

ability of undergraduates in at least the U.S. and Canada is generally alarmingly deficient. Whatever the causes—television, insufficient reading, poor primary or high school curricula or teaching, (heaven forbid, poor university teaching!), etcetera, etcetera—the phenomenon is notable. Second, we see it as a potentially valuable boost to democratic involvement in public affairs. The ideal of democracy requires a critical, reasoning citizenry, and the requisite abilities and dispositions have to be learned. A third possible benefit is related: teaching critical thinking may cultivate the practice of argumentation—a flower that seems to be wilting these days. Fourth, separate critical thinking courses provide a fine opportunity for teaching students to integrate and apply what they are learning in specialized disciplines.

In addition, the California directive holds out hope for incidental benefits for informal logic. Under its constraint, the concept of critical thinking and its cognates may be more likely to come under critical scrutiny themselves. Also, we can hope, the teaching of critical thinking will result in more thinking about the teaching of critical thinking. (We realize this may be a case of hope springing eternal against all odds: does teaching philosophy lead to thinking about teaching philosophy? All too rarely.)

Our first reaction to Executive Order No. 338 is thus one of pretty enthusiastic welcome. We do intend to monitor its execution, and reserve the right to comment on that in the future.

Right away we want to register reservations about some of the specific details of the Executive Order. For instance, we are not altogether enthusiastic about its suggestion that inductive and deductive argument exhaust the domain of argumentative reasoning. More generally, we believe that its authors seem to have missed out on what has been happening in informal logic for over a dozen years. The wording of the Executive Order seems to come from what we dubbed elsewhere (cf., **Informal Logic**, Ch. 1) the “global approach”: a bit of philosophy of language and fallacy to start, a section of deductive logic, and then a section on inductive logic and scientific method (Copi’s **Introduction to Logic** is the paradigm). Still, the wording of the Executive Order does not preclude the more recently-introduced practices of analyzing arguments in a natural language, tree diagramming for logical structure, the use of richer critical principles than deductive validity and truth of premises, and so on.

In sum, we suggest to our readers that what is happening in California is well worth watching (what else is new?). In turn, we invite our California readers to tell their colleagues involved in teaching critical thinking courses about ILN and to pass along our invitation to use ILN as one medium for exchanging ideas and information. We all stand to benefit from the discussion of the many issues involved in teaching critical thinking that are found to arise in the wake of this development.

In this issue

We are happy to welcome four new contributors to this issue of ILN: Richard Paul, J.E. Bickenbach, Mark Weinstein and Jonathan Adler.



Teaching Critical Thinking in the “Strong” Sense: A Focus On Self-Deception, World Views, and a Dialectical Mode of Analysis

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“...no abstract or analytic point exists out of all connection with historical, personal thought: ...every thought belongs, not just somewhere, but to someone, and is at home in a context of other thoughts, a context which is not purely formally prescribed. Thoughts...are something to be known and understood in these concrete terms.”

Isaiah Berlin, *Concepts and Categories*, xii.

I. The “Weak” Sense: Dangers and Pitfalls.

To teach a course in critical thinking is to make important, and for most of us frustrating, decisions about what to include and exclude, what to conceive as one’s fundamental goals and what secondary, and how to tie all of what one includes into a coherent relationship to one’s goals. There has been considerable and important debate on the value of a “symbolic” versus a “non-symbolic” approach, as well as debate on the appropriate definition and classification of fallacies, appropriate analysis of extended and non-extended arguments, and so forth. There has been little discussion, and as far as I know, virtually no debate, on how to avoid the fundamental “dangers” in teaching such a course: that of “sophistry”, on the one hand (the student unwittingly learns to use critical concepts and techniques to maintain his most deep-seated prejudices and irrational habits of thought by

masking them in more "rational" form and by developing some facility in putting his opponent on the defensive), and, on the other hand, that of "dismissal" (the student rejects the subject either as sophistry or in favor of some supposed alternative—"feeling", "intuition", "faith", or "higher consciousness"). Students, much as we might sometimes wish it, do not come to us as "blank tableaux" upon which we can enscribe the inference-drawing patterns, analytic skills, and truth-facing motivations that we value. Any student studying critical thinking at the university level has a highly developed belief system buttressed by deep-seated uncritical, egocentric and sociocentric habits of thought by which he interprets and processes his or her experience, whether academic or not, and places it into some larger perspective. The practical result is that most students find it easy to question just, and **only**, those beliefs, assumptions, and inferences that have already "rejected" and very difficult, in some cases traumatic, to question those in which they have a personal, egocentric investment. I know of no way of teaching critical thinking so that the student who first learns to recognize questionable assumptions and inferences in "egocentrically neutral" cases then automatically transfers those skills to the egocentric and sociocentric ones. Indeed, I think that the opposite is the typical case. Those students who have already developed a goodly set of biased assumptions, stereotypes, egocentric and sociocentric beliefs, training in recognizing "bad" reasoning in "neutral" cases (or in the case of the "opposition") become more sophisticated rather than less so, more skilled in "rationalizing" and "intellectualizing" the biases they already have. They are then **less** rather than **more** likely to abandon them if at a later time they meet some one who questions them. Like the religious believer who studies "apologetics", they now have a variety of critical "moves" of which they can make use in defense of their **a priori** egocentric belief system.

This is not the effect, of course, that we wish our teaching to have. I take it to be self-evident that virtually all teachers of critical thinking want their teaching to have a global "Socratic" effect, making some significant inroads into the everyday reasoning of the student, enhancing to some degree that healthy, practical, and skilled skepticism one naturally and rightly associates with the **rational** person. This necessarily encompasses, it seems to me, some experience in seriously questioning previously held beliefs and assumptions and in identifying contradictions and inconsistencies in personal and social life. Most of us, I imagine, when we think along these lines and get glimpses into the everyday life and habits of our students experience at times moments of frustration and cynicism.

I don't think the situation is by any means hopeless, but I do believe that the time has come to raise serious questions about the standard modes of teaching critical thinking. These standard modes, as I am conceiving them, are what I identify with teaching critical thinking in the "weak" sense.

The most fundamental and questionable assumption of these approaches (whether formal or informal) is that critical thinking can successfully be taught as a battery of technical skills which can be mastered more or less one-by-one without any significant attention being given to the problems of self-deception, background logic, and multi-categorical ethical issues (how these problems are related I will be exploring presently).

The usual scenario runs something like this. One begins with some general pep-talk on the significance of critical thinking for personal and social life. In this pep-talk one is reminded of the large scale social problems created by prejudice, irrationality, and sophistic manipulation. Then one launches into a discussion of the difference between arguments and non-arguments and the reader is led to the notion that, without any further knowledge of the in's and out's of contextual or background considerations, he can learn to analyze and evaluate atomically the arguments he comes across (the "non-arguments" do not presumably need critical appraisal) by parsing them out into, and focusing on the relation between, "premises" and "conclusions". In examining that relationship the reader is encouraged to look for formal and/or informal fallacies, conceived as atomically determinable and correctable "mistakes". Irrationality in human reasoning is implied thereby to be reducible to complex combinations of atomic mistakes. One roots it out, presumably, by rooting out the atomic mistakes one-by-one.

I do not believe that models of this kind serve us well in teaching critical thinking. This atomistic "weak sense" approach and the questionable assumptions upon which it is based needs to be contrasted with an alternative approach, one specifically aimed at avoiding the pitfalls of the former.

On this alternative view one abandons the idea that critical thinking can be taught as a battery of atomic technical skills independent of egocentric beliefs and commitments. In place of "atomic arguments" one focuses on argument networks (world views); in place of conceiving of arguments as susceptible of atomic evaluation one takes a more dialectical/dialogical approach (arguments need to be appraised in relation to counter-arguments, wherein one can make moves that are very difficult to defend or ones that strengthen one's position). One is led to see that atomic arguments (traditional conception) are in fact a limited set of moves within a more complex set of actual or possible moves reflecting a variety of logically significant engagements in the world. In this "real" world, whether that of "ordinary" or "philosophical" discourse, argument exchanges are means by which contesting points of view are brought into rational conflict, and in which fundamental lines of reasoning are rarely "refuted" by an individual charge of "fallacy", however well supported. The charge of fallacy is a move; it is rarely logically compelling; it virtually never "refutes" a point of view. This approach I believe, squares much more closely with our own and the student's experience of argument exchanges.

By introducing the student from the outset to these more "global" problems in the analysis and evaluation of reasoning, we can, indeed **must** if we are to be successful, help him or her to a clearer theoretical recognition of the relationship between world views, forms of life, human engagements and interests, what is at stake (in contrast to what is at issue), how what is at issue is often itself at issue, how the unexpressed as well as the expressed may be significant, of the difficulties, as a result of the above, in judging credibility, and, last but not least, of the ethical dimension in most important and complex human problems.

Before I go further however I would like to say something about the problem of evaluating a "strong sense" approach to the teaching of critical skills.

II. Evaluating a "Strong" Sense Approach.

It should be clear that I believe that one can teach critical thinking in the "strong" sense. I also believe that its success can be evaluated in relatively objective, though not particularly in traditionally conceived terms, such as, for example, the Watson-Glazer critical thinking test. I would suggest, in lieu of such examination, the following general considerations. To the extent that one is successfully teaching critical thinking in the strong sense, assuming that a move in that direction emerges out of the traditional approach, one should begin to notice the following:

- 1) an increasing number of students, both on course evaluations and informally, will express enthusiasm for the subject matter, passing on anecdotes about situations in their own life in which they found critical analysis useful;
- 2) an increasing number of students will express an interest in a follow-up course as well as indicating ways in which their work in other subjects improved;
- 3) an increasing number of philosophy majors will be generated by the course (This depends in part on whether or not the department emphasized applied philosophy and highlights the development of critical [strong sense] skills);
- 4) an increasing number of non-philosophy majors will express an interest in the theory of critical thinking;
- 5) an increasing number of students will express an interest in pursuing a career objective involving critical thinking (for example, teaching it at the elementary, secondary or university level); and
- 6) there will be spill over in the "political" activity of the students as they develop increasing interest in applying critical analysis to political rhetoric, seeing the negative consequences of "uncritical thought" in ethical terms.

These are the consequences which I have been observing (assuming I am not guilty of faulty causal reasoning and self deception) as my own teaching of critical thinking (every semester for the last seven years) has evolved toward a more and more explicit commitment to "strong sense" objectives and theory. A particularly vivid example of the effect I am talking about is illustrated in the emergence of a critical thinking discussion group that was formed last semester on my campus (consisting of 11 teaching assistants in philosophy and a group of non-majors) which meets bi-weekly to discuss theory and application of critical analysis. (I might add that Ralph Johnson and Tony Blair got a first hand dose of the enthusiasm and seriousness of some of these students when a small group engaged them in an all-night discussion on theory of critical thinking.)

The results then I believe are obvious, objective, but non-traditional. Let us now look a bit closer at some of the major components of my recommendations for a "strong sense" approach.

III. Some Basic Theory: World Views, Forms Of Life, Etc.

Here are some basic theoretical underpinnings for a "strong sense" approach:

1) As humans we are—first, last, and always—engaged in inter-related life projects which, taken as a whole, define our personal "form of life" in relation to broader

"social" forms. Because we are engaged in some projects rather than others, we organize or conceptualize the world, and our place in it, in somewhat different terms than others do. We have somewhat different **interests**, somewhat different **stakes**, and somewhat different **perceptions** of what is so. We make somewhat different assumptions and reason somewhat differently from them.

2) We also express to ourselves and others a more articulated view of how we see things, a view that is at best only partially consistent with the view presupposed by and reflected in our day-to-day behavior. We have then **two** world views overlapping each other, one implicit in our activity and engagements, another implicit in our talk about our behavior. Recognizing contradictions between these views is a necessary condition of developing as a critical thinker and as a person in good faith with himself. Both are measured by the degree to which we are capable of articulating more and more of what we live and living more and more of what we articulate.

3) Reasoning is an essential and defining operation presupposed by all human acts. To reason is to make use of elements in a logical system to generate conclusions. Conclusions may be explicit or implicit in behavior. Sometimes reasoning is explicitly cast into the form of an argument and sometimes it is not. However, since reasoning presupposes a system or systems of which it is a manifestation or revealed contents the full implications of reasoning are rarely (if ever) exhausted or displayed in arguments in which they are cast. Arguments presuppose questions at issue. Questions at issue presuppose a point of view and interests at stake. Different points of view frequently differ not simply as to the "answers" to the questions but as to the appropriate formulations of the question itself.

4) When we as humans analyze and evaluate arguments which are significant to us (this includes all arguments which if accepted would strengthen or weaken the beliefs to which we have committed ourselves in word or deed), we do so, including those of us who are logicians, in relationship to prior belief-commitments. The best we can do in moving toward increased objectivity is to bring to the surface the set of beliefs, assumptions, and inferences from the perspective of which our analysis is proceeding, and to see explicitly the dialectical nature of our task, the critical "moves" we might make at various points and the various possible "counter-moves" those moves might call forth.

5) Skill in analyzing and evaluating reasoning is skill in reciprocity, the ability to reason in more than one point of view, understanding strengths and weaknesses through comprehending the objections that could be raised at various points in the argument by alternative points of view.

6) Laying out elements of reasoning in "deductive" form is useful not principally to determine whether an atomic formal or informal "mistake" has been made, but to determine crucial critical moves which one might make in determining the strengths and weaknesses of the reasoning in relation to alternative possibilities.

7) Because "interest" typically influences perceptions, assumptions, reasoning in general, and specific conclusions "deduced" in particular, awareness of the nature of the engagements, of ourselves and others, is often a crucial factor in coming to recognize strengths and weaknesses in reasoning:

- a) It is only when we recognize, for example, that a

given argument reflects, or if justified would serve, a given interest that we can, by imaginatively entertaining a competing interest, construct an opposing point of view and so an opposing argument or set of arguments. It is by developing both arguments dialectically that we come to recognize their strengths and weaknesses.

b) Arguments are not things-in-themselves but constructions of specific people who must further interpret and develop them when objections, for example, are raised. By recognizing the interests with which given arguments are typically correlated, we can often challenge the credibility of a person's premises by alluding to discrepancies between what he says and what he does. In doing so we are forcing him to, for example, critique his own behavior in line with the implications of his argument, or to abandon his line of argument. There are a variety of critical moves he may make upon being so challenged.

c) By reflecting on interests as implicit in behavior, one can often much more effectively construct the assumptions most favorable to those interests. Once formulated, one can begin to formulate alternative competing assumptions. Both can then be more effectively questioned and arguments for and against them can be entertained.

8) The total set of "factual claims" that buttress a world view, and so of the various arguments generated by it, is typically indefinitely large, often involves shifting conceptual problems, and implicit judgments of value (especially as to how the "facts" are formulated). The credibility of individual claims is often linked to the credibility of many other claims in the set, and very often, the claims themselves are very difficult to verify "directly" and atomically. Very often then in analyzing an argument we must make judgments of relative credibility. These judgments are more plausible if they take into account the vested interests and the "track record" of the sources.

9) The terms in which an argument is cast often reflect the biased interest of the person (or of a group to which the person "belongs") who formulated it. Calling into question the very concepts the person is using or the use to which he is putting those concepts is a very important critical move. To become adept in doing this we must have practice in recognizing the systematic manner in which social groups selectively move back and forth in their reasoning between usage that is in keeping with the logic of ordinary language and that which accords with the ideological commitments of the group (and so conflicts with ordinary use). The significance of this point is clearer if one takes a list of key terms in current world political/social/ethical debate—say, "freedom fighter," "liberator," "revolutionary," "guerilla," "terrorist"—and reflects upon:

a) what is implied by the logic of the terms in English, separate from the usage of any particular social group (say, Americans);

b) what is implied by the usage of a particular group with vested interests (say, Americans); and

b) the various historical examples that would be used to suggest inconsistency in the use of these by, say, Americans, and the manner in which this inconsistency is connected with fundamental, typically unexpressed, assumptions.

IV. Multi-Categorical Ethical Issues.

To teach critical thinking in the strong sense is to help the student to develop reasoning skills precisely in those areas where he is most likely to have egocentric and sociocentric biases. Such biases exist most profoundly in the area of his identity and vested interests. His identity and interests are linked in turn to his unarticulated and articulated world view(s). His unarticulated world view represents the person that he is (the view implicit in the principles he uses in guiding his action). His articulated view represents the person that he **thinks** he is (the view implicit in the principles he uses in **justifying** his action). The contradictions or inconsistencies that exist between these two represent, when they are not a matter of simple "mistake", the degree to which he reasons and acts in bad faith or self-deceptively.

Issues that are multi-categorical and ethical in nature, on the one hand, and involve proposed justifications for behavior on the other, are ideal for teaching critical thinking on this view. And in fact most political, social, and personal issues about which we and the students are most concerned involve the above characteristics: the issues of abortion, nuclear energy, nuclear arms, the problem of "national security", poverty, social injustices of various kinds, revolution and intervention, socialized medicine, government regulation, sexism, racism, problems of love and friendship, jealousy, rights to private property, rights to world resources, faith and intuition versus reason, and so forth.

Obviously there is only a limited number of such issues that one can cover, and I believe that the advantages lie in covering a more limited number of such issues in a deep and intensive way rather than a large number in a more superficial way. I certainly am unsympathetic to inundating the student with an array of truncated arguments set up to "illustrate" atomic fallacies.

Since I teach in the United States and since the media here as everywhere reflects, and the students have typically internalized, a profoundly "nationalistic" bias, I focus on issues that, to be approached dialectically, require the student to discover that "American" reasoning and the "American" point of view on world issues is not the only dialectical possibility. This serves a number of purposes:

1) Though students typically have internalized a good deal of their own nation's "propaganda," so that their "ego" is identified in part with the national "ego", nevertheless they are not totally taken in by that propaganda nor are they incapable of beginning the process of systematically questioning it.

2) The students become more adept at constructing, and more empathetic toward, alternative lines of reasoning as the **egocentric assumptions** of American media coverage and of "American" foreign policy come more and more to the surface—for example, the assumptions:

a) that Americans in contrast to other peoples love and are committed to freedom in a **special** way;

b) that Americans have more energy, more practical know-how, and more common sense than other peoples;

- c) that the world as a whole would be better off (freer, safer, more just) if Americans had **more** power;
- d) that Americans have used their power differently (more altruistically) than other peoples have;
- e) that Americans are less greedy and self-interested than other peoples are;
- f) that American lives are more important than are the lives of other peoples, etc.

3) Coming to deal in an explicit way with, coming to construct dialectical alternatives to, political and national "party lines" and the contradictions in which they abound enables the student to draw parallels to his personal, and his peer group's, "party lines" and the myriad contradictions in which his (and their) talk and behavior abound. It is just such "discoveries" in very explicit and dramatic form that generate a commitment to the value of the "critical spirit" and it is only with some such commitment that one develops the foundation for "strong sense" skills.

V. A Sample Assignment and Results.

It is useful I think to provide one sample assignment to indicate how the concerns and objectives that I am talking about can be translated into assignments. The following was assigned last semester as a take-home mid-term examination, approximately six weeks into the semester. The students were allowed three weeks to complete it. Here are the basic instructions:

"The objective of this mid-term is to determine the extent to which you understand and can effectively use the basic concepts of the course: world view, assumptions, concepts (personal, social, implicit in language, technical), evidence (empirical claims), implications, consistency, conclusions, premises, questions-at-issue.

You are to view and analyze critically and sympathetically two films: **Attack on the Americas** (a right-wing think-tank film alleging Communist control of central American revolutionaries) and **Revolution or Death** (a **World Council of Church's** film in defense of the rebels in El Salvador). Two incompatible world views are presented in those films. After analyzing the films and consulting whatever background material you deem necessary to understand the two world views, construct a dialogue between two of the most intelligent defenders of each of the points of view. They should each demonstrate skills in explicating the basic assumptions, the questionable claims, ideas, inferences, values, and conclusions of the other side. They should each be capable of making some concessions to the other point of view, without conceding their basic position. They should each be capable of summarizing some of the inferences of the other side and raising questions with respect to those inferences (e.g., "You appear to me to be arguing in the following way. You assume that...You ignore that...And then you conclude that...").

In the second part of your paper write up a third-person commentary on the debate, indicating which point of view is in the strongest position logically in your view. Argue for your interpretation; do not simply assert it. Give good reasons for rejecting and/or accepting whatever aspects of the two world views you reject or accept. Make clear to

the reader how your position reflects your world view. The dialogue should consist of at least 14 exchanges (28 entries) and the commentary should run to at least 4 typewritten pages."

A variety of background materials were made available, including The United States State Department "White Paper", an open letter from the late Archbishop of San Salvador, a copy of the Platform of the El Salvador rebels, numerous current newspaper and magazine articles and editorials on the issue. The students were encouraged to discuss and debate the issue outside of class (which they did). Some of the teaching assistants and other students were instrumental in bringing an El Salvadoran university student leader to speak on campus. I made it a point to call attention to the manner in which the major newspapers were covering the story (e.g. pointing out that accounts sympathetic to the State Department position tended to be given front page coverage while accounts critical of the State Department position, say from **Amnesty International**, were de-emphasized on pages 9 through 17). I also pointed out internal inconsistencies within the accounts.

Many of the students came to see one or more of the following:

1) That in a conflict such as this the two sides disagree not only on conclusions but even about how the issue ought to be put. The one side will put the issue, for example, in terms of the dangers of a communist takeover, the other in terms of the need for the masses of people to overthrow a repressive regime. The one will see the fundamental problem being caused by "Cuban" and "Soviet" intervention, the other side by "American" intervention. Each side will see the other as "begging" the essential question.

2) That a debate on how to put the issue will often turn into a debate on a series of factual questions. This debate will be extended into a series of historical questions. Each side will typically see the other as "suppressing evidence". Those favorable to the Duarte regime, for example, will see the other side as suppressing evidence of the extent of communist involvement in El Salvador. Those favorable to the rebels will see the other side as suppressing evidence of governmental complicity in terrorist acts of the right. There will be disagreement about which side is committing "most" of the violent acts.

3) That these factual disagreements will at some point or another lead to a shifting of ground to **conceptual disagreements**: which acts are to be called "terrorist", which "revolutionary", and which acts of "liberation". This debate will at some point evolve into a debate about **values**, about which acts are "reprehensible" or "justified". Very often the acts which appear from one point of view appear to the other to be "required" by circumstances will be morally condemned by the other.

4) That at various points in the discussion the debate will become "philosophical" and/or "anthropological", involving broad issues concerning the "nature" of man and the "nature" of human society. The side supporting the government will tend to take a philosophical position that plays down the capacity of "mass man" to make rational and appropriate judgments in his own behalf, at least when under the influence of "outside agitators" and "subversives". The other side will tend to be more favorable to "mass man" and suspicious of our government's capacity and/or right to make what appear to them to be decisions that ought to be left to the people. From the point of view of each side the other is: begging important questions, suppressing evidence, stereotyping, using unjustified analogies, faulty causal reasoning, mis-

using concepts, and so forth.

I believe that the end result of such an assignment is that students are better able to appreciate the kinds of moves that do typically occur in everyday argument and better able to put them into perspective and construct alternative arguments, precisely because they have a better sense of how arguments develop in relation to each other and so in relation to a broader "perspective". Furthermore, I also believe that such assignments give the student more practical insight into the "motivated" nature of argument "flaws". He is therefore better able to "anticipate" them and more sensitive to the special probing moves that need to be carried out. Finally, he is much more sensitive (than I believe he would be under most "weak sense" approaches) to the profound "ethical" consequences of "ego-serving" reasoning, and to the ease with which we can fall prey to it. If we can indeed accomplish something like these results, then there is much to be said for further work and development of "strong sense" approaches. What I have described here is, I hope, the beginning of such work.



really inappropriate to require that whatever is proved by a deductive proof must arise out of the "power" of the proof itself and not be something which can be otherwise known directly? Is the Sceptic's account of proof really too stringent?

If we focus on the first difference between the Sceptic's account and the modern, received account, two, conflicting, comments can be made. First, it seems clear that when we are serious about reasoning, when the conclusion of our reasoning matters to us, then we require that the premisses stand firm for us. After all the point of reasoning is to make a justifiable move from what we know (believe) already to what we wish to know. Any proposition can be validly proved if we take care to select the right premisses. But this is an odd sense of "proof" — it is a deductive game, the logician's equivalent of a parlour trick. Reasoning, when it is action-guiding, is typically quite different. Soundness in such contexts may be as important a feature of proofs as validity; in non-deductive cases it can be considerably more important.

On the other hand, it is not at all correct to say that for an argument to be a proof it must have premisses which are known to be true. We often argue from a position of relative uncertainty, fully aware that the premisses we are using may not be the whole truth, or, for that matter, fully aware that they are false. So in some sense the truth or falsity of premisses is not directly relevant to the issue of when an argument is a proof. But by admitting this we need not be committing ourselves to one of the dogmas of modern logic—the dogma that in order to understand the nature of reasoning one must sharply distinguish between questions about validity of arguments and questions about the truth, falsity or epistemic status of premisses. This dogma must be modified if we are going to have any hope of arriving at a philosophically unobjectionable account of what it means to reason. The point here is rather that deductive reasoning, like other forms of reasoning, can be exploratory. Indeed one of the principal virtues of deductive reasoning is that by means of it it is often possible to explore the consequences of hypothetical claims so as to consider whether those claims ought to be of interest to us. We often need to reason from premisses the truth or falsity of which is indeterminate. We reason counterfactually; we reason from premisses which we strongly suspect to be false or absurd. And these ways of reasoning are valuable to us. To require proofs be sound, then, is generally speaking a very unfortunate restriction on the notion of a proof.

Since I want to avoid the dogma just mentioned, while taking account of the possibility of an argument being a proof where the premisses are not true, I need to propose a non-standard notion of argumentative soundness. What we need is something along these lines: The premisses of a proof must either be true, self-evident, warranted or what have you, or else they must fit into a consistent pattern, a pattern which we as reasoners have a particular interest in investigating in a particular case. Considerations of soundness, that is, have to do with the reasons we have for treating certain propositions as premisses. Thinking that certain claims are true is one very good reason for treating them as premisses: our interest is to see what follows deductively from what for us is not in question. But there are other reasons: We may be interested in exploring the consequences of a set of propositions which, say, provide a partial picture of the ways things might have been. Or we

The Diversity of Proof

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I

The Classical Sceptics demanded a lot from a proof. For Sextus Empiricus, a proof must be an argument ("a system consisting of premisses and a conclusion") which is conclusive (valid) and true (sound), and which is such that the conclusion is non-evident (adēlon) though its plausibility is discovered through the "power" of the premisses (*Outlines of Pyrrhonism*, II 134-6). This account differs from that popular among most modern logicians in two respects: (i) it requires that a proof be both a valid and a sound argument; and (ii) it requires that a proof have a special sort of conclusion, namely one which is contentious, or at least not manifestly true, and, moreover, one our sole evidence for which comes from the argument itself. Of course Sextus goes on to show that such proofs are impossible, so there is some reason to suspect ulterior motives for the stringency of the account. Still, there are important questions raised by the Sceptical definition of proof: Are we correct in viewing valid, but unsound arguments as proofs? If deductive reasoning is supposed to provide us with a tool for expanding our knowledge, is it