Cognitive Skills in Philosophy

A Teacher's Guide

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ABSTRACT

Two fundamentally distinct approaches to the teaching of philosophy are contrasted: On the one hand, there is the "information-oriented" approach which has dominated classrooms and which emphasizes the understanding of historically important philosophical works. On the other hand, there is the "cognitive skills" approach. The two approaches may be distinguished under the headings of '*knowing that*' as opposed to '*knowing how*'. This paper describes and discusses four perspectives relating to the teaching of cognitive skills: (i) the discovery-oriented approach, (ii) Piagetian learning cycles, (iii) protocol analysis, and (iv) conceptual therapy. The latter approach reflects the author's interest in helping students to develop "therapeutic" skills that enable them to identify and eliminate concepts which they employ in their thinking and which are incompatible with their own presuppositional bases and are therefore self-refuting.

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COGNITIVE SKILLS IN PHILOSOPHY: A TEACHER'S GUIDE

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There are two fundamentally distinct approaches to the teaching of philosophy. One, which I shall refer to as the "information-oriented" approach, has dominated the classroom, and has emphasized the history of philosophy through textual explication, comparison of the views of major thinkers, study of movements, etc. The other, which it is *au courant* to call a "cognitive skills" approach to philosophy, also has its roots in a long history, but has usually been subordinated to acquisition of information about the philosophical tradition. The two kinds of knowledge which the two approaches achieve have come to be distinguished under the general headings of '*knowing that*' and '*knowing how*'.[1]

It is not my intent in this short paper to recommend that one form of knowledge should supercede the other, nor is it my concern to explore what I believe is a mutually interdependent relationship between them. What I do wish to do is to identify and describe briefly a group of practical and innovative approaches to the teaching of philosophy from the "cognitive skills" perspective.

The principal and general concern of a cognitive skills approach to philosophy is with *thinking well*: it assumes that no one thinks as well as he might, and it believes that thinking better is a worthwhile goal. The cognitive skills peculiar to philosophers when they think well have not often been made an explicit subject of investigation,[2] still less has attention been devoted to identifying effective ways of fostering and improving these skills in the classroom, which is my interest here. It would doubtless be desirable if we could divide our subject and then conquer it *pas-à-pas*, perhaps first by recognizing certain cognitive skills as specifically philosophical, then by suggesting appropriate

ways to teach these skills. In reality, however, the task of arguing that there exist peculiarly philosophical patterns of thought is itself a philosophical one, which will doubtless reveal in its own accomplishment -- with eloquent reflexiveness -- patterns of the kind it proposes to uncover, if such there be. Reluctantly, I must put to one side for the present the interesting questions such a task raises.

There are various general approaches to the teaching of cognitive skills which may be of value to the cognitive skills-oriented philosopher to assist him both in attaining a knowledge concerning such skills, and in transmitting them to his students.

I propose, in other words, to side-step altogether the need to show that there exist specifically philosophical cognitive skills, although I am persuaded that there are. I wish to advance hypothetically: *If* there are skills of this variety, what practical approaches are available which may be useful to the teacher who is thinking of working with a cognitive skills approach to philosophy? (There are two rationales for this way of proceeding: First of all, it *simplifies* matters. And secondly, it seems likely that one or more of the approaches described would be presupposed by any philosopher who attempts to determine the truth of the hypothesis.)

If we adopt the ultimate moral of Barth's distinction ("There are two types of people: those who divide people into two types, and those who don't."), we may wish to divide philosophy approached from a cognitive skills perspective in two: On the one hand, we may hypothesize that there are those philosophers who are deeply disappointed by the discipline's track record over the past two thousand years, since it appears that few, if any, genuinely philosophical truths have been discovered which lend themselves to acceptance without controversy.[3] Among the cognitive skills which such a scientifically inclined philosopher would very likely value are those of rigorous, deductive thinking. On the other hand, there are those philosophers who do not choose to regard the absence of non-controversial results as exhibiting a failure on the part of philosophy, and in fact suggest that controversy

is the essence of the discipline, and that it would be a mistake to wish for final philosophical solutions.[4] Such a dialectician is apt to value skills in argumentation which lead to self-knowledge, that is to say, to a fuller conception of one's self, of one's basic commitments. Finally, the maker of bridges between scientific philosophy and dialectical philosophy may value, e.g., skills in non-controversial deductive argumentation which lead to an enriched sense of self-identity.

In a pluralistic tolerance of spirit ("different strokes for different folks"), the following practical teaching approaches offer themselves; in principle, they are mutually supporting and can accommodate such an hypothesized variety of philosophical cognitive skills.

THE DISCOVERY-ORIENTED APPROACH

This is probably the most ancient approach to the teaching of philosophical habits of mind, one which is now assuming a more clearly defined and hence more easily implemented form. In unmistakable and unselfconscious imitation of the Meno, George Polya has explored a skill-based, discovery-oriented approach to teaching through dialogue.[5] Polya's subject-matter is mathematics, but his frequently insightful suggestions and question-asking strategies can easily be extended to apply within a deductive or dialectical conception of philosophy. When successful in using Polya's approach, one can expect rapid growth of heuristic self-conciousness in students, which will enable them to discover with enthusiasm solutions or arguments similar to those developed in class. A disadvantage often encountered is that the discovery-oriented approach can consume excessive class time in exchange for the results reached (Meno's slave-boy doggedly comes to mind), and the approach can discourage students who feel lost and insecure in the open-textured search for a solution or illuminating question.

LEARNING CYCLES

Influenced by the work of the Swiss psychologist, Jean

Piaget, Karplus and others have worked out a format for learning which seeks to up-grade the level of reasoning of the student to fit the set of problems or questions to be studied.[6] Learning cycles consist of an initial phase of exploration (a relatively unstructured exposure to problems that share certain common features), a phase of invention (recognition and isolation of useful ways to treat these problems), and a phase of application (extending what has been learned to new problem situations). Learning cycles do work.[7] At the same time, they are sometimes judged, like Polya's approach, to be overly time-consuming, making it difficult to cover the material expected of a given course.

PROTOCOL ANALYSIS

It has proved useful in the field of artificial intelligence to ask a human subject to describe verbally how he approaches and undertakes the successful solution to a problem. His verbal report, or protocol, can then be analyzed, broken down into "sub-routines", and used as a basis to generate a set of step-by-step instructions which, when followed by a machine, produces similar results. Protocol analysis is useful because it makes explicit how a model subject thinks; students are able to learn cognitive skills effectively in this way.[8] One's interest in analyzing protocols may be in addressing problems which demand either solutions that can be attained algorithmically (i.e., by following a sequence of precise instructions), or problems that demand "creative solutions"--namely, those which cannot be reached by means of known algorithms.[9] Advantages of protocol analysis include: a more active tapping of human resources in the classroom as attention is widened to include individuals other than the instructor; ease with which students can identify with peers and, derivatively, with their patterns of thinking; and the degree of comprehensive analysis of a problem, technique, or view, given the demand for complete explication of one's thought process. The principal disadvantage lies in the fact that students must often be taught

how to reach the degree of explicitness that is requested in their self-reports: verbally articulate models are essential, and not always available in an individual class.

CONCEPTUAL THERAPY

We accept the notion that people occasionally need therapy--emotional, physical, occupational, etc. As philosophers, we are aware of the notion, but are perhaps less accustomed to it, that in our use of concepts we may also at times need therapy. The philosophical claim, which still echoes in Plato's cave, has been variously expressed. Wittgenstein spoke of flies and fly-bottles and Ryle of category mistakes; logicians have exposed numerous kinds of fallacies; the positivists labelled and rejected what they perceived as meaningless. Some revisionists have been language- and some concept-conscious. If our interest is in how well our students may come to think, it is natural to speak of conceptual therapy, although no less is it important that they be able to express their thoughts in language, which is, after all, the main (and often the only) basis we have to ascertain quality of thinking.

Gregory Bateson, a left-handed, truly original psychotherapist, has been concerned with what he terms "pathologies of epistemology".[10] Toulmin has coined the word 'cerebroses' to refer to conceptual neuroses.[11] John Wisdom treats Wittgenstein's later philosophy as a kind of intellectual psychoanalysis.[12]

If we take seriously the general message such authors express, we would find, as teachers of philosophical skills, interesting and useful parallels within psychotherapy--approaches, that is to say, to psychotherapy and to the training of therapists which parallel already articulated interests in philosophy conceived as conceptual therapy.

For example, consider the indirect approach to therapy of Rogers, which refrains from imposing on a patient external norms of behavior, but provides a context in which, e.g., self-

defeating behaviors may be identified and transcended by the patient himself. Such an approach to therapy dramatically parallels in many ways the _ad hominem_ style of philosophical argumentation, which is effective because it _accepts_ one's opponent's position as it is expressed by him. "Instead of looking for a counter-example, one...must suppose that the man means exactly what he says;...no thinker refutes himself unless we help him to do so by taking him seriously."[13] From such an indirect stance of intellectual judo, valid philosophical criticism must be _internal_.[14]

From another point of view, Albert Ellis has proposed a direct, confrontation-oriented approach to psychotherapy. External norms are applied almost without compunction, to help shake the patient free from the self-defeating ruts of his own perceptions, and thereby enable him to view his own problems from the _rational_ frame of reference of the therapist. Here, too, philosophical styles of argumentation parallel many aspects of such a rational approach to therapy. For example, Ch. Perelman's locus for philosophical argumentation is found in his conception of "universal audience", characterized by our adherence to fundamental tenets of rationality. Transcendental arguments attempt to underscore conditions which must be granted in order for objective knowledge (Kant), identification of particulars (Strawson), or discourse (Passmore) to be possible. From such a point of view, one's philosophical interest is in statements which one cannot _not_ accept without self-referential inconsistency. There is a growing literature devoted to exploring this approach to argumentation.[15]

It is common in psychotherapy to regard as pathological a person's "rigid commitments to patterns of inconsistency."[16] Similarly, philosophy undertaken as conceptual therapy can serve both to identify _concepts_ (or expressions) which are incompatible with their own presuppositional bases, and ways of _using_ concepts (or expressions) which are self-refuting.[17] In both cases, it is clear that philosophy may be pursued literally as a form of conceptual therapy.

The _teaching_ of such therapeutic skills in philosophy

closely resembles, I am led to believe, the teaching of psychotherapeutic skills. A translation--from the world of psychotherapy to the concerns of philosophy--must be made by the individual teacher of philosophy as conceptual therapy. It requires, like any teaching innovation, imagination and fortitude.

In summary, I have described four perspectives which may be useful to a cognitive skills approach to philosophy. The interested reader will discover many possibilities for original innovation in the literature, via the chain-reaction which usually occurs whenever one begins to consult references in a new area of study. Even the teaching strategies identified here can themselves serve as philosophically interesting models: Polya's approach considered as a modern attempt to understand dialectic, learning cycles as a more systematic way to comprehend concept-formation in developmental terms, protocol analysis as a form of applied phenomenology, and conceptual therapy as a promising field for revisionary internal and external philosophical criticism. An adequate philosophical theory which would shed light on the teaching of cognitive skills in philsophy is, like many instances of complex reflexivity, dizzyingly self-referential, yet its development possesses a fascination of its own.

NOTES

1. Since the publication of Gilbert Ryle's The Concept of Mind (N.Y.: Barnes and Noble 1949), Chapter II.

2. Two excellent works on philosophical argumentation exist: Henry W. Johnstone, Jr., Philosophy and Argument (University Park, Pa.: Pennsylvania State University Press 1959) and John Passmore, Philosophical Reasoning (N.Y. : Charles Scribners Sons 1961). A collection of papers which shares this focus has been edited by Johnstone and Maurice Natanson, Philosophy, Rhetoric, and Argumentation (University Park, Pa.:

Pennsylvania State University Press 1965).

The endless stream of works on formal and informal logic is less directly relevant, since formal and informal reasoning, though used by philosophers, are not peculiar to philosophical thinking.

3. Russell's famous line comes to mind: "Philosophy, from the earliest times, has made greater claims, and achieved fewer results, than any other branch of learning." (Our Knowledge of the External World (London: George Allen and Unwin 1926), p. 13.)

Edmund Husserl voiced the same disillusionment: "The imperfection of philosophy is of an entirely different sort from that of the other sciences...It does not have at its disposal a merely incomplete and, in particular instances, imperfect doctrinal system; it simply has none whatever. Each and every question is herein controverted, every position is a matter of individual conviction, of the interpretation given by a school, of a "point of view"." ("Philosophy as Rigorous Science" in Phenomenology and the Crisis of Philosophy, trans. by Quentin Lauer (N.Y.: Harper and Row 1965), p.75.)

4. Johnstone, for example, sees a fundamental misunderstanding of the philosophical enterprise in the criticism that, in philosophy, general assent has never been achieved. Cf. Johnstone, Philosophy and Argument, passim. See also Ryle's "Proofs in Philosophy", Revue Internationale de Philosophie VIII (1954), 150-157; Johnstone's "The Nature of Philosophical Controversy", Journal of Philosophy 51 (1954), 294-300; and other works by Johnstone listed in the bibliography in Johnstone and Natanson's collection mentioned in note 2, above.

5. George Polya, How to Solve It (Princeton, N.J.: Princeton University Press 1945); Mathematics and Plausible Reasoning, 2 vols. (Princeton, N.J.: Princeton University Press 1954); Mathematical Discovery: On Understanding Learning and Teaching Problem Solving (N.Y.: John Wiley 1962 (Vol. I), 1965 (Vol. II)). For related views and references to the literature, see Bartlett, "A Metatheoretical Basis for Interpretations of Problem Solving Behavior", Methodology and Science 11 (1978),

59-85; Bartlett, "Protocol Analysis in Creative Problem Solving", *The Journal of Creative Behavior* (in press); and contributions in Robert S. Cohen, Paul K. Feyerabend, and Marx W. Wartofsky, eds., *Essays in Memory of Imre Lakatos*, Boston Studies in the Philosophy of Science XXXIX (Dordrecht, Holland: D. Reidel 1976).

6. For a review of the literature, see Bartlett, "Protocol Analysis in Creative Problem Solving", *The Journal of Creative Behavior* (in press). On the use of learning cycles in philosophy, cf. E. T. Carpenter, "A Place for Philosophy in the ADAPT Program", University of Nebraska - Lincoln, *ADAPT (Accent on Developing Abstract Processes of Thought) Program*, monograph report, 1976.

7. See, e.g., A. B. Arons, "Cultivating the Capacity for Formal Reasoning: Objectives and Procedures in an Introductory Physical Science Course", *American Journal of Physics* 44 (1976) - 834-838; University of Nebraska - Lincoln, *Ibid*.; Anton E. Lawson and John W. Renner, "A Quantitative Analysis of Responses to Piagetian Tasks and Its Implications for Curriculum", *Science Education* 58 (1974), 545-560.

8. See Bartlett, "The Use of Protocol Analysis in Philosophy", *Metaphilosophy* (in press), and "Protocol Analysis in Creative Problem Solving", (see note 6), and A. Whimbey, *Intelligence Can Be Taught* (N.Y.: E.P.Dutton 1975).

9. For references to the literature, see Bartlett, "Protocol Analysis in Creative Problem Solving", *The Journal of Creative Behavior* (in Press), and Bartlett, "A Class in Philosophical Inquiry" in A. Whimbey, *A Cognitive Skills Approach to the Disciplines*, CUE Project Technical Series, Bowling Green State University, 1977.

10. Gregory Bateson, *Steps to an Ecology of Mind* (N.Y.: Ballantine 1972), Part VI.

11. Stephen E. Toulmin, "From Logical Analysis to Conceptual History", in P. Achinstein and S. Barker, eds., *The Legacy of Logical Positivism* (Boston: Johns Hopkins Press 1969), p. 45.

12. John Wisdom, *Philosophy and Psychoanalysis* (Oxford: Oxford University Press 1953).

13. Henry W. Johnstone, Jr., "Self-Refutation and Validity", *The Monist* XLVIII (1964) pp. 483-484.

14. Richard M. Zaner, "Philosophy and Rhetoric: A Critical Discussion", *Philosophy and Rhetoric* I (1968) pp. 61-77.

15. See, for example, Johnstone, *Philosophy and Argument*; Passmore, *Philosophical Reasoning*; J. M. Boyle, Jr., "Self-Referential Inconsistency, Inevitable Falsity, and Metaphysical Argumentation", *Metaphilosophy* 3 (1972), 25-42; and Bartlett, "The Idea of a Metalogic of Reference", *Methodology and Science* 9 (1976), 85-92.

16. G. Bateson, "Minimal Requirements for a Theory of Schizophrenia" in Bateson, *Ibid*., p. 263.

17. This distinction follows that made between metalogical and pragmatical self-referential inconsistency. On the latter, see, for example, C. K. Grant, "Pragmatical Implication", *Philosophy* XXXIII (1958), 303-324; on the former, see Bartlett, "The Idea of a Metalogic of Reference", *Methodology and Science* 9 (1976).

OTHER PUBLICATIONS BY THE AUTHOR VARIOUSLY RELATED TO THE TOPIC OF THIS PAPER

A freely downloadable collection of publications by the author, including many of the publications listed here, is available from the author's university research website:

http://www.willamette.edu/~sbartlet

and from PhilPapers: https://philpapers.org/s/Steven%20James%20Bartlett.

Books and Monographs

1. *A Relativistic Theory of Phenomenological Constitution: A Self-Referential, Transcendental Approach to Conceptual Pathology*. (Vol. I: French; Vol. II: English. Doctoral dissertation, Université de Paris, 1970.) Available from PhilPapers: https://philpapers.org/rec/BARART-7.
2. *Conceptual Therapy: An Introduction to Framework-relative Epistemology*, Studies in Theory and Behavior, Saint Louis, 1983. An introductory text that gives students applied exercises in thinking using the author's approach to epistemology in terms of self-referential argumentation and self-validating proofs. Available from PhilPapers: https://philpapers.org/rec/BARCTA-11
3. *Self-Reference: Reflections on Reflexivity*, edited with Peter Suber, Martinus Nijhoff, 1987; now published by Springer Science. The first of two collections (see #4 below), consisting of invited papers by leading contemporary authors, to be published in the new area of research, the general theory of reflexivity, pioneered by the author. Available from PhilPapers: https://philpapers.org/rec/BARSRO-4
4. *Reflexivity: A Source Book in Self-Reference*, Elsevier Science Publishers, 1992. The second collection, consisting of classical papers by leading contributors of the twentieth century, published in the new area of research, the general theory of reflexivity.
5. *The Pathology of Man: A Study of Human Evil,* published in 2005 by behavioral science publisher Charles C. Thomas, is the first comprehensive scholarly study of the psychology and epistemology of human aggression and destructiveness. The study includes original research by the author, such as a detailed description of the phenomenology of hatred and the psychology of human stupidity, and an extension and elaboration of the author's earlier published work dealing with the epistemology of human thought disorders (Part III).

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    http://www.veganswines.de/Animal_Law/

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