Knowledge, Proof, and Ineffability in Teaching

By Kenneth R. Conklin

This is a time of unrest, mistrust, and outright fraud. One way we have found to protect ourselves from disappointing commitments is to demand increasingly stringent standards of proof. Thus, philosophy is diverted from its traditional quest for truth to concentrate on problems of proof. The so-called "objective" areas of logic and science take precedence over morals and aesthetics precisely because proof is thought possible in the former but not in the latter. Philosophy has grown remote from the pressing concerns of men, leaving value conflicts to be settled violently.

In the present paper we shall see that there can be no warrants for knowledge in any area. Proof is neither necessary nor sufficient for knowledge. The warranting function of proof arises from its primary functions of expressing and persuading; hence, the study of proof standards becomes a branch of aesthetics and psychology. Proof is an advertisement for truth. The whole point of proof is its convincingness. Knowledge is true belief held with certainty, whether or not that certainty arises from what we usually call "proof." Downgrading the warranting function of proof does not increase the threat of dogmatism. In areas where warrants are naturally weak, ineffability is strong and prevents the accurate or adequate promulgation of doctrine. When we recognize that knowledge rather than proof is the proper goal of inquiry, and that knowledge is ineffable and independent of proof, then we must reconsider some goals and methods of education.

KNOWLEDGE, TRUTH, AND PROOF

Presumably there are truths not yet discovered, but knowledge is truth which has been discovered; hence, knowledge must be truth which is at least held in the mind and believed. It is possible that ignorant people might make lucky guesses or have groundless superstitions or beliefs which happen to be true. Therefore knowledge is more than mere belief in something true. Knowledge must be true belief which is consciously recognized and *known* to be true, but that is circular.

Here, then, is a problem: how can we distinguish between knowledge and true belief? Notice that the problem is not how to distinguish truth from falsity: that will be dealt with later. For now we assume that the thing is true, and we seek only to distinguish knowledge from true belief.

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If the knowledge is our own, we may observe our own certainty in the truth of our belief. Certainty alone is not sufficient to guarantee knowledge, since we are sometimes embarrassingly certain of a belief which later turns out to be false. But if our belief is true (as we here assume it is), then our certainty of its truth would seem to qualify it as knowledge rather than merely true belief. In this case proof (good evidence) is not necessary: the certainty we observe in our own mind is sufficient to distinguish our own knowledge from our own true belief. Proof might help convince us that a belief is true, but the function of proof is then to lead us to truth and help us be certain of it. Proof is a servant of certainty in our own mind, and certainty is what distinguishes our own knowledge from our own true belief.

How can we know that someone else has knowledge rather than merely true belief? It might be difficult for us to detect whether he has certainty. But if he offers proof then the fact that he deliberately offers proof may convince us that he has certainty. In this case proof functions as a communicative device whereby the knower demonstrates his certainty of belief and leads us to become certain of his certainty. Thus we come to know that he has knowledge rather than merely true belief.

So long as the truth of a belief is not at issue, the only advantage of proof over certainty as the factor distinguishing knowledge from true belief is that proof is publicly observable. But public observability should not be blindly accepted as a necessity, and we have seen that in distinguishing knowledge from true belief proof actually functions subordinately as an expression or communication of certainty. This emphasis on certainty and downgrading of proof is contrary to most current thinking,[1] but current thinking results from challengeable assumptions that only publicly observable or conventionally decidable things deserve our allegiance.

There are occasionally ideas whose truth is self-evident; e.g., the "clear and distinct" ideas of Descartes, and the metaphysical truths of the Platonic world of Forms or Kantian noumenal realm. Absolute knowledge, if it exists, can only be warranted by certainty arising through direct apprehension, and no amount of phenomenal evidence could ever be sufficient to prove or disprove such truths. Here the task of proof is only to communicate truth and to lead someone to the direct apprehension of it which educes certainty and confirms knowledge.

When distinguishing truth from falsity in the ordinary phenomenal realm, proof may function to help an initially uncertain idea become obvious. But sometimes there are true ideas which never become obvious. This is where we rely upon the warranting function of proof. We never really quite believe the idea but come to feel we ought to believe it because it has been proved. Eventually the forcefulness of the proof gives us sufficient certainty to act as though the idea is true, even though we don't see its truth directly.

The warranting function of proof occurs in two different ways. (1) Proof can be given after a belief has been formulated. Logical arguments or empirical data are linked to the belief in a pattern which is similar to other patterns which in the past have been successful in including beliefs deemed true and have failed to include beliefs deemed false. (2) A belief is considered proved by the method used to generate it, when the same method in the past has generated other beliefs deemed true and has not generated beliefs deemed false.

In either case we come to believe an idea not because we see its truth directly but because we recognize a similarity between the pattern of proof used for it and earlier proof patterns considered successful. The fittingness of an idea in a pattern, and the similarity of patterns, are more aesthetic than logical. Different cultures have had

1. For a typical exposition of the current bias, and a criticism of the certainty criterion, see Israel Scheffler, *Conditions of Knowledge* (Chicago: Scott, Foresman and Co., 1965).

different standards and techniques of proof; even in the domain of rigorous mathematical logic Goedel has *proved* that proofs cannot be complete or self-contained.[2] Truth remains true in spite of whether we believe it or what our reasons might be. Ultimately a proof is accepted as a warrant only by those who freely choose to accept and acknowledge it. Polanyi shows that in some scientific specialties there is a community of persuasion which will sometimes not recognize as reasonable or believable an extraordinary belief which has been fully warranted in the accepted ways.[3] Thus, certainty and custom can be more authoritative than warrants even in science. Some philosophers of science, most notably Popper and Bartley, have claimed that there can be no proof, but only corroboration that must remain open to subsequent refutation.[4] Even refutation is a form of proof (the proof of a negative conclusion), so that neither proof nor disproof can be complete.[5]

DOGMATISM AND INEFFABILITY

We have seen that the warranting function of proof (or disproof) can help develop true belief or relative certainty in the world of appearances, but the only warrant for the transcendent metaphysical truths is certainty growing directly out of these truths themselves as we approach and apprehend them. Does this mean that dogmatism is justified, especially in the area of profound value commitments? Is there no way to discredit or refute dogmatism, short of subterfuge or violence? Is science limited to developing gadgets for making life comfortable, or can scientific inquiry somehow be used to distinguish truth from falsity and discredit dogmatism?

The most obvious characteristic of dogmatism is a stubbornness in maintaining and proclaiming certainty, even in the face of contrary evidence. If a belief is actually true, then dogmatism would be appropriate and sometimes courageous; but if a belief is false, then dogmatism could be used to "warrant" radical and irreversible actions based on false belief. The danger that belief might be false seems to outweigh the courageousness of maintaining true belief, so that dogmatism is disliked. Sometimes dogmatism is also used to demand blind obedience without assessment of the truth or falsity of belief.

Fears of dogmatism have prompted scholars to adopt a dogmatic insistence that dogmatism will not be tolerated! A less obviously dogmatic way to refute dogmatism is to insist there is no truth. Modern philosophy has been overwhelmed by this subtle but nevertheless dogmatic skepticism. Conventionalism is dominant in science, ethics, aesthetics, politics, and even religion. Other philosophers, as mentioned earlier, claim that there might be truth but knowledge is impossible because there is no proof; hence, dogmatism is rejected in favor of skepticism. But conventionalism and skepticism are unnecessary overreactions to the fear of dogmatism. A dogmatically held false belief should be rejected by showing (i.e., convincing) people that it is false rather than by insisting that dogmatism will not be tolerated, that there is no truth, or that there is no knowledge.

2. For a good discussion of Goedel's proof in language a non-mathematician can understand, see Ernest Nagel and James R. Newman, *Goedel's Proof (New* York: New York University Press, 1958).

3. Michael Polanyi, *The Tacit Dimension* (Garden City, N.Y.: Doubleday and Co., 1966), pp. 64-66.

4. Karl R. Popper, *Conjectures and Refutations* (New York: Basic Books, 1962). Also by Popper, *The Logic of Scientific Discovery* (London: Hutchinson and Co., 1959). William Warren Bartley III, *The Retreat to Commitment* (New York: Alfred A. Knopf, 1962), esp. Chapters 4 and 5. For a more technical discussion see Bartley, "Rationality versus the Theory of Rationality," *The Critical Approach to Science and Philosophy,* Mario Bunge, ed. (Glencoe, 111.: The Free Press, 1964), pp. 3-31.

5. Kenneth R. Conklin, "Fallibilism: A Terrible Mistake," *Educational Forum,* XXXVI, 1 (November, 1971), pp. 3542.

A more responsible non-dogmatic refutation of dogmatism is the claim that truth is ineffable. There is truth, and there is knowledge, but there is no adequate way to communicate truth; hence, dogmatism is inappropriate. One version of the principle of ineffability is that words and actions may be adequate to express truth, but neither the possession of knowledge nor anything else is sufficient to guarantee that the knower can select those words and actions which would be adequate. A stronger version of the principle of ineffability claims that no set of words and actions can ever be adequate to express knowledge. Both versions rule out dogmatism, since a knower is unable to express his knowledge adequately (strong version) or else is unsure that what he does and says is adequate or appropriate to express his knowledge (moderate version). The strong version will be adopted for the balance of this paper, both because it accounts for all the phenomena explained by the moderate version and because the strong version will now be "proved" (i.e., convincing arguments will be adduced for it).

The claim that no set of words and actions can be adequate to express knowledge is clearly true for absolute knowledge, as can be shown by Plato's theory of the two worlds. Since words and actions take place in the world of appearances, since absolute knowledge is knowledge of the Forms, and since the Forms transcend and are more real than the appearances, therefore words and actions can never completely or adequately express absolute knowledge (just as appearances can never completely or adequately manifest Forms). GoedeI's proof that mathematical proof cannot be complete, and the Popper-Bartley demonstration of the permanent incompleteness of scientific proof, discussed in the last section, could clearly be explained on the basis of this Platonic two-worlds justification of the strong version of ineffability.

Plato hints at successive layers of reality between the Form of the Good and the dreams and shadows in the world of appearances. In the *Republic* he says the Good has three sub-Forms or aspects: Goodness, Truth, and Beauty. The divided line allegory describes three major layers of reality below the Forms themselves. *Phaedrus* and *Symposium* suggest a larger number of layers of reality and knowledge, while the creation myth in *Timaeus* would seem to concur. The hypostatizations in the *Enneads* of Plotinus corroborate this interpretation of a stratified cascade of creation in Plato's theory.

If there is such a stratification of reality, or at least if knowledge has saltatory levels, then knowledge at a higher level would be ineffable at all lower levels, and the attainment of knowledge at a higher level could occur only after some mysterious intuitive leap beyond what was known at lower levels. Knowledge in all fields would then be stratified in a manner perhaps analogous to Russell's theory of types, and one's progress in achieving knowledge would be expected to show the plateau characteristics of skill learning.

It is therefore most significant that Polanyi's theory of tacit knowing fully corroborates these speculations.[6] Polanyi endorses the theory of a hierarchical stratification of reality, and uses this theory to account for the fact that "there are things we know but cannot tell," to show a close similarity between discovery of abstract truth and learning of skills, and to defend the validity of anti-positivist concepts of freedom and meaning. Polanyi's work is all the more significant for our purposes here because he develops his theory with special reference to science, the area where we would least expect to find ineffability. Polanyi defends the notion that even in science knowledge at a higher level requires a mysterious creative integration of clues from lower levels, and the resulting high-level knowledge is sought and held with personal commitment and certainty. The factors of personal commitment and certainty are present at all levels, from the most mundane to the most abstract, but are especially important and profound

6. Polanyi, *The Tacit Dimension.*

at higher levels. The activities of higher levels of reality are not predetermined by the activities of lower levels, so that reality at higher levels cannot be explained by laws or operations at lower ones.

In saying that a higher level of reality cannot be completely or adequately explained in terms of lower levels of reality, we are also saying that higher levels of knowledge cannot be completely or adequately expressed in language which will make sense to people acquainted only with lower levels of knowledge. This causes no real problem at the levels of ordinary activities, since everyone has the relative knowledge appropriate to all these levels or else can obtain such knowledge through direct observation. At high levels of scientific activity, however, knowledge is possessed only by experts, and ineffability becomes a significant problem. Experts find it impossible to do an adequate job of explaining their theories to the masses, and they even encounter serious difficulties explaining their theories to junior colleagues, or senior experts with slightly different backgrounds and interests.

At the level of the Platonic Forms, where the self-warranting certainty of absolute knowledge is the only valid warrant for truth, and proof is irrelevant, ineffability becomes complete. Plato claimed that absolute knowledge with self-warranting certainty produces a spiritual conversion that makes the knower morally good with respect to what he knows. Those who truly possess absolute knowledge neither shout it from the roof-tops nor resort to violence to apply it. Rather, they work in quiet, gentle ways, speaking in parables and teaching by example. The great prophets would be horrified at the literal interpretations placed on their words, and the persecution and violence perpetrated by institutions founded in their names.

We now have two refutations for dogmatism: (a) the principle of ineffability, and (b) the moral conversion produced by the self-warranting certainty of absolute knowledge, (a) We have seen that dogmatism is harmless at lower levels of knowledge, where ineffability is relatively inoperative but knowledge is easily accessible and beliefs are testable by direct observation. At higher levels of knowledge ineffability increases in proportion to the decrease in a layman's capacity to observe and interpret. At the highest levels of absolute knowledge, where the most profound and far-reaching judgments are made, ineffability is complete. Thus, whenever someone is being dogmatic about topics at high levels of knowledge, either we cannot understand what he really means without a profound struggle or else the dogmatist must not have genuine knowledge, (b) The moral conversion produced by the self-warranting certainty of absolute knowledge makes it unlikely that a genuine possessor of absolute knowledge would be obnoxiously dogmatic or would try to take coercive action in the name of what he knows. In view of the impossibility of expressing absolute knowledge, and the inappropriateness of dogmatism, we may rest more easily in recalling the authority of trust, charisma, tradition, example, and communities of persuasion, and we understand more fully the claim that one must believe before he can understand.

TEACHING

Once education rises above the most mundane practical or vocational levels, a teacher's knowledge gives him insurmountable authority over the content and conduct of education in his field. Even in interdisciplinary or life-problems inquiries, the qualified teacher has knowledge at levels currently unattainable by his students, and is more skillful than they in performing inter-level integrations and differentiations (i.e., assembling information at lower levels to yield understanding at higher levels, and inventing words or actions at lower levels to express knowledge at higher levels). The theory of stratified knowledge explains why someone who has explored one field deeply may be able to

master other fields easily or at least appreciate them quickly: the skill of performing inter-level integrations and differentiations is more or less invariant from one area to another, so that skill acquired in one area transfers to another as soon as the particulars of the new area are mastered.

Education cannot properly function in a democratic way. To master a field, students must have faith and trust in their teacher and in the disciplined techniques of the field itself. Within the classroom a teacher must be the master of curriculum and classroom management. The faculty's accountability to students and community is limited by the insurmountable ineffability associated with the faculty's higher level of knowledge; hence, the faculty must be protected from obnoxious student or community dogmatism by an appropriate guarantee of academic freedom in both course content and methods of classroom or school-wide management. All of this is in keeping with the Platonic social division of labor based on level of intellectual achievement rather than on currently popular economic or political considerations. It also assumes that the faculty will elicit such faith and trust by the quality of its scholarship and leadership, and by its gentle, compassionate, and non-dogmatic consideration of problems.

In view of the claims that knowledge is true belief held with certainty, that the warranting function of proof is minimal, and that words and actions can never be complete or adequate expressions of truth, we must recognize that teaching can succeed only through some deeply mysterious process. Augustine, in *De Magistro,* discussed this process with greatest reverence and concluded that a student achieves knowledge not so much because the teacher has taught him as because the teacher has helped the student hear and accept Christ teaching within him. In *Meno* Socrates shows how a teacher functions as epistemological midwife, helping the student bring to the light of day knowledge which was already within him but somehow buried or forgotten. The Zen masters regard teaching in a similar way, and use radically unusual techniques to help a student achieve knowledge.[7] Of course the knowledge under consideration by Augustine, Plato, and the Zen masters is absolute knowledge. Nevertheless, even the teaching of lower-level relative knowledge participates somewhat in this mystery.

Most of us are familiar with at least one example of a gestalt-type picture which seems meaningless until something "clicks" and we recognize what is there. Suppose a teacher has such a picture, and the picture has just one major interpretation as a picture of something everyone has seen. Unless the student actually "sees" the picture for himself, there is no way the teacher can "prove" to him that it exists. The teacher may help the student by pointing out particular parts of the picture and telling what they are: this is comparable to differentiating a higher-level portion of knowledge into its lower-level parts and expressing those parts. We note the significance of ineffability here: the teacher's vision of the picture cannot be adequately expressed by pointing out and naming particular parts. The student can achieve the teacher's vision only by mastering parts and integrating his awareness of them to a new, higher-level awareness. This will probably happen suddenly after prolonged effort, and the vision will be seen with such clarity and certainty that the student may let out a cry. All teaching at all levels operates this way. Teachers may deliver "proofs," but must always rely upon the creative intelligence of the student to discover what the "proofs" express and point toward.

Both linguistic analysis and stimulus-response psychology are based on the assumption that a process or product can be understood entirely in terms of its parts. But the principle of ineffability, and the theory that reality and knowledge are stratified,

7. D. T. Suzuki, *Studies in Zen,* Christmas Humphreys, ed. (New York: Philosophical Library, 1955), Chapters 3, 4, and 6; and Suzuki, *Zen Buddhism* William Barrett, ed. (Garden City, N.Y.: Doubleday Anchor Books, 1956), Chapters 5 and 6.

show that this assumption is false. Linguistic analysis hopes to solve problems and disagreements by improving the precision of communication, but we have seen that there are severe limits to the completeness and adequacy of communication. Stimulus-response psychology seeks to predict what someone will do as a result of our actions upon him, but we have seen that someone else's integrations of the actions he undergoes is beyond our control. Contrary to the analytic philosophers and soap-box orators, problems will not vanish and disagreements cease simply as a result of improved communication. Contrary to the behavioral psychologists and bureaucrats, people's behavior will not be controlled by what we do to them.

The contents and methods of education should be altered if what we are saying is true. The present heavy emphasis on developing precision of communication should be replaced by an increased emphasis on developing sensitivity in receiving messages and convincingness in expressing them. The prolonged study of grammar for application to reading, writing, and speaking should be replaced by the study of how to use metaphor, parable, personification, etc. "Sensitivity training" might help students learn how to use both linguistic and non-linguistic signals to understand someone else's thoughts, feelings, and moods.

In every area of curriculum students should get practice in performing inter-level integrations and differentiations. Appreciation and performance should be taught in alternating cycles so as to enhance the theory-practice relationship. Thus, for example, practice teaching and study of educational theory should take place in alternating segments. Student indweUing in subject matter can be enhanced through a multi-media approach; e.g., in learning a foreign language reading, writing, listening, and speaking should be practiced all together.

Each student should be encouraged to explore some one area of knowledge as deeply as possible so as to appreciate what depth means, since the feeling of depth and of inter-level relationships is more or less invariant from one field to another. When students achieve an integration at a higher level of knowledge in any area, they quickly become capable of a vast new repertoire of manifestations at the original lower levels. Knowledge used for interpretation and understanding has a much broader range and deeper significance than knowledge mastered solely for application, problem solving, and vocational work, as Broudy and others have shown.[8] The principle of ineffability, and the theory of stratification of knowledge, clearly support and explain the conviction that knowledge for appreciation and self-realization is much more valuable than training directed specifically toward practical performance. The principle of ineffability also shows that tests cannot measure how much high-level understanding or self-realization have occurred; hence, more intuitive techniques of evaluation must be developed.[9]

8. Harry S. Broudy, B. Othanel Smith, and Joe R. Burnett, *Democracy and Excellence in American Secondary Education* (Chicago: Rand McNally and Co., 1964).

9. Kenneth R. Conklin, "Educational Evaluation and Intuition," *Educational Forum,* XXXIV, 3 (March, 1970), pp. 323-332.