality, p. - 11. Explanation and inference to the best explanation, p. - 12. Two approaches to explanation, p.

30. The nature of universal generalization

1. The universal generalization problem, p. - 2. Locke's solution, p. - 3. Fine's defense of general objects, p. - 4. Berkeley's solution, p. - 5. Gentzen's solutions, p. - 6. Other formulations of universal generalization, p. - 7. Mathematical objects as hypotheses, p. - 8. Schematic character of proof, p. - 9. Alternative formulation of universal generalization, p. - 10. Generality in Greek mathematics, p. - 11. Proclus's solution, p. - 12. Universal generalization and analogy, p.

VI Coda

31 Knowledge and the meaning of life

1. The role of knowledge, p. - 2. Evolution and the meaning of life, p. - 3. Religion and the meaning of life, p. - 4. Why God? p. - 5. Religion and rationality, p. - 6. Religion and morality, p. - 7. Meaning of life from an external viewpoint, p. - 8. Meaning of life from an internal viewpoint, p. - 9. Happiness and the meaning of life, p. - 10. Happiness and knowledge, p. - 11. The nature of happiness, p. - 12. The search for happiness in individual life, p. - 13. Knowledge as a precondition for happiness, p.

References

Index of names

Index of terms