

PROBLEMS IN ARGUMENT ANALYSIS AND EVALUATION

Windsor Studies in Argumentation Volume 6

TRUDY GOVIER

Windsor Studies in Argumentation
Windsor Ontario Canada



Problems in Argument Analysis and Evaluation by Trudy Govier & Windsor Studies in Argumentation is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License, except where otherwise noted.

Copyright Trudy Govier and Windsor Studies in Argumentation

CONTENTS

WSIA Editors	iv
WSIA Editors' Introduction	vi
Preface	vii
Acknowledgements: eCampusOntario	ix
1. Rigor and Reality	1
2. Is a Theory of Argument Possible	11
3. The Great Divide	30
4. Two Unreceived Views about Reasoning and Argument	45
5. The Problem of Missing Premises	66
6. A Dialogic Exercise	86
7. A New Approach to Charity	109
8. Reasons Why Arguments and Explanations are Different	130
9. Four Reasons There are No Fallacies?	146
10. Formalism and Informalism in Theories of Reasoning and Argument	168
11. Critical Thinking in the Armchair, the Classroom, and the Lab	189
12. Critical Thinking about Critical Thinking Tests	204
13. The Social Epistemology of Argument	223

WSIA EDITORS

Editors in Chief

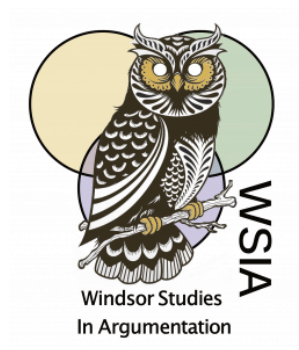
Leo Groarke (Trent University)
Christopher Tindale (University of Windsor)

Board of Editors

Mark Battersby (Capilano University)
Camille Cameron (Dalhousie University)
Emmanuelle Danblon (Université libre de Bruxelles)
Ian Dove (University of Nevada Las Vegas)
Bart Garssen (University of Amsterdam)
Michael Gilbert (York University)
David Godden (Michigan State University)
Jean Goodwin (North Carolina State University)
Hans V. Hansen (University of Windsor)
Gabrijela Kišiček (University of Zagreb)
Marcin Koszowy (University of Białystok)
Marcin Lewiński (New University of Lisbon)
Catherine H. Palczewski (University of Northern Iowa)
Chris Reed (University of Dundee)
Andrea Rocci (University of Lugano)
Paul van den Hoven (Tilburg University)
Cristián Santibáñez Yáñez (Diego Portales University)
Igor Ž. Žagar (University of Maribor & University of Primorska)
Frank Zenker (Lund University)

Windsor Studies In Argumentation

Centre for Research in Reasoning, Argumentation and Rhetoric
University of Windsor
401 Sunset Avenue
Windsor, Ontario, Canada
N9B 3P4



WSIA EDITORS' INTRODUCTION

We are pleased to publish this WSIA edition of Trudy's Govier's seminal volume, *Problems in Argument Analysis and Evaluation*. Originally published in 1987 by Foris Publications, this was a pioneering work that played a major role in establishing argumentation theory as a discipline. Today, it is as relevant to the field as when it first appeared, with discussions of questions and issues that remain central to the study of argument. It has defined the main approaches to many of those issues and guided the ways in which we might respond to them. From this foundation, it sets the stage for further investigations and emerging research.

This is a second edition of the book that is corrected and updated by the author, with new prefaces to each chapter (but without the previous appendix). We want to acknowledge the work of Ms. Tamilyn Mulvaney who assisted in the editorial process and prepared the final manuscript for publication.

Leo A. Groarke

Christopher W. Tindale

PREFACE

Preface to the First Edition

My interest in the subjects covered in this book dates from 1978, when I came across several texts in informal logic, and was fascinated both by their practicality and by their recommendations for rethinking central philosophical traditions regarding logic and argument. I thought at that time that very fundamental issues were at stake but that the context of textbooks did not provide sufficient opportunities to explore them in depth. This book is an attempt to fill that gap.

I have profited very much over the intervening years from philosophical exchanges with Tony Blair, Ralph Johnson, and David Hitchcock. Comments and analyses from Jonathan Adler, Douglas Walton, Richard Paul, Dennis Rohatyn, John McPeck, David Ennis, Frans van Eemeren, and Rob Grootendorst have also been helpful, as have the interesting questions posed when parts of this book have been read to audiences in Canada (Lethbridge, Windsor, Calgary, Ottawa, Edmonton, Saskatoon, Waterloo, and Peterborough); the United States (Newport News and Sonoma); and the Netherlands (Amsterdam). Materials on critical thinking tests were willingly supplied by Matthew Lipton, Robert Ennis, Stephen Norris, and John McPeck, whose cooperation is appreciated. I would also like to thank the editors and contributors to the Informal Logic Newsletter (now the journal *Informal Logic*) for their interest in, and comments on, my work, especially in the period 1979-1982.

I am extremely grateful to the Social Sciences and Humanities Research Council of Canada for generous financial support during the period 1982-1984. Without this support, the book would not have been completed. Trent University also provided some support in 1981, enabling Jennifer Dance Flatman to lend valuable bibliographical assistance. Equally important has been moral support – especially that of David Gallop, William H. Dray, Bernard Hodgson, Sandy McMullen, Michael Scriven, Nettie Wiebe, Janet Keeping and, most of all, my husband, Anton Colijn. For errors or omissions that may remain, I am solely responsible.

Preface to the Second Edition

For many years, this book has been difficult to obtain, and I felt badly about that. I was delighted to learn that the series Windsor Studies in Argumentation was interested in re-publishing the work so as to make both electronic and print versions available. After some difficulties, I was able to retrieve the copyright from the large Walter de Gruyter firm (Berlin), which had taken over the original publisher, Foris (Dordrecht, the Netherlands) and dramatically increased the price of the work. Hopefully, this new edition will be accessible to all who wish to consult it. People often expressed to me their frustration about the inaccessibility of the original book. They did not indicate a desire for a re-working of its themes in the light of subsequent research. That, in any event, would require a massive amount of work. In this second edition I have for the most part kept the original material intact, while

adding introductory essays to each chapter in an effort to convey my present sense of what I said decades ago.

This book was an early one in the development of informal logic and argumentation studies. My youthful excitement about topics and problems in these fields stemmed of course from their intrinsic interest but also from my sense that they had rarely been explored and seemed to emerge, when they did, mainly from pedagogical experience and treatments in textbooks. I wrote my own textbook *A Practical Study of Argument* (currently in its seventh edition), and I enjoyed doing that, but I was convinced that such topics as missing premises, the inductive/deductive distinction, and the principle of interpretive charity required treatment different from what would be appropriate in a textbook. Hence, this work. Some topics here — for example, fallacies and social epistemology — have subsequently been explored by many other theorists. Others, including the argument/explanation distinction, *a priori* analogies, and the principle of charity, have received less attention. In any event, I hope that this version of *Problems in Argument Analysis and Evaluation* will be of interest to persons now active in the study of argumentation.

I am extremely grateful to Michael Williams for his assistance in scanning the original book so as to generate electronic files. He and his fast scanner saved me weeks of work.

The research, thinking, and writing for this work was done in the period 1982 – 1986. During much of that time I was an independent scholar based in Calgary, Alberta, and I benefited from financial support from the Social Sciences and Humanities Council of Canada. Presently my finances are secure, but my gratitude to the council persists.

ACKNOWLEDGEMENTS: ECAMPUSONTARIO

SHARE

If you adopt this book, as a core or supplemental resource, please report your adoption in order for us to celebrate your support of students' savings. Report your commitment at www.openlibrary.ecampusontario.ca.

We invite you to adapt this book further to meet your and your students' needs. Please let us know if you do! If you would like to use Pressbooks, the platform used to make this book, contact eCampusOntario for an account using open@ecampusontario.ca.

If this text does not meet your needs, please check out our full library at www.openlibrary.ecampusontario.ca. If you still cannot find what you are looking for, connect with colleagues and eCampusOntario to explore creating your own open education resource (OER).

ABOUT ECAMPUSONTARIO

eCampusOntario is a not-for-profit corporation funded by the Government of Ontario. It serves as a centre of excellence in online and technology-enabled learning for all publicly funded colleges and universities in Ontario and has embarked on a bold mission to widen access to post-secondary education and training in Ontario. This textbook is part of eCampusOntario's open textbook library, which provides free learning resources in a wide range of subject areas. These open textbooks can be assigned by instructors for their classes and can be downloaded by learners to electronic devices or printed for a low cost by our printing partner, The University of Waterloo. These free and open educational resources are customizable to meet a wide range of learning needs, and we invite instructors to review and adopt the resources for use in their courses.

CHAPTER 1.

RIGOR AND REALITY

This chapter was written in an atmosphere of challenged change in the teaching of logic. According to Howard Kahane, whose book on fallacies (Logic and Contemporary Rhetoric) went through many editions, his interest in that topic stemmed from the career of Spiro Agnew. Spiro Agnew was Vice President of the United States from 1969 to 1973. His highly imaginative and well-publicized rhetoric, incorporating such famous expressions as “nattering nabobs of negativism,” led several of Kahane’s students to ask what the tools of logic could offer for the evaluation of Agnew’s claims and arguments. Kahane realized that formal logic had little to offer, a realization that led him to develop his own text, emphasizing the understanding of fallacies. In that work, the examples were taken from American politics, a selection that prompted Ralph Johnson and Tony Blair to produce their book, Logical Self-Defence, with Canadian material. That work was an important stimulus for my own.

In the early nineteen eighties, “logic” as used by philosophers, meant “formal logic”, and the standard presumption was that by studying logic, students could learn to reason, detect poor reasoning and argument, and construct good arguments. This presumption was coming into question in the nineteen eighties but in my experience it was still strongly defended by many philosophers. In the context, I was astounded when I heard in 1978 from Michael Scriven – still active in the field – that formal logic had little or nothing to offer as applied to real arguments expressed in natural language. There were problems of translation, argument type, structure, premise assessment, dialectical context, audience, and much else. For all its rigour and status, formal logic was of little use as applied to real arguments. To me the discovery was shocking. How could philosophers have been so wrong about practicalities? Were they deceiving themselves? They prided themselves on knowing how to argue, but were sadly lacking when it came to theorizing about that. I was not only shocked; I was excited about the many under-explored themes that emerged from this failure.

In 2017, the situation has changed significantly. Argumentation studies is a recognized field, inter-disciplinary and international. International conferences are many, and are well-attended by philosophers, academics in speech and communication studies, cognitive scientists, linguists, and others. The term “informal logic” is used to name a thriving and recognized journal. To some extent, the problems described in this chapter have disappeared. Not entirely, though. Psychologists and neuroscientists may claim expertise in critical thinking, unaware of work on argumentation, apparently on the grounds that they understand some of the workings of the brain. Within philosophy, people are sometimes hired to teach critical thinking, informal logic, or argumentation in the absence of any expectation that they should have studied these fields. Among mainstream philosophers, these areas of study do not generally enjoy a high status. Certainly, they are not accorded the status given to formal logic. Even in a difficult job market, it is possible to be hired to teach critical thinking or informal logic without having studied the topics. What is assumed in this practice? That a philosopher will have that expertise simply because

she is a philosopher? That some background in formal logic will do the trick? That the material is, at root, remedial in nature and simple to understand? I cannot claim to know the answer. The phenomenon described in this chapter persists to some extent. And it is regrettable.

There was a time when science was thought to be perfectly objective, immune from political influences, when scientific theories were deemed certain and true, when absolute scientific proof was thought to be possible. That time has passed. Philosophers of science and scientists themselves now hesitate to distinguish categorically between theory and observation, between metaphysics and science, between conviction by proof and the decision to accept.

Logic is deemed by logicians to be a science, but a comparable sense of the ambiguity of things has not been conveyed to logicians. They continue to regard logic as a fully objective study in which results can be shown true to anyone who understands the problem and proofs are models of strictness and rigor. Here enter no values, no history, no politics, no uncertainty, no ambiguity. Logic is a science in the old-fashioned sense. Perhaps it is the last such science.

1. The Prestige of Formal Logic

Since the turn of the century, formal logic has been closely linked with mathematics. A formal logician does not do his work primarily in a natural language. Rather he deals in artificial languages and formal systems. Here, symbols like 'v', '-', and '·' are precisely defined and used to represent a core element of the meaning of such natural words as 'or', 'if-then', 'not', and 'and'. In such systems, every term used has a perfectly precise definition; strict rules govern one's every move. If natural language arguments are considered at all, they are re-stated so that their structure (or form) is represented in the symbols of a formal system. An argument valid in virtue of its form may be provably valid if this form is the kind of form the system has been devised to deal with. Arguments in which connections depend on formal aspects not covered by the system, or on meaning, or on features that cannot be handled in deductive logic, do not come out very well by such tests.

The highly technical and intimidating nature of formal logic as currently practiced by professional logicians can be conveyed by a look at just a few recent titles in the field: 'Large Matrices which Induce Finite Consequence Operations'; 'Counterpart Theoretical Semantics for Modal Logics'; 'S5 without Modal Axioms'; 'More about the Lattice of Tense Logics'.

Formal systems are created structures, beloved in some quarters for their provision of endless opportunities to manipulate symbols in blissful isolation from the ambiguities of real language and the uncertainties of the real world. 'If' and 'implies' in English mean many things in many contexts, but the material implication symbol in standard propositional logic means one and only one: ' $p \rightarrow q$ ' says that q is never false when p is true, and it says nothing other than this.

Logic, understood as formal logic, has enormous prestige. In part, this is because the study of logic is supposed to help us construct sound arguments, reason well, and find flaws in shaky or deceptive arguments. Logic does not describe or explain the way people in fact think. Rather, it is an evaluative discipline, which originally was supposed to set forth standards delineating good reasoning from poor. Formal logic, however, is now so technical, so rarefied, and so specialized, that it is greatly removed from this original concept of what logic is supposed to do. A person could study formal logic for years and gain no idea that it was supposed to have anything to do with differentiating good arguments from poor ones.¹ Logic as it exists now is primarily the study of artificial formal systems. The idea that it has something to do with the construction and understanding of good arguments and

the development of critical skills that apply to natural discourse surfaces largely in student texts and the pedagogic rationalizations logic professors offer to curriculum committees.

That formal logic cannot capture all of the factors we need when we evaluate a real piece of argumentation in a natural language is, in an important way, quite obvious. In fact, no formal logician would seriously dispute this claim, for all recognize the distinction and difference between formal and natural languages, and the role of information in the premises of arguments. What is strange is that in view of these substantial gaps between real arguments and the subject matter of formal logic, formal logic is still widely regarded as having something important to offer to the non-specialist.² The dichotomy between formal systems and the chaotic reality of discourse is no mystery but the persistence, in the face of this dichotomy, of formal logic as an educational and intellectual institution, should give pause for thought.

So great is the prestige of formal logic that those who try to teach more practical argument and reasoning skills at universities are under some pressure to label their endeavors so as to avoid using the term 'logic'. Such activities merit a less prestigious title: critical thinking, rhetoric, or communication skills, perhaps. The shocking truth is that if courses have the aim of treating natural argumentation, there is scarcely a pertinent body of academic expertise on which they can be based. Nonformal matters pertinent to the assessment of natural argumentation have been long neglected. (Since the Renaissance, some would say.) Of late, concerned instructors in departments of philosophy and literature have come to think that it is desirable to teach students how to identify and evaluate arguments expressed in ordinary English prose. When they set out to do this, they apparently make surprising discoveries. Textbooks in applied logic make peculiar reading for the philosopher trained to respect the traditions of formal logic. Their authors seem to have found that when they try to apply traditional logical categories to real arguments in natural languages, things do not work out well.³

2. Formal Validity

In formal logic, the category 'valid' is of the all-or-nothing kind. If an argument is such that, given its premises, it is absolutely impossible for its conclusion to be false, it is valid. If not, it is invalid. Period: there is nothing in between. But for many real arguments, things are not so clear-cut. For example, John Kenneth Galbraith, discussing inflation, once argued that the problem should not be avoided by our becoming content to accept inflation as a natural fact of life. He gave a number of distinct reasons for his view: inflation leads to social inequities and instability; inflation makes contracts difficult to arrange because prices for future dates may be uncertain; inflation causes difficulties in international trade. Now these factors clearly do not substantiate or demonstrate the conclusion in the logician's strong sense of showing that it is absolutely impossible for that conclusion to be false. They are relevant to the point. They clearly go some way towards establishing it. Galbraith gives us an argument for his view. When we come to assess it, if we follow the canons of formal logic, we are left asking is this argument valid or invalid? And somehow this doesn't seem like the right question to be asking. We are inclined to assess the argument as one which goes part way toward establishing its conclusion, though not all the way.⁴ In the face of these and other difficulties, philosophically minded analysts of actual arguments have been driven to suggest that perhaps validity will have to be understood as a matter of degree, or redefined in terms of an ultimate consensus of reflective normal minds. From the standpoint of logical tradition, both proposals are shockingly heretical. Validity is supposed to be a formally demonstrable and absolute feature of an argument.

Then there are problems with the hallowed old distinction between inductive and deductive

arguments. Most logic texts state that deductive arguments are those that ‘involve the claim’ that the truth of the premises renders the falsity of the conclusion impossible, whereas inductive arguments ‘involve’ the lesser claim that the truth of the premises renders the falsity of the conclusion unlikely, or improbable. This distinction proves difficult to apply to actual arguments.⁵ Few arguers are so considerate as to give us a clear indication as to whether they are claiming absolute conclusiveness in the technical sense in which logicians understand it. In assessing arguments we need to arrive at some view as to how good the reasons put forward are. Asking whether they were supposed to be conclusive or not is often not a useful stage in the assessment procedure. The distinction between deductive and inductive arguments is hard to apply to actual arguments, and not clearly useful. Yet modern logic has developed around this distinction.

Thus traditions wobble against the pressures of the surprisingly new task of analyzing actual arguments. In the face of such problems, the teaching of courses in practical logic is not easy. Surprisingly radical things are suggested by the authors of texts for these courses. With few exceptions, they do not publish their radical suggestions in professional journals of logic and philosophy. Either they are afraid to buck tradition, or their writings are edited out.⁶

3. Actual Arguments

The uninitiated reader might wonder why I refer so often to actual arguments and what contrast is intended here. An actual argument is simply a piece of discourse or writing in which someone tries to convince others (or himself or herself) of the truth of a claim by citing reasons on its behalf. I speak of actual arguments because I do not wish to speak of the contrived arguments-series of statements constructed by logicians to illustrate their principles and techniques. It is common practice for a logician to state a principle in a formal system and then invent an ‘argument’ to illustrate that principle. This custom provides bizarre exercises for logic students. A selection:

If she comes closer, she will seem even more beautiful. Provided that she marries you, she will seem even more beautiful.

*Hence if she does not marry you, she will not come closer.*⁷

*If he has ten children, then that character will be written on his face. If his character is written on his face, he cannot deceive us. So either he cannot deceive us, or he does not have ten children.*⁸

*If the weather is warm and the sky is clear, then either we go swimming or we go boating. It is not the case that if we do not go swimming, then the sky is not clear. Therefore, either the weather is warm or we go boating.*⁹

*Any author is successful if and only if he is well read. All authors are intellectuals. Some authors are successful but not well read. Therefore all intellectuals are authors.*¹⁰

These sequences of sentences can be more or less represented in the apparatus of formal logic, but the so-called arguments they express are totally unrealistic. A common rationalization for setting out such treats before student eyes is that the interesting content of more realistic arguments, whether these deal with issues of the day or enduring intellectual concerns, could distract people from purely logical considerations. (For ‘purely logical’ here, read ‘purely formal and resolvable by a mechanical procedure’.) Critics suspect that the real reason for the strange examples of the logic texts may be that a purely formal analysis is only rarely helpful in evaluating that argument. Students need exercises to develop skills. Since they cannot use formal skills on real arguments, they need invented ones.

The science of logic, formal logic, has progressed by ignoring real arguments and attending to constructed systems. Stipulated definitions and rules make objectivity and rigor possible, but only because the logician is not analyzing a real argument. He is doing something else, and doing it very

precisely. But when he has completed his task, neither he nor anyone else can easily apply his formal rules and definitions to anything but his own systems. Nevertheless, formal logic is a venerable intellectual institution. Ordinary people, who know little about it, regard it as terribly technical and difficult, and often feel a little embarrassed about what they suspect would be their personal ineptitude at high-level symbol manipulation. (Tell someone you are writing a book on logic and he will give you a look of respect you will never get if you tell him you are writing on equality or the early Cold War.)

Because it deals with the artificial, formal logic can exhibit rigor and objectivity. In an artificial system, we can obtain certainty in results. After all, we have provided for this in the very construction of the system. Formal logicians primarily devote themselves to developing systems and to working out the implications of the rules and definitions around which they have decided to construct those systems. If they theorize about why this or that rule has been adopted, or what the interpretation of various systems might be, they call this study philosophy of logic, rather than logic *per se*. The genuine logician, in the modern world, is an adept manipulator of symbols, a creator of elegant proofs. Proofs in a formal system can be perfectly rigorous; they depend on no undefended move. With such proofs, we know exactly where we start, where we finish and why we are entitled to make the moves we do. It is the quest for rigor and certainty, the drive to achieve that impeccable result, which has led logicians more and more to concentrate on formal systems.

But such rigor and certainty are achieved at the cost of emptiness. Real arguments in natural language are not amenable to fully precise treatment. They deal with topics of controversy, disputed facts, plausible hypotheses, approximately correct analogies. To evaluate them, we must sort out ambiguities, see how diverse factors fit together, weigh pros and cons, consider the credibility of those on whom we may depend for testimony or expertise. Formal logic is, by its very nature, incompetent to address such matters. At best, it will apply to (only) some arguments in natural language, after virtually all interesting questions about the interpretation, content, and substantive truth they contain have already been resolved.

4. An Example

An example seems the best way to illustrate the truth of this claim. Alasdair MacIntyre once argued that Christianity does not require any fully objective justification for beliefs about God. MacIntyre defended this conclusion by saying that anyone founding his religious belief on an objective justification proving God's existence would, in effect, be unfree in his belief in God. He put it this way:

(S)uppose religion could be provided with a method of proof. Suppose for example . . . that the divine omnipotence was so manifest that whenever anyone denied a Christian doctrine he was at once struck dead by a thunderbolt. No doubt the conversion of England would ensue with a rapidity undreamt of by the Anglican bishops. But since the Christian faith sees true religion only in a free decision made in faith and love, the religion would by this vindication be destroyed. For all the possibility of free choice would have been done away. Any objective justification of belief would have the same effect. Less impressive than thunderbolts, it would equally eliminate all possibility of the decision of faith. And with that, faith too would have been eliminated.¹¹

This is a complex passage, and one has to do some work to unearth the main argument. Essentially, it is:

1. If people were struck dead by being bolted with thunder after denying any Christian doctrine, there would be mass conversions due to fear.

2. Christian faith sees true religion only in free decisions made in faith and love.
3. Conversion due to this kind of fear would not be due to free decisions made in faith and love.

So,

4. Conversion by thunderbolt would destroy Christian faith.
5. Conversion on the basis of an objective justification of Christian belief would similarly eliminate all possibility of free decisions made in faith and love.
6. Therefore,
7. The objective justification of the beliefs of Christian religion would eliminate the Christian faith.

To decide whether MacIntyre has a good case here, we have, essentially, to decide how he is using the concept of freedom, what sort of freedom it makes sense to expect in contexts where people are believing as opposed to acting, how good the comparison between believing from fear and believing on the basis of an objective justification is, and how sound his comments about the freedom of the decision to believe being essential to Christian faith are. None of these issues are formal. To bend and twist this argument by analogy into a representation to which the rules of a formal system would apply would be useless even if it were possible.

Now formal logic is a prestigious academic subject with important connections with the foundations of mathematics. It is not likely to go out of existence, and no one is recommending that it should. The problem is, logic is supposed by many to provide us with standards by which to assess arguments. And as it is taught today, formal logic does not adequately do this. Logic in western universities and as standardly taught in North America has become formal logic and formal logic, whatever its hardheaded virtues, simply does not provide a sufficient basis for the assessment of actual arguments.¹² Formal logicians who try to support their academic endeavors by making courses compulsory on the grounds that students' reasoning will thereby be improved should be met with scepticism. In view of the rupture between the rigorous precision of formal logicians and the complexities of real argumentation, such claims are at best the unthinking repetition of slogans and at worst outright dishonesty.

5. The Desire for Rigor and Certainty

Rigor and the resulting certainty are not ideals that formal logicians have adopted out of perversity and foisted upon an unsuspecting public. Rather, they have roots in the history of philosophy, roots that go back at least as far as Plato. Mathematics has long been the philosopher's envy, mathematical knowledge the ideal of perfect knowledge. For mathematics, which is non-empirical, is in an important sense liberated from the real world. In mathematics there can be uncontrovertible proofs and perfect agreement. Against its eternal verities, philosophical systems appear weak and insecure.¹³ Philosophers have long sought to emulate mathematical proof and produce mathematical certainty. According to Descartes, human knowledge was to be constructed so as to presume nothing. After the apprehension of an undeniable and fundamental truth, one would proceed by clear and uncontrovertible proofs to deduce simple, certain propositions from which, in turn, more complex knowledge could be concluded. Spinoza set his Ethics forward in a system of axioms, theorems and propositions, like a geometric

system. Kant compared philosophy unfavorably with mathematics and speculated that the certainty of mathematics came from the fact that in that discipline the mind creates its own objects and is thereby able to know them with perfect certainty. The model of mathematical knowledge has had immense appeal and influence throughout the history of western philosophy. It is perhaps this model which motivates formal logicians. Within the artificialities of constructed systems, issues are clear, perfectly true answers possible, and completely rigorous proofs discoverable.

Nor is the attainment of perfect certainty an exclusively philosophical idea. People do not have to be taught to desire certainty. There is something satisfying and secure in the sense that one can know for certain that what one believes is true, that things must be as one thinks, that anyone who disagrees is simply mistaken. For teachers such knowledge carries a position of authority not likely in more realistic contexts. There premises may be only partially warranted, new information may outweigh that which is at hand, analogies may appear persuasive and yet not entirely convincing. 'Valid' or 'invalid', we may pronounce of the stylized, contrived arguments in the formal logic textbooks. In real life, things are rarely so simple. And yet the 'valid'/'invalid' verdict is a more satisfying one than a qualified judgment to the effect that an argument gives relevant reasons but not conclusive reason for accepting the conclusion. In formal logic, the desire for rigor, certainty, and categorical answers may be satisfied, but at the cost of applicability. To grasp 'objectivity' and rigor at this price seems more neurotic than scientific.

For more than two decades, Chaim Perelman has sought to distinguish argument from formal demonstration, defending the view that much to be said about actual argumentation transcends the bounds of formal logic. Perelman wrote in French, but his major works have been translated into English. Gilbert Ryle, P.F. Strawson, Stephen Toulmin, C.L. Hamblin, Carl Wellman, and F.L. Will are English-language philosophers who have expounded related views. In one way or another, several of the English-language thinkers have been influenced by Ludwig Wittgenstein who, in his later philosophy, railed against the imposition of scientific standards of rigor and precision in contexts where they had no proper place. Wittgenstein emphasized the value of attending to particular cases and the concrete phenomena against which (on his view) general theories should be tested. To follow his advice in developing a logic of argument would constitute a radical departure from tradition in logic. For as we have already seen, models of correct argument have been stipulated *a priori* and then used to evaluate actual instances of argument.

These 'back to the phenomena' thinkers have had exceptionally little influence on the development of logic. Though philosophers no longer venerate Wittgenstein, they continue to study his works. Yet the implications of his methodological views for logic itself are rarely remarked.¹⁴ The other authors mentioned are scarcely read in standard North American graduate programs in philosophy, and rarely considered in university courses in logic. Toulmin's book on argument seems to have been the least successful of his many works, among philosophers at least. It was largely as a concession to sixties' student demands for relevance that philosophy departments started to teach courses in which actual arguments, expressed in natural language, were the primary basis for study. Only recently have courses about critical thinking or 'informal logic' been the focus of attention. Such courses now proliferate but are regarded in many circles as poor siblings, feeble substitutes for the 'real logic' in which students should be taught, above all else, the ideal of rigor.

Many intellectual factors should have led to the loosening of the formalist model of successful argument. Descartes' theory of knowledge has been subjected to severe attack in our century. Few epistemologists would accept Cartesian certainty as a reasonable goal for human knowledge; few

believe that first principles should be proven or that knowledge can proceed from them in deductive steps that are intuitively clear. The formalist ideal of rigor and certainty, the model of successful argument that has emerged from formal logic, is Cartesian in concept and in origin. Yet it has not been subjected to criticism in logic as it has elsewhere. The distinction between deductive and inductive arguments, around which modern logic is erected, is closely related to another distinction philosophers have made, between analytic and synthetic statements. The latter distinction is now regarded with scepticism, as one which it is difficult to draw with exactitude. Such doubts, however, have not been transferred back to the former distinction. The hallowed tradition of inductive and deductive seems immune from serious criticism.

Curiously enough, philosophical arguments are not exclusively deductive in character. They are not, on the whole, valid in virtue of logical form alone, not easily translatable into the technical symbols of formal systems. Nor are philosophical arguments like the arguments studied in inductive logic. In accepting the model of successful argument presumed in traditional logic, philosophers have put themselves in an absurd position, because they are unable to apply what passes as a theory of argument to many of their own arguments. This difficulty would be merely silly had it not such a venerable philosophical history. Scholars have often pointed out that Descartes, Hume, Kant, and the logical positivists all have difficulties in getting their own practice to conform to their own theory.¹⁵

These problems should have produced a more flexible basis for argument analysis than that provided by formal logic. They did not. Although rigor pulls away from applicability, formal logic continues to be regarded as a science that offers something relevant to real arguments. To serve this function, however, it would have to offer canons of reasoning and argument that are more than techniques for manipulating symbols in meticulous respect for the stipulated rules of an artificial game. Formal logic shows little tendency to develop in this way, yet its practitioners seek to maintain its authority as offering the ultimate standards against which natural arguments should be assessed. Its continuing authority in the face of this disparity is a phenomenon that calls for explanation. Sociologists of knowledge should take a look at it.

6. Paradigms

While awaiting their accounts, I am led to reflect on the philosophy of science of Thomas Kuhn. Philosophers have been impressed and greatly influenced by Kuhn's work. They delight in applying it to the social and physical sciences but are not quite so ready to apply it to themselves. Certainly no one has been so presumptuous as to apply it to the venerable establishment of logic as the formal, entirely rigorous, science of reasoning.

Kuhn introduced to philosophy of science a novel concept, that of the scientific paradigm. A paradigm is an example or model of successful work which dominates an intellectual field to determine what problems will be seen as interesting, what methods will be seen as rational, and what the standard of a good solution to a problem will be. Kuhn argued that students in science are taught, in effect, to see the world in a particular way, to ask questions within a specified range, to look in particular directions and not others for answers to those questions. The paradigm dominates a science, making consensus and rapid progress possible. Scientific questions and projects remain within a delimited range, though the limitations become so routine to practitioners as to be virtually indiscernible. Kuhn regarded paradigms as necessary and therefore legitimate, but he emphasized that their force lies more in education and established institutions than in their pure objective truth. When there are paradigm shifts in science, these are grounded as much in psychological and historical

factors as in data or experimentation. So radical is a paradigm shift that Kuhn terms it a 'revolution' in scientific theory.

It is illuminating to look at the current situation in logic from the perspective of Kuhn's theory. Formally valid arguments seem to be functioning as a kind of paradigm. This paradigm works so strongly on formally trained logicians and philosophers that they are unable to take account of the obvious. The obvious is that rigor and reality are uneasy mates, that real argumentation is not easily or usefully amenable to formal treatment, and that there are many interesting nonformal questions about arguments. They cry out for attention.

In logic, a paradigm is at work. But it blinds us. I recommend revolution.

Notes

1. I once knew someone who did, and did very well in terms of marks. However, this comment is less accurate now (1987) than it was when this essay was first written (1980), due to the influence of practically oriented textbooks and, in some jurisdictions, such as California, state imposed requirements for education in critical thinking.

2. Compare Patrick Suppes, *Introduction to Logic*, (Princeton: Van Nostrand, 1957), Michael Resnick, *Elementary Logic*, (New York: McGraw- Hill, 1970), Irving Copi, *Symbolic Logic* (New York: Macmillan, many editions). Copi's text has been so widely used that it may be said to represent a consensus over some decades. It and other texts traditionally taught formal skills, but nevertheless commenced with bold promises as to the practical advantages a study of the formal subject matter would have, even for those not aspiring to be professional logicians or mathematicians.

3. For instance, S.N. Thomas, in his successful text, *Practical Reasoning in Natural Language* (Englewood Cliffs, N.J.: Prentice Hall 1974) recommends that validity be seen as a matter of degree and boldly claims that the distinction between inductive and deductive arguments is a useless dogma.

4. This reinterpretation is suggested by Carl Wellman in *Challenge and Response: Justification in Ethics* (Carbondale, Ill.: University of Illinois Press, 1970). It recalls C.S. Peirce's notion of truth as the doctrine which trained minds will, in the final analysis, come to accept.

5. Definitions of 'inductive' vary. (Compare 'The Great Divide', Chapter 3.) The conception I'm alluding to here is common, however, as one may see from examining a variety of first year formal logic texts including those referred to in note 3.

6. This is less true than it was in 1980, due in part to the success of the *Informal Logic Newsletter*. Essays on the pedagogy of the 'new logic' have appeared in *Teaching Philosophy*, and relevant theoretical papers have appeared in *Metaphilosophy*, the *Canadian Journal of Philosophy*, and the *American Philosophical Quarterly*. Reviews of texts and pertinent books have appeared in these journals and in *Dialogue* and *Canadian Philosophical Reviews*. It would, however, still be accurate to say that there is a vast disparity between the popularity of applied logic courses among students and the perceived importance of related theoretical issues as research topics.

7. Resnick, Op. cit., p. 105.

8. *Ibid.*, p. 105.

9. Copi, Op. cit., p.27.

10. *Ibid.*, p. 90.

11. Alasdair MacIntyre, in *Metaphysical Beliefs*. (London: SCM Press, 1957).

12. Pure logic is formal logic. High prestige logic is formal logic. Research logic is primarily formal logic. Logic for philosophy majors is primarily formal logic. But logic for nonprofessionals, textbook logic, and college logic, are no longer primarily formal logic. My comment was true in 1980 but needs qualification in 1987.

13. I am told by those in the know that this overstates the epistemic virtues of mathematics, that nonformal reasoning is needed there also, and that formal proofs have been found wrong after being accepted by mathematicians for decades. If this is true, then ironically, the formalist model of proof may fail even to accurately capture its own paradigm of adequacy.

14. Notable among Perelman's works is *The New Rhetoric: A Treatise on Argumentation* (Notre Dame: Notre Dame University Press, 1969), written jointly with Mme. L. Olbrechts Tyteca. Other works on argument in a 'back to the phenomena' vein are Stephen Toulmin, *The Uses of Argument* (Cambridge, Eng.: Cambridge University Press, 1958); C.L. Hamblin, *Fallacies* (London: Methuen, 1970); Carl Wellman, *Challenge and Response* (Carbondale Ill.: Southern Illinois University Press, 1971); and F.L. Will, *Induction and Justification* (Ithaca, N.Y.: Cornell University Press, 1974). The most relevant essay by Ryle is in *Dilemmas* (London: Cambridge University Press, 1954). Strands of resistance to formal approaches to handling natural language also appear in P.F. Strawson's *Introduction to Logical Theory* (London: Methuen, 1952). Wittgenstein's approach is evident in his *Blue Book*, where he said, 'Our craving for generality has another main source: our preoccupation with the method of science. I mean the method of reducing the explanation of natural phenomena to the smallest possible number of primitive natural laws; and, in mathematics, of unifying the treatment of different topics by using a generalization. Philosophers constantly see the method of science before their eyes, and are irresistibly tempted to ask and answer questions in the way science does. This tendency is the real source of metaphysics, and leads the philosopher into complete darkness ... Instead of 'craving for generality', I could also have said 'the contemptuous attitude towards the particular case'."

15. Descartes sought to doubt all his prior beliefs and found a system on the *cogito* and deductions from it and basic principles of logic. But he presupposed beliefs from ordinary life and medieval philosophy more than he knew, and this was not accidental. Hume said that reasonings neither quantitative nor experimental should be committed to the flames in apparent obliviousness to the fact that many of his own reasonings fell into that category. Kant stated that we could not know things-in-themselves, but seemed committed to knowing the human mind and its capacities as more than appearances. The logical positivists rejected as meaningless any claim which was not either made true by rules governing the use of symbols or verified by sense experience. Critics were quick to point out that their own key principle turns out to be meaningless if these criteria are applied to it.

CHAPTER 2.

IS A THEORY OF ARGUMENT POSSIBLE

Reading this chapter in 2017, I am struck by its length, which seems excessive, and also by my selection of authors covered. The name 'John McPeck' is largely forgotten in philosophical circles today. When I was working on this material, his claims about informal logic and critical thinking posed a significant challenge, both pedagogically and theoretically.

Would critical thinking not be something different for different subjects? McPeck claimed it would. If so, how could philosophers – even formal logicians – be justified in their claims to teach it? If informal logic was about good and bad arguments, wouldn't standards of assessment similarly vary from one subject to another? Again, the question posed a pedagogical challenge. As for theory, on McPeck's view there would be nothing general to be said. Those interested in critical thinking and informal logic were not inclined to accept these challenges, but felt pressed to respond. My own response is here. McPeck derived some of his views from Stephen Toulmin, whose work on argument structure and appraisal is still studied and used today. Looking back, I would have done better to discuss Toulmin's account, as distinct from that of McPeck. But I did not. Current versions of discipline-specificity have been developed in detail by Mark Weinstein.

The theme of deductivism retains its temptations. I still resist deductivism and would still insist that the fact that a reconstructed argument is clear and cogent does not mean that it is an accurate version of something else. We need to distinguish between the clarity of a reconstructed argument and its accuracy as a rendition of the unreconstructed version. It remains tempting not to do so. Recently, I find deductivism more common in application than in professed theory. As was the case decades ago, deductivism is still used as an ad hoc presumption to resolve questions about missing premises.

*As to Stephen Thomas, a search revealed that his text *Practical Reasoning in Natural Language*, went into many editions. There may have been seven. The fourth edition (1997) was several hundred pages longer than the first one. I never met Stephen Thomas or heard him speak. The idea of a spectrum theory, wherein the inference aspect of argumentation can be appraised as having degrees of strength, was innovative in its time and retains some interest and plausibility.*

*My notion here of what a theory of argument should include began in a traditional way: one would need an account of various legitimate (and illegitimate) types of inference and of conditions of premise acceptability. These beginnings would seem too narrow today; their narrowness in fact emerged even as I explored them in the mid eighties. I was led to consider broader aspects: principles of interpretation and criticism; relations between principles of interpretation and standards of assessment, and between arguers and their audiences. More recent writings on the theory of argument extend into these and broader themes of discourse, rationality, and rhetoric. Noteworthy is Harald Wohlrapp's *The Concept of Argument: A Philosophical Foundation* (German 2008, English 2014).*

Except in certain limited circles, there is no recognized subject called ‘the theory of argument’. Yet there are clearly a number of questions about arguing and argument not answered by formal logic and of considerable importance. A theory of argument would discuss the nature and purpose of argument and specify and defend standards for the appraisal of arguments. It would specify how many different types of arguments there are and what standards are appropriate to assess each type. It would explain when and why it is reasonable to read into discourse claims that are not explicitly stated, and whether and how the personalities and beliefs of arguers and audiences logically affect the merits of argumentation. Ideally a theory of argument would apply to all natural arguments. But is there, or could there be, any such thing as a theory of argument?

Although there have been works on the theory of argument and calls for such theory in some circles, many remain sceptical about the quest. They regard the theory of argument as a non-subject, unless it is identified with the formal study of valid and invalid inference patterns. Such a response – either there is nothing general to be said about arguments or what there is to be said is formal and the proper subject of formal logic – was common among philosophers some years back and still persists in some quarters. We are used to thinking of the study of argument as being primarily a matter of logic, and of logic as being primarily formal; hence the call for a nonformal theory of argument may seem novel or contrived. However, such questions as ‘How many different types of arguments are there?’, ‘When and why should we regard an argument as having unstated premises?’, and ‘Is the truth of premises too strong a requirement for soundness of argumentation?’, cannot be answered by formal techniques. To respond to them, we need observation, reasoning, the justification of normative standards, and philosophical theorizing.

1. Against the Idea of a Theory of Argument

In his book *Critical Thinking and Education*, philosopher and educational theorist John McPeck contends that the very notion of a nonformal theory of argument is a non-starter. Referring to a suggestion that the pedagogy and theory of informal logic and critical thinking would be immensely aided by the development of a theory of argument, McPeck says:

We might ask what it would be like to have a general theory of ordinary argument or reasoning. For one thing, the theory would provide a set of rules or principles to which we could appeal in the evaluation of arguments. But if informal logicians were ever successful at developing all these rules and principles, they would then have a formal logic of ordinary argument or reasoning: that is, the desired theory would vitiate the informal dimension of their reasoning and render their enterprise a bonafide logic, which could then be taught as the formal logic of ordinary reasoning.¹

According to McPeck, there could not be a nonformal theory of argument, because any general account we could produce would be formal.

To sort out McPeck’s view it is necessary to distinguish between a more general and a more specific sense of the key word ‘formal’.² The word ‘formal’ may mean ‘systematic, well-ordered, having universal or general scope’. In this sense, a theory of argument would surely be a formal theory, just as theories in ethics, political philosophy, and epistemology are (in this sense) formal theories. However, there is no problem about *informal* logicians developing a theory of argument which is in this broad sense formal. The incompatibility between informal logical principles and a formal theory emerges only when we consider a more specific and narrower sense of ‘formal’, that which is intended when we describe such systems as C.I. Lewis’ S5, or an axiomatized version of number theory as

formal systems. Formal systems have clearly stated rules, definite criteria for well-formed strings or formulae, and axioms to serve as the basis for derivations. They are written in technical, not natural, languages. As formal systems they are not, strictly speaking, about anything; they may be given one or more interpretations. If a formal theory of argument were formal in this sense, that would indeed be incompatible with what informal logicians have been saying about arguments. They have been saying that formal systems do not cover all the topics we need to raise in discussing natural language arguments, and that many such topics bring in nonformal questions about context and substance.

Informal logicians, contesting the drive for complete rigor and purity among formalists, contend that the appraisal of natural arguments requires something other than translation into a technical formal language and application of formal rules to test validity. However, it is only in the narrower sense of 'formal' that informal logicians deny that a theory of natural argument will be a formal theory. Nothing precludes the development, within informal logic, of a theory of argument that is formal in the broader sense.

McPeck's claim that informal logicians would vitiate themselves and 'go formal' if they ever managed to develop a theory of argument is based on a failure to distinguish these two senses of 'formal'. McPeck has, in effect, conflated the general and the formal.³ A perfectly general principle might be formulated, handling such an issue as when an arguer's personal reliability is relevant to the acceptability of his or her premises. Such a principle would not be formal in the sense of being in an artificial language or of being an axiom or rule in a formal system, but could nevertheless be part of a general theory of argument.⁴

As it occurs in 'formal logic', the word 'formal' usually has the second, narrow meaning explained above. In this sense of 'formal' there is no more reason to believe that the principles of a theory of argument would be formal than there is to believe that the principles of moral, political, or epistemological theories would be formal. That is to say, there is no reason at all to believe this.

Since logic has for so long been regarded both as intrinsically formal and as the science or art of argument, the move from 'it's a general theory of argument' to 'it's a formal theory of argument' may seem enticing and plausible. But it has no more force than the analogous move for moral or scientific theories; that means that it has no force.

In fact, theories of argument that are, in the requisite sense, nonformal are more than possible. They are actual. Although many philosophers seem to hold that the theory of argument is a non-subject, many others (and some of the same ones) hold philosophical theories of argument to which they frequently appeal for pedagogical and other purposes. Some popular theories are inadequate in various ways. There is an unfortunate tendency to state such theories in a few words and go on to appeal to them as the basis for other work. So far, theories of argument have been more epigrammatic than thoughtful.

2. Are Argument Standards Discipline-Specific?

Though he contends in *Critical Thinking and Education* that there can be no such thing as a nonformal theory of argument, John McPeck in fact states a nonformal theory of argument in that same work. He puts forward a discipline-specific theory in which the understanding and evaluation of arguments is left as a task for particular academic disciplines. This theory maintains that the premises and inferences of all natural arguments are properly assessed only by reference to the standards of one or more specific disciplines. Standards for sound argumentation may vary from one discipline to another, according to this theory. There are as many types of good arguments (at least) as there are

disciplines. Any attempt to develop general, cross-disciplinary standards of argument is misguided. A good argument in physics satisfies standards quite different from those which are applicable to a good argument in law or in history. Evaluating arguments requires critical thinking and critical thinking amounts to a judicious, reflective scepticism which must be based on a sound knowledge of the inner workings of a particular area of thought.

McPeck proposes his discipline-specific theory as follows:

*Since critical thinking is always critical thinking about X, it follows that critical thinking is intimately connected with other fields of knowledge. Thus the criteria for the judicious use of scepticism are supplied by the norms and standards of the field under consideration.*⁵

*Just as the rules of a particular game do not necessarily apply to other games, so certain principles of reason apply within some sphere of human experience but not in others. A principle of reason in business or law, for example, might be fallacious in science or ethics. This is neither surprising nor profound but it is a point that is continually obscured by informal logicians and it may explain their optimism about the development of a general theory of argument.*⁶

*The existing disciplines are already steeped in their own reasoning procedures, fallible as they might be at times. But learning to use those procedures properly involves learning the idiosyncrasies of those disciplines.*⁷

McPeck is led to a discipline-specific theory partly by a study of Stephen Toulmin's works and partly by the idea – expressed in the first passage quoted above – that arguments deal with specific subjects and each specific subject is located within some discipline or other. His presupposition here is, apparently, that the norms come from the subject matter.

Toulmin wrote an early book, *The Uses of Argument*, decrying the dominance of formal logic in argument analysis. He urged that there were many diverse types of argument appropriate to diverse human activities. Several decades later, he followed his early monograph with a text, coauthored with Richard Rieke and Allan Janik.⁸ The text echoes the earlier theory. However, it does impose a common structure on argumentation. Each argument has, according to Toulmin, a claim (what standard analysis would call the conclusion), a ground or grounds for the claim (in standard accounts, the premises), and a warrant and backing. The warrant is a general proposition linking the grounds and claim and the backing is comprised of other claims that can be used to back up the warrant. For example, a simple argument such as 'you shouldn't smoke because you might get lung cancer' would be seen as having 'you might get lung cancer' as the ground and 'you shouldn't smoke' as the claim. The warrant, which must be constructed and read into the argument, would be something like 'Smoking often causes lung cancer'. The backing would be found in the medical theories which support belief in the warrant.

Toulmin emphasizes the important role of disciplinary knowledge and procedures in the understanding and appraisal of argument. Thus it is in some sense natural that McPeck should appeal to his account for support.

In another way, however, what Toulmin says is not consistent with what McPeck wants to say. Oddly enough, in view of Toulmin's strong dissent from traditional logical approaches, his analysis commits him to imposing a common structure on all arguments. They will all have the same *modus ponens* form, when the warrant is supplied. And yet there are cases where the fit is rather unnatural. Even in the simple example about smoking, for instance, we have to restrict ourselves to backing and warrant from one field in order to make Toulmin's style of analysis fit. Why not supplement the medical evidence with a claim about obligations not to unnecessarily risk one's health and a backing

from canons of ethics or prudence? If we did this, we would immediately have an argument to which at least two 'disciplines' were relevant.

Despite some rather dramatic statements to the contrary, Toulmin is in fact committed to the belief that there are many general points about argument structure and evaluation which are correctly super-imposed (as it were) on the standards of the various disciplines. This makes his account an unpromising source for a view such as McPeck's, which disclaims any possibility of general standards working across disciplines.

The reception of Toulmin's ideas on argument is itself a matter of some interest. His ideas have been roundly rejected by most philosophers and yet have gained wide acceptance in other circles, notably among scholars of argumentation whose background is in rhetoric or communication, rather than logic and philosophy. Nevertheless, an examination of several recent accounts of Toulmin's theory seems to indicate that the philosophers' rejection was on solid grounds.

In an excellent and thorough review of Toulmin's text, Ralph Johnson worked hard with his theory and eventually decided that it faced serious problems.

*Many of the warrants Toulmin cites as examples do not seem to belong to any identifiable field. But this only raises another problem. What is to count as a field? Law and science qualify, of course. Does astrology? Does common sense? Does philosophy? And what happens when, as is often enough the case, an arguer provides grounds from different fields?*⁹

Arguments in which several distinct grounds are offered at once and each ground comes from a different 'field' are very common in everyday life, and yet Toulmin's model does not seem to apply to them.

F.H. van Eemeren, R. Grootendorst, and T. Krugier, offer a thorough analysis of Toulmin's work in their book *The Study of Argumentation*. They offer many criticisms, among them the following, regarding Toulmin's positing of four essential elements in argument (claim, ground, warrant, and backing) instead of the traditional two (premises and conclusion):

*In fact, however, he assumes in his model that the data (grounds) are accepted at face value; if this is not the case, then, he says, it will have to be made the case by way of a preliminary argument. Then the datum from the one argument will be the claim in the other. There is absolutely no reason why the same should not apply to the warrant. If a warrant is not immediately accepted as authoritative, then an attempt must be made to remove the objections to it by means of another argument, in which the warrant from the first argument appears as the claim. And if an argument contains a backing for the warrant, then in fact there are two arguments.*¹⁰

At this point it should be clear that no solid basis for McPeck's theory can be found in Toulmin's theory.

The other line of thought that leads McPeck to a discipline-specific theory is equally unconvincing. He reasons that since every argument and every thought are about some specific thing, and since every specific thing is properly understood within some specific discipline, every argument is properly assessed only with reference to the standards of some specific discipline. This argument is glaringly incomplete, as reviewers of McPeck's book were quick to note.¹¹ The opening premise is obviously uncontroversial. Surely all thought is about some subject. You cannot just think, without thinking about some thing or other. However, it does not follow that that something or other is appropriately located in some one academic discipline. Also, from the fact that thought must be about

an object, we certainly are not entitled to conclude that standards for appraising that thought fall into the one specific discipline (in which the object is located).

McPeck gives no good grounds for his view that arguments fall into distinct disciplines and that only these disciplines can offer the proper tools for their understanding and evaluation.

Even if we were to grant McPeck's assumption that arguments fall into disciplines, those disciplines might very well employ common standards of reasoning. Indeed, this is what philosophers and others have commonly supposed. McPeck obviously dissents from this view but he nowhere gives a sufficient logical, epistemic, or psychological basis for his dissent. In response to critics, McPeck has indicated that the philosophical background for his view is to be found in Wittgenstein and should be understood as an adaptation of Wittgenstein's notion of forms of life. But such a reference offers poor logical support, given the notorious slipperiness of this Wittgensteinian notion. McPeck seems so convinced of the discipline dependence of argument analysis that he simply assumes that there are no common standards of reasoning in different disciplines.

A discipline-specific theory of argument can be stated in more or less radical versions. If the theory insists only that in order to evaluate the premises of arguments, we need information, which will come from various different disciplines, then it is relatively uncontroversial. No logician formal or informal – has ever denied this first view of what it means to be discipline-specific. None has ever seriously claimed that logic alone could supply the necessary tools to determine the truth or acceptability of the premises of arguments, and few would be so bold as to maintain that logic gives you all you need to be a critical thinker.¹² Presumably McPeck does not mean only to claim this first view that some extra-logical information is needed for the evaluation of arguments; otherwise he would not be so strongly objecting to the theory of argument as a general subject. More significantly, a discipline-specific theory might state a second view to the effect that *some* judgments about the merits of *some* inferences can only be made from within specific disciplines. That qualified claim is suggested when McPeck says 'a principle of reason in business or law, for example, *might be* fallacious in science of ethics.' Most radical would be a third view, according to which *all* appraisal of both premises and reasoning depends on standards which are developed by, and only intelligible within, the particular disciplines. On this third view there would be no such thing as a good analogy or invalid syllogism as such. There would be good analogies-within-psychology, invalid conditional arguments-within-law, and so on.

McPeck's major pedagogical claim is that attempts to improve reasoning and critical thinking by offering separate courses in either formal or informal logic are misguided, as they presume false theories of reasoning and argument. The uses to which McPeck seeks to put his view, and the supplementary comments he makes about it, require that he endorse the third and most radical version of discipline-specificity. It is only on this version that the idea of teaching generally applicable standards of argument appraisal would cease to make sense. The major purpose of McPeck's book is to make a point about educating people to think critically. He contends that it is not possible to do this by teaching formal logic, informal logic, or critical thinking as distinct subjects. The correct way to do it, he says, is to teach the separate academic disciplines in an epistemically alert way so as to cultivate in students a judicious scepticism that is appropriate to whatever particular subject is being studied. McPeck's account combines a theory of argument with a pedagogical theory of critical thinking. The first view holds nothing novel. If McPeck were to hold only the qualified second view he would have to admit that there could be many useful and important cross-disciplinary standards for good argument and that these might fruitfully be taught in critical thinking courses that were

generally about good and poor reasoning. This view would not support McPeck's strong pedagogical claims. He needs the third view.

No one would dispute the first view. Indeed, typically argument premises cannot be assessed without the particular knowledge which often comes from specific disciplines. This obvious truth does not entail that a discipline-specific theory of argument is true, however; it says nothing about types of arguments, types of inference, means of appraising inference, and so on. The second view says something about some arguments, and issues a warning that we should not expect standards to transfer automatically from one area to another. This modest version of the discipline-specific theory may be correct. It does not preclude either the possibility of standards that apply to most arguments, or the existence of general categories of classification which would transcend disciplinary boundaries. It is possible, for instance, that this second view should be true and that the third view is false. Such patterns as *modus ponens*, analogies, syllogisms, and inductive generalizations are found in a wide variety of contexts and disciplines, and should be assessed from the same standpoint, using the same rules, whenever they occur.

The third view, which amounts to a radical discipline-specific theory of argument, is simply not plausible. First of all, not every subject fits neatly into one and only one academic discipline. An argument about nuclear weapons development, for instance, might very well include both psychological considerations about the likely reactions of an enemy to a strategy and financial considerations regarding the comparative costs of conventional and nuclear weapons. Indeed, discussions of issues pertaining to nuclear weapons quite commonly draw from politics, history, military strategy, ethics, and engineering, as well as psychology and economics. Many issues are like this one, and many arguments about them do not fit well into a neat framework of established academic fields or disciplines.

The point was put humorously by Perry Weddle, who said in a review of McPeck's book:

... Recall One Week in the Life of the Typical Educated Person. Five to ten hours reading the newspaper: There was the case of Ariel Sharon, a cartoon depicting Reagan as Western gunslinger confronting Andropov, an editorial defending multiple-choice exams for teachers. There were stock market tips, astrological counsel and advice on health via vegetarian diets. That's just a small sample, of course, ... This week the Typical Educated Person has to find a new mechanic, listen to the broker, advise a friend's child on her career, choose toilet paper, decide whether to fight an undemocratic harsh but fair administrative decision, to trouble-shoot a malfunctioning vacuum cleaner, to turn down a thoughtful and appreciated invitation to spend the weekend at Mendocino. The Typical Educated Person argued politics, music, psychology, sports, religion ... Academic fields cover only a fraction of such stuff.¹³

A discipline-specific theory of argument will be hard to apply in practice because it will require us to sort arguments in a way that is most unfaithful to action discussion, decision-making, and debate.

There are also more theoretical arguments against discipline-specific standards of argumentation and reasoning. Even if we could put every argument in its own disciplinary cubby-hole, we cannot guarantee that existing academic disciplines as we presently understand them accurately reflect the ontology of the real world in the ways in which they divide and categorize objects and problems.

A discipline-specific theory of argument such as the third version, which is so radical as to claim that *all* the important standards of argument appraisal are specific to the various academic disciplines, is simply implausible. In many respects, various disciplines at least appear to employ common standards of reasoning at a number of significant points. In all disciplines, we find a concern for consistency; the need to rely on testimony some of the time and an attendant concern to distinguish reliable from unreliable testimony; the need to deduce further conclusions from explicitly stated

knowledge; occasional uses of analogies; and many other apparently similar logical features. It is possible that in some subtle ways the appraisal of testimony is logically different in history, physics, and law. But such a claim has not been shown even for one aspect of argumentation, and it is highly unlikely that it would be true for all.

The continuity and co-ordination of distinct disciplines during some periods of history and with reference to some specific topics would be hard to account for if each discipline had its own standards of reasoning, so embedded within the discipline that they could not be 'detached' and applied to discussions within other disciplines. So too would the tradition of successful external criticism of disciplinary practices.

For all these reasons the discipline-specific theory in the strong form advocated by McPeck has small claim to be a descriptively accurate theory of argument. Nor is it normatively appealing, because it is implicitly uncritical and conservative. If existing disciplines are to provide us with the only standards appropriate to use for the assessment of argument, then it will be impossible to give a good argument for the conclusion that the standards of any one of these disciplines are flawed. This is a counter-intuitive result that leaves too little room for rational criticism of disciplinary practice. In addition, it is untrue to the actual history of thought. Strong criticism of disciplines both from within and without is a prominent feature of the actual history of academic subjects.

In short, a radical discipline-specific theory of argument is not tenable. It will pose many problems of application; it does not offer a natural description of the phenomena of argument; and it is normatively too weak.

3. Are All Good Arguments Deductively Valid?

Another theory of argument, more popular among philosophers than the discipline-specific theory, is the deductivist theory. According to this theory, there is no need to sort arguments by discipline, for there is fundamentally only one type of (good) argument. A good argument must be deductively valid: the premises must entail the conclusion. In a good argument, it is logically impossible for the conclusion to be false provided that the premises are true. Furthermore, the premises are true. Because the argument is deductively valid, the true premises provide full and sufficient reasons for the conclusion, and thus justify it. Thus good arguments should serve the purpose of convincing an audience that a conclusion is true. All good arguments are as tight and firm as proofs in mathematics. They are comparable to 'All men are mortal; Justin Trudeau is a man; therefore Justin Trudeau is mortal', in that true premises are stated, and provide compelling, conclusive support for a conclusion. Any argument not meeting these conditions is logically inconclusive and, as failing to meet these standards, logically worthless.

Many logicians – both formal and informal – endorse a deductivist theory of argument. These theorists are aware that most naturally occurring arguments fail to be deductively valid as stated. Few wish to draw the conclusion that most naturally occurring arguments are worthless. To avoid this consequence, deductivists often urge that many naturally occurring arguments are enthymemes. They need to be 'filled in' with premises that were unstated by the arguer. Many naturally occurring arguments can be filled in with true or plausible premises in such a way that the amended set of premises entails the conclusion; they thereby qualify as inferentially good arguments on the deductivist theory.

In a paper on deductivism published in 1970, D. Stove reported being unable to find any explicit statements or defenses of the theory, which he nevertheless claimed was a basic tacit assumption of

many philosophers.¹⁴ Stove argued in great detail that Hume was a deductivist, in order to show that the critique of the theory presented in his article had some real application. Presently, statements of deductivism are rather easy to find in texts and other sources. Here is one from a text on formal logic, by Karel Lambert and William Ulrich. (Lambert and Ulrich do not purport to cover informal logic in the text; however they do purport to eliminate it as a legitimate subject of study.) They say:

*An argument is sound if and only if (1) it is valid and (2) all its premises are true. An inference is sound just in case the argument representing it is sound.*¹⁵

This is a classic statement. Further explanation in the text makes it clear that Lambert and Ulrich understand 'valid' to mean 'deductively valid in virtue of form'.¹⁶ That is, the premises would have to entail the conclusion, and the entailment relationship would have to hold in virtue of the structure of the argument, as based on standardly logical words such as 'all', 'some', 'none', 'not', 'if then', 'and', 'or', and so on.

Formal deductivism would have it that all good arguments are deductively valid in virtue of their logical form; nonformal deductivism that they are deductively valid in virtue either of meaning or of form. It is often important to distinguish between formalist and nonformalist versions of deductivism. Lambert and Ulrich do not clarify this distinction. However, the points made here apply to both versions, so the distinction will be ignored for the moment. In the simple deductively valid argument 'Joan has a cousin; therefore Joan has a parent who has a sibling', validity is due to the meaning of 'cousin', 'parent' and so on, not to logical form. This argument is deductively valid in virtue of the meaning of such terms, and not in virtue of its logical form.

The central claim of deductivism is that anything less than a relation of entailment between premises and conclusion is unsatisfactory. On this theory there are no degrees or kinds of logical support. Lambert and Ulrich's statement of deductivism also includes a condition that premises must satisfy: they must be true. This condition has been questioned as too strong; but we shall skirt that issue at the moment and consider only those aspects of deductivism that concern the classification of arguments and the appraisal of inferences.¹⁷

Lambert and Ulrich's book is a text on formal logic. But deductivism is not restricted to formalist circles. Deductivist views are also to be found in texts on informal logic, as we see in Gerald Nosich, *Reasons and Arguments*:

*Truth and validity are two basic concepts in logical analysis because, for an argument to be sound (to prove its conclusion), it must be both valid and have true premises. Moreover, if you have a valid argument and all of its premises are true, you have proved the conclusion. When it comes right down to it, validity and truth of the premises are all there is to a good argument.*¹⁸

Challenging the view, Carl Wellman's book, *Challenge and Response*, has this to say about deductivism:

*Deduction is that form of reasoning in which the claim is made that the conclusion follows necessarily from the premises. If it is possible for all the premises to be true and the conclusion false, then the argument is invalid; if the truth of the premises is a sufficient condition for the truth of the conclusion, then the argument is valid. It is deductive reasoning that has been the traditional subject matter of logic. Deductivism is the view that this is the only form of reasoning. If so, and if only reasoning can justify any statement, then clearly all justification is by deduction. The obvious question to ask is what reason there is to accept deductivism.*¹⁹

Although deductivism is stated by Wellman as a theory about reasoning and not a theory about

arguments, the move from one to the other is immediate, in context. If all arguments are based on reasoning, and all reasoning is deductive, then all arguments are based on deductive reasoning. Wellman states deductivism in order to criticize it. He does not hold this theory himself. He believes, rather, that there are many plausible natural arguments which it does not readily apply and he objects to the way in which premises have to be added in order to make some of these naturally occurring arguments deductively valid.

Stove distinguishes two senses of conclusiveness for arguments. Arguments are positively conclusive if the premises would give a completely rational being some positive degree of belief in the conclusion, and they are absolutely conclusive if they would give such a being as great a degree of belief in the conclusion as there is for the premises. An argument is absolutely irrational if the premises would add no support whatever to the conclusion.²⁰ With this apparatus, Stove defines deductivism as the thesis that all deductively invalid arguments are absolutely irrational. Stove then goes on to point out that deductivism entails the epistemic equivalence of 'All of the *ten* flames observed in the past have been hot, so the next flame observed will be hot' and 'All of the *one million* flames observed in the past have been hot, so the next flame observed will be hot.' It entails that these two arguments are equally, and absolutely, irrational. The extremity of this conclusion implied by deductivism makes Stove fear he is addressing a straw man. But as he points out, the rather common philosophical practice of showing an argument to be invalid and then inferring immediately that no further criticism of it is needed, does presuppose deductivism in just this extreme form.

3a. Deductivism as a Simple Theory

Deductivism has the advantage of being an extremely simple theory of argument. On this theory, there is only one type of argument; therefore there is no need to sort or classify arguments and to develop criteria for doing so. Problems regarding examples that do not fit tidily into the requisite classificatory categories do not arise: there is only one category. There is only one type of argument, deductive, and only one standard for appraising the quality of the inferential aspect of arguments. This requirement all arguments will have to satisfy. In systems of formal logic there are clearly articulated standards for formal deductive validity. If deductivism is the correct theory of argument, we have the assured relevance of an established and recognized body of precise knowledge, applicable to all arguments.

This simplicity comes at a cost, however. There are alternate ways of paying. One way is to face the consequence Stove spells out so clearly: all invalid arguments are equally and totally flawed. Since most arguments in empirical science and in ordinary life are not, as stated, deductively valid, this theory will leave the deductivist in a radically sceptical position. Indeed, if we have no view as to how the accumulation of empirical evidence can rationally support hypotheses, it is a mystery as to how we can ever generate the premises that are needed for deductively valid arguments. This difficulty was emphasized by John Stuart Mill and, in a different way, by Sextus Empiricus.

Most contemporary deductivists will not pay such a high price and prefer instead to borrow in the currency of reconstruction. Recognizing that most natural arguments are not deductive as stated, they regard such arguments as incomplete. To apply their theory in a plausible and non-sceptical way to naturally occurring arguments, they reconstruct them, seeing them as having tacit premises not spelled out by the arguer. Arguments in law, ethics, administration, empirical science, literary criticism, and ordinary life do not look like the watertight proofs of mathematics. As stated, they are rarely deductively valid. To avoid the conclusion that they are all equally and absolutely 'irrational',

these arguments are regarded as enthymematic. This approach is surely preferable to the radically sceptical and counterintuitive consequence of applying the theory literally to unreconstructed natural arguments. Nevertheless, it too is costly.

The pro-and-con situation in which we find ourselves with many issues does not naturally fit a deductivist account, which makes the merit of an argument an all-or-nothing affair. When a natural argument is supplemented, and thereby rendered deductively valid, the added premises are regarded as 'missing'. The deductivist will say that they were implicit in the original argument, but left unstated for one reason or another. Perhaps they were too obvious to mention and recognized as such by the arguer and the audience. Perhaps they were controversial and deliberately omitted. Perhaps they were omitted simply because the arguer lacked a perfect 'deductive sense' and didn't understand that they were required to make the argument valid.

The deductivist who wishes to avoid radical scepticism about naturally occurring arguments has no problem classifying arguments and no problem deciding which inferential standard to apply to which argument. He does, however, have to face quite a task reconstructing natural arguments. Since few arguments, as stated, are deductively valid, a deductivist who seeks to avoid scepticism is committed to a 'reading-in' policy which is extensive. This involves labor, but that is the least of the problems.

A major challenge lies in the fact that any argument can be supplemented with extra premises in such a way as to make it deductively valid. In fact, some texts advise students to do this. If all else fails, an argument can be made deductively valid by adding a premise of the form 'If (P, Q, R, J) then C', where P, Q, R and J are the stated premises and C is the conclusion. The added statement is a conditional with the stated premises, conjoined, as the antecedent and the conclusion as the consequent. Such a statement is commonly referred to as the associated conditional.²¹ To some this reiterative procedure seems a mere subterfuge, but to others it appears a natural manoeuvre – quite legitimate. An associated conditional can always be formed, and a determined theorist can always insist that it was implicit in the argument. A major problem with this view, though, is that for *every* naturally occurring argument there is such an available associated conditional. There is, then, always a way to make an argument deductively valid, whether or not it was valid in its unreconstructed form.²²

3b. Deductivism and Missing Premises

Though preferable to literal deductivism the reconstructivist approach is cumbersome and, for that reason, objectionable. In many cases it also appears to misrepresent the character of the original argument. There are reasons, surely, why arguments from observation and experience have been characterized historically as different in degree of conclusiveness from the deductive arguments of geometry and mathematics. Even if we consider a ridiculous argument, such as 'Roses are red; violets are blue; therefore Ed loves Sue', we can render it deductively valid. We just add a premise 'If roses are red and violets are blue, Ed loves Sue', and insist that this associated conditional was implicit, but unstated, in the original. The addition is reiterative in that it merely repeats the original argument, turning it into a conditional statement that links the premises with the conclusion. If one acknowledges a problem with simple reiteration, one can avoid it by generalizing on this reiterative condition. For instance, one could instead regard 'If some flowers are coloured, then all people called Ed love all people called Sue' as the unstated premise.

There is always a way to make any argument deductively valid by adding premises. Furthermore there is always more than one way. If you don't like merely reiterating the whole argument, you can choose from countless prospective premises which will entail the reiterative conditional statement.

Literal deductivism has the consequence that almost all arguments in empirical science, scholarly endeavor and ordinary life are absolutely worthless. But reconstructive deductivism, unless very elaborately qualified, will have the consequence that they are all absolutely worthy, from an inferential point of view.²³ This consequence emerges because any argument can easily be rendered valid, and the reconstructive thrust behind this theory commits us to regarding the content of argument as largely indeterminate.

Despite the prominence of reconstructive deductivism as a theory of argument and despite its compatibility with significant elements of logical theory and pedagogy, it ultimately runs counter to strong traditions in logic. One such tradition is that there are nonconclusive but nevertheless reasonable arguments, especially in empirical science. Another is that there are fallacies. A fallacy is an error in reasoning.²⁴ Fallacies in the logical sense are not mistaken assumptions or beliefs; they are errors in reasoning. For fallacies in this sense to exist, people must sometimes make mistakes in inferring conclusions from premises. But on this common understanding of 'fallacy', there will be no fallacies for the deductivist, because every argument that is not deductively valid as stated is to be made deductively valid by reconstruction. This result will not be welcome.²⁵

Deductivism makes a distorting lens through which to examine the phenomena of natural argument. It recommends too much revision of the data to save the theory. The problem is not that there exist arguments that cannot be reconstructed on a deductivist model. Rather, it is that although it is often quite easy to read into natural arguments extra premises so as to render them deductively valid, the procedure of doing so is frequently merely reiterative and, if not that, *ad hoc*.

Reconstructive deductivism allows and requires us to do too much to the data. If we look at the world through purple glasses, it will appear purple, but little is proven by such observations. Similarly, if we look at people's arguments through deductivist spectacles, all arguments will appear as complete or incomplete deductions. But little that is real is seen through these spectacles. We need some good reason as to why this is the right way to look at arguments. Apart from simplicity, the only one seems to be the question-begging insistence that in a good argument premises must suffice to prove the conclusion, where by 'suffice to prove', 'deductively entail' is implicitly meant. But this view is contestable and, in the context, question-begging.

4. Degrees of Validity? Degrees of Support?

We move now to another theory of argument, the spectrum theory. This theory is not nearly so common as deductivism. Nor has it yet been thoroughly developed by philosophers. It is found only in scattered statements – oral and written – by some who have paid close attention to the analysis of naturally occurring arguments. According to the spectrum theory, the strength of the connection between the premises and conclusion of an argument is susceptible to degrees. There are tighter and looser connections. The deductive connection is the tightest, but it is not the only kind. Arguments may work with looser connections; the various possibilities fall on a kind of spectrum.

A source for the spectrum theory is Stephen Thomas' text, *Practical Reasoning in Natural Language*. Like deductivists, Thomas requires that sound arguments be valid and have true premises. But unlike deductivists, Thomas defines 'valid' in a broad sense so that it applies not only to deductively valid arguments. In the first edition of his book, Thomas speaks frankly of *degrees* of validity. In the second edition, such references are no longer to be found. But Thomas continues his departure from deductivism by defining 'valid' in a way much broader than 'deductively valid'. For him, 'valid' serves

as a kind of umbrella term which can embrace a whole spectrum of ways in which the premises can be connected to a conclusion. He puts the point this way:

*Valid argument: an argument in which the reasons, assuming or supposing that they were true, genuinely would justify believing or expecting the conclusion to be true.*²⁶

A later passage gives further clarification and explains why Thomas refrained from using the expression ‘degrees of validity’ in the second edition of his text.

*This book differs from previous logic textbooks by recognising that in natural language, different reasons can support their conclusions with different degrees of support. The concept of ‘degree of support’, or ‘degree of strength’, as it will be called also, corresponds to what some philosophers call ‘degree of confirmation’, in the context of the proof or disproof of scientific theories. If, for example, certain assumptions and evidence highly confirm a certain hypothesis or conclusion, then the degree of support of these assumptions is ‘very strong’. The similar phrase ‘degree of validity’ has been recently used in natural logic ... for the same purpose. However, some formal deductive logicians ... oppose this way of using the term ‘valid’. So to avoid controversy, the more neutral phrase ‘degree of support’ will be used in this textbook to describe the extent to which a given set of reasons makes the truth of a given conclusion likely or probable. We will distinguish five degrees: nil, weak, moderate, strong, and deductively valid.*²⁷

The degrees of support may be thought of as lying on a spectrum of looser and tighter connections between the premises and conclusion. At one end of the spectrum we have no support at all; at the other end, we have deductive entailment, regarded as full support. Support is not an all or nothing matter. Whereas deductivists would say that failure to achieve full support constitutes total failure of support — that is to say, no support at all — this will not result from a spectrum theory. Thus, the severely counterintuitive ‘all or nothing’ character of deductivism is avoided. Premises that fail to entail a conclusion may still support it – weakly, moderately, or strongly, according to this view.

Thomas is an appropriate source for the spectrum theory because his is a well-known and widely used text. He really does endorse the theory in the sections of the text quoted here. However, Thomas’ commitment to the spectrum theory is in the final analysis less than whole-hearted because he includes in his text (both editions) a section on missing premises that commits him to deductivism and thereby undercuts his commitment to a spectrum theory.²⁸

Thomas does not consistently maintain his spectrum theory. His initial statement of the spectrum theory locates the deductive connection in a paradigmatic role on the spectrum. It is the strongest, tightest form of support. That role may explain his later desire to supplement arguments with ‘lesser’ connections to the point where they become deductively valid. He works with an uneasy and inconsistent combination of deductivism and a spectrum theory.

Another source for the spectrum theory is Maurice Finocchiaro’s article, ‘Fallacies and the Evaluation of Reasoning’. In that paper, Finocchiaro’s main concern is the interpretation of natural argumentation. He sees a tendency among some informal logicians to rely on insensitive and uncharitable interpretation in order to find fallacies in natural argumentation. In developing this theme, Finocchiaro briefly states a theory of argument:

*if a fallacy is defined as a type of common but logically incorrect argument, the various types would have to be the following: (1) arguments claiming to be deductively valid but which are actually invalid; (2) arguments claiming to be inductively strong but which are actually inductively weak; (3) arguments claiming to have some inductive strength but which have none. There is no way for an argument to be a fallacy without falling into one of the three above-mentioned classes.*²⁹

We may understand Finocchiaro as maintaining a spectrum theory. He locates fewer divisions on his spectrum than Thomas did on his, but the basic theme is similar: there are different degrees of support. Finocchiaro speaks of the connections 'claimed' in an argument, rather than speaking of the connections which actually exist. This phrase poses interpretive problems, since many arguers are not readily interpreted as 'claiming' any degree of support. It is merely that, insofar as they are putting forward premises in support of a conclusion, they are claiming support. In other words, we can interpret them as claiming support but not some particular degree of support. Language (at least English) does not have the vocabulary to reliably express claims about degrees of inferential support.

Just as Thomas' theory was stated with an apparent reliance on deductive connection as the tightest (best?) kind of connection, and is uneasily combined in his text with deductivism, Finocchiaro's theory has echoes of another concept of reasoning. He seems to have the inductive-deductive dichotomy in his mind, and to superimpose it on a spectrum by seeing 'weak inductive strength', 'strong inductive strength', and 'deductive validity' as three different degrees of the same thing.

Several people with practical experience teaching students to analyze naturally occurring arguments have expressed interest in and sympathy for some kind of spectrum theory. It is unfortunate that there seems to be no detailed statement of such a theory in the philosophical literature. Statements of the theory cited here are brief, and echo aspects of other incompatible theories.

It is not surprising that teachers and students of natural argumentation should find a spectrum theory initially attractive. It strikes a convenient balance between monolithic and pluralistic theories. Like monolithic theories, it avoids the need to classify arguments. Given the flexibility of language and the indeterminacy of arguers' intentions, this is an attractive aspect of the theory. However, like pluralistic theories, the spectrum theory is able to avoid the need to impose one demanding standard for good inference on all natural arguments. This too is a desirable result, given the immense variety we find in naturally occurring arguments. The spectrum theory is flexible and avoids two undesirable results. It does not imply that most natural arguments are worthless. Nor does it imply that all natural arguments have inferential merit. Fallacies will presumably be those arguments which have no connection (nil, according to Thomas) between premises and conclusion or in which the connection 'claimed' is stronger than the connection that exists. Though Finocchiaro in particular is sceptical about the actual existence of fallacies in real argumentation, there is nothing in a spectrum theory as such which implies this result.

4a. What's on the Spectrum?

The chief flaw with the spectrum theory is that it is too undeveloped to offer real understanding. It appears admirably flexible and easy to apply because of its allowance for various degrees of connection, ranging on a spectrum from no connection at all to a deductively valid entailment. And yet it is no accident that one version of the theory wandered into deductivism and another is stated with strong echoes of the positivistic theory that all arguments are either inductive (as in empirical science) or deductive (as in logic and mathematics). These aspects reflect the lack of theoretical underpinning for the spectrum theory. The problem is that we are given no explanation of what the degrees of support are degrees of. They cannot be degrees of deductive validity, because that notion makes no sense. Deductive validity is all or nothing. An inference from P to Q either is deductively valid or it is not; there is no such thing as making it part way.

If P fails to entail Q, but seems nevertheless to offer some reason for Q (as in 'the car has a good

repair record according to *Consumer Reports*, so you will not have much problem with repairs if you buy it'), we may say P does support Q, though it does not entail Q. But support in this case is not a weaker version of deductive support. It is not a 'degree' of deductive support. Rather, it is something else.

A closely related point is that the nature of the 'spectrum' on which the various degrees of support are located has yet to be explained. Consider three arguments which are, on the face of it, non-deductive in type:

- A. (Context: A young philosopher contended that the academic institution of tenure was unjust because it worked to deprive young people of opportunities that older people had had. The following was written in reply by a senior professor.)

*But consider this 'injustice' as well. My home was purchased only a decade ago, at less than half what it would bring on the market now, and throughout that period interest charges on the mortgage have averaged a single-digit percentage. A much younger person would find it difficult, if not impossible, to purchase a comparable dwelling now. Yet now one would suggest that, because of this, I should give up ownership and compete with homeless individuals for the three or five year leasing of it. Had that ever been a foreseeable eventuality, I would obviously not have 'bought' it in the first place. And one can multiply examples of similar 'injustice'.*³⁰

- B. (Context: This brief argument appears in an essay in which the author contends that theology is not an open-minded and reasonable inquiry, and that this fact about theology constitutes the major difference between it and philosophy.)

*'That a man's being an atheist is an absolute bar to his occupying a chair (in theology) proves that theology is not an open-minded and reasonable inquiry.'*³¹

- C. (Context: This passage is taken from Michael Walzer, *Just and Unjust Wars*. Walzer is discussing the principle that those who are going to do the actual fighting in a war should have to consent, before going off to fight, to the idea that the war is indeed a just one.)

*'Napoleon is said to have boasted to Metternich that he could afford to lose 30,000 men a month. Perhaps he could have lost that many and still have maintained political support at home. But he could not have done so, I think, had he had to ask the men he was about to 'lose'. Soldiers might agree to such losses in a war forced upon them by the enemy, a war of national defence, but not in the sort of wars that Napoleon fought. The need to seek their consent... would surely limit the occasions of war, and if there were any change at all of reciprocity from the other side, it would limit its means too.'*³²

Example (A) is an attempt at refutation by logical analogy. The senior philosopher compares the younger philosopher's claim with a comparable claim about housing or other goods that are purchased at varying times under varying conditions. He maintains that the tenure argument is parallel to an implausible argument that could be given in those contexts and is, therefore, itself implausible. Example (B) is hard to classify. A single point about the institution of chairs in theology is said to 'prove' that theology is not an open-minded and reasonable inquiry. This seems to be 'good reasons' argument, with only one reason advanced. Example (C) might be called a hypothetical induction. The author envisages a situation regarding Napoleon's troops and states that these troops

would not have consented to heavy losses in a war of conquest. He infers from premises about what would have happened in those circumstances a more general conclusion to the effect that asking soldiers' consent would limit the occasions of war.

Now let us try to apply a spectrum theory of argument to these examples. If there are degrees of support, and if these degrees are locatable on a kind of logical spectrum as 'more' and 'less' of something or other, then we should be able to roughly locate these examples. All seem to be cases in which the premises offer 'some support' to the conclusion. No doubt it is this appearance of degrees and qualifications of support, as opposed to the all-or-nothing of deductive validity, that makes the spectrum theory initially appealing. The problem is that the spectrum theory tells us nothing about these degrees of support. It does not indicate what kind of support premises might offer, or whether and why (for example) A might be a stronger argument than B. It is not even clear that it makes sense to think of A as having more or less than the same kind of 'connection' which either holds or fails to hold in C. The spectrum theory is only a metaphor until it can tell us more about what degrees of support (or connection, between premises and conclusion) are degrees of and what constitutes a greater or lesser degree. Are what appear to be different styles of argument, as exemplified in these cases. When we come to concrete cases, we do not seem to know what to put where on the spectrum and why, or even why there is just one spectrum. The theory is only a metaphor, and unless we are prepared to develop the idea that there are degrees of deductive validity, we cannot turn it into more than that.

5. Better Theories are Needed

We have several nonformal theories of argument, coexisting almost unnoticed with the common philosophical view that the very notion of a nonformal theory of argument is absurd. And yet the notion of a nonformal theory of argument is not absurd. Interesting issues of justification and pedagogy could be illuminated by such a theory. The cultivation of skills in reasoning and critical thinking will surely require, among other things, a sensitivity to the phenomena of natural argument and a good understanding of various types of legitimate and illegitimate inference. Indeed, nonformal theories of argument – especially the three treated here – are very commonly stated and appealed to by philosophers. The problem is that such theories are merely cited. They are not articulated, developed, or defended. More work is clearly needed. A fourth nonformal theory of argument, called here Positivism, is discussed in the next chapter.

This account has emphasized a single problem throughout: inference assessment. Traditional logic virtually restricted itself to that dimension of argument appraisal, so that current theories tend also to emphasize it. But this is not the only aspect of argument analysis open to theoretical scrutiny. We can see this even by looking at themes and issues that arise from the theories considered here. The discipline-specific theory, for instance, tells us how to appraise the premises of arguments. We should locate the argument in a discipline and go to that discipline in order to discover the epistemic standards that will allow us to determine whether its premises are true. The deductivist theory, in its reconstructivist version, depends on a view of the correct way to interpret discourse; this dependence arises from the need for extensive supplementation with premises regarded as missing. Interpretive principles are also presumed by some theories (not considered here), that emphasize arguers' intentions as a central factor in the classification of arguments. Finocchiaro's suggestion that we have to see what kind of strength is 'claimed' relates to these views. We have seen that common versions of deductivism make the truth of premises a necessary condition for the soundness of

arguments. Some theorists have argued that this condition is too demanding and that the acceptability of premises to the audience to whom the argument is addressed is preferable as a condition of premise adequacy.³³ The nature of argument as a social institution for inter-personal persuasion and debate, and the bearing of features of and relations between persons on logical appraisal are further topics that need to be considered.

These issues arise from a preliminary examination of theories of argument primarily occupied with the traditional issue of inference appraisal. Topics in a full-fledged theory of argument will extend beyond the classification of arguments as to type and appraisal of the correctness of the inferences on which they depend and lead to broader issues of epistemology, pragmatics, and ethics.

These further topics fall broadly into two areas. One involves principles and policy having to do with the interpretation of discourse: the identification of arguments; the location of their premises and conclusions; the task of supplying unstated premises or conclusions; charity as a principle of interpretation; and the role of arguer's intentions and beliefs in proper interpretation. The other has to do with the pragmatics and dialectics of argument: whether premises in a good argument need be true or only acceptable to an audience; whether personal attributes of arguers having to do with their authority or credibility ever have a legitimate bearing on their appraisal of the argument; how rebuttals, pros and cons, and counter-arguments are to fit within our structural models; and many related topics. The role of such factors in a theory of argument is already tacitly acknowledged in logical tradition because they bear upon our understanding of the traditional fallacies of begging the question, *ad hominem*, straw man, and appealing to authority.

Doubtless other theories of argument could be stated. The widely held belief that there are two basic kinds of argument, deductive and inductive, merits treatment on its own. The theories discussed here were chosen either because of their apparent wide appeal to philosophers in general or because of their appeal to persons interested in informal logic. These theories are not satisfactory: we await a better one.

Notes

1. John E. McPeck, *Critical Thinking and Education*, (Oxford: Martin Robertson, 1981), pp. 70- 71.
2. For more discussion on different senses of 'formal', see subsequent essays: 'Four Reasons There are no Fallacies?' and 'Formalism and Informalism in Theories of Reasoning and Argument.'
3. Cf. Trudy Govier, 'Review of Critical Thinking and Education', *Dialogue* 22 (1983), pp. 170-175. At the Second International Symposium on Informal Logic, held in Windsor in June, 1983, McPeck agreed that his account depended on a conflation of the general and the formal.
4. I have defended a principle close to this one in 'Ad Hominem: Revising the Textbooks', (*Teaching Philosophy*, 6 (1983), pp. 13-24).
5. McPeck, *Critical Thinking and Education*, page 13.
6. *Ibid.*, p. 72.
7. *Ibid.*, p. 81.
8. See S. Toulmin, R. Rieke, and A. Janik, *An Introduction to Reasoning* (New York: Macmillan, 1979)

and S.F. Toulmin, *The Uses of Argument* (Cambridge Eng.: Cambridge University Press, 1958.) Despite his fame as the originator of a field dependent or discipline-specific theory of argument, there is a clear sense in which Toulmin does not hold such a theory.

9. Ralph H. Johnson, 'Toulmin's Bold Experiment', Parts One and Two (*Informal Logic Newsletter*, iii, nos. 2 and 3 (March and June, 1981). Quoted passage is in Part One, p. 24.

10. F. H. van Eemeren, R. Grootendorst, and T. Kruiger, *The Study of Argumentation* (New York: Irvington Publishers, 1984), pp. 203-204.

11. See my review in *Dialogue*, 1983; also Richard Paul's review in *Informal Logic* vi (1984); and Perry Weddle's review in *C. T.* (newsletter from the Critical Thinking Project at California State University, Sacramento), Vol. I, no. 2.

12. It is relatively uncontroversial. It may be controversial that some one discipline will supply the information necessary to evaluate a premise. It is not controversial that we should typically need to look outside logic (formal or informal) in order to assess the premises of arguments.

13. Weddle, Review of McPeck, cited above, p. 4.

14. D. Stove, 'Deductivism', *Australasian Journal of Philosophy*, Vol. 48, no. I (May, 1970), pp.76-98.

15. K. Lambert and W. Ulrich, *The Nature of Argument*, (New York: Macmillan, 1980), p.18.

16. *Ibid.*, pp. 19-20. 'As we shall shortly see, logical validity and logical invalidity are features of argument that depend only upon their logical form.' (page 10) I discuss this aspect of Lambert and Ulrich's account in 'Four Reasons There are no Fallacies?'

17. This view has been argued by J.A. Blair in an unpublished paper on the importance of context in argument analysis. It is endorsed in R.H. Johnson and J.A. Blair's *Logical Self-Defence* (Toronto: McGraw-Hill-Ryerson, 1983), and in my own text, *A Practical Study of Argument* First edition (Belmont, Calif.: Wadsworth, 1985).

18. Gerald M. Nosich, *Reasons and Arguments*, (Belmont, Calif.: Wadsworth, 1982), p. 27.

19. Carl Wellman, *Challenge and Response: Justification in Ethics*, (Carbondale, Ill.: Southern Illinois University Press, 1971).

20. Stove, 'Deductivism', pp. 76-77.

21. Notably that of S. N. Thomas. See the discussion below for documentation and further comments. See also my discussion of the deductivist policy on missing premises in 'The Problem of Missing Premises'.

22. Compare Lewis Carroll, 'What Achilles Said to the Tortoise' reprinted in Douglas Hofstadter, *Godel, Escher, Bach* (New York: Basic Books, 1979).

23. I argue this point at length in the chapter on missing premises.

24. The assumption here is not that tradition must be right. Rather, there are two more subtle appeals. First, tradition should not be presumed to be wrong without better reason than an *ad hoc* theory of missing premises devised to protect deductivist assumptions.. Second, most deductivists do want to preserve their belief in fallacies, especially formal fallacies.

25. A fallacy is supposed to be a mistake in *reasoning*. A false or unacceptable premise might be said to constitute a fallacy in the broader, more colloquial sense in which any false belief is sometimes said to be fallacious. However, it has long been recognized that this broad sense of 'fallacy' is distinct from the stricter logical sense. A standard definition of the latter is that of S.F. Barker, who says in *Elements of Logic* (New York: McGraw-Hill, 1980; Third Edition) that 'a fallacy is a logical mistake in reasoning. When there are premises and a conclusion that, through some logical error, is mistakenly thought to be proved by them, then and only then is there a fallacy in the logical sense.' The use of 'deceptive' in my own statement should not be taken to imply that arguers who employ fallacies always do so with an intention to deceive their audience. Fallacies can be used in the sincere belief that they are good arguments. Rather, the point is that fallacies are deceptive in the sense that they tend to strike people who read or hear them as good arguments. Compare 'Four Reasons There are no Fallacies?'

26. S. N. Thomas, *Practical Reasoning in Natural Language*, (Englewood Cliffs, N.J.: Prentice Hall, Second Edition, 1981), pp. 96 -97.

27. *Ibid.*, pp. 98-99.

28. This aspect of Thomas's text is discussed again in the chapter on missing premises.

29. Maurice Finocchiaro, 'Fallacies and the Evaluation of Reasoning', (*American Philosophical Quarterly*, 1981), page 15. Finocchiaro has confirmed in conversation that he wished to express a spectrum theory in this passage.

30. R. Puccetti in the Canadian Association of University Teachers *Bulletin* for March, 1976.

31. From J. Robinson, 'Reason and Faith', in Burr and Goldinger, Editors, *Philosophy and Contemporary Issues*, (London: Macmillan, 1976).

32. Michael Walzer, *Just and Unjust Wars* (New York: Basic Books, 1977), p. 29.

33. J. Anthony Blair has argued this point and the sort of view he advocates has been incorporated in several texts, as noted above in footnote 17.

CHAPTER 3.

THE GREAT DIVIDE

So far as I can tell, it is still common both in textbooks and in research papers, to draw the distinction between deductive and inductive arguments. Considering the centrality of the topic and the fact that no account proposed seems to solve the problems raised in this chapter, this situation appears to be rather anomalous. The inductive/deductive distinction is problematic but sets a great divide that has prevailed as a framework for study and research. One might argue that standard practice on this matter is all right because the distinction is intuitively understandable, traditional, and so practical as to be necessary. One might wish to make that case despite the problems explained here, arising for accounts based on form; necessitation or its lack; what is intended or 'claimed' by an arguer; or the proper application of standards. But I would urge that the underlying theory is not adequate. I submit that the problems raised here remain real and important. They were keenly explored in early editions of the Informal Logic Newsletter (now Informal Logic) but have not been central in more recent discussions of informal logic and argumentation theory.

In this essay, I cite a number of examples to illustrate problems of application with various versions of this distinction. These examples indicate that one can easily find arguments, both in colloquial and academic discourse, that are hard to classify as inductive or deductive. Readers can readily test that claim for themselves, to explore the claims and considerations made here. I was especially concerned with the dichotomous nature of logical tradition on induction and deduction. The standard presumption has a positivist heritage. It was assumed (and, I suspect, still is) that the inductive/deductive distinction is both exclusive and exhaustive. That is to say, no argument is both inductive and deductive, and every argument is either inductive or deductive. At a time when many binaries are being rejected, this particular one appears to enjoy undeserved security. I argue here that its status poses dangers, especially as to the matter of exhaustiveness: the supposition that all good reasoning is either empirical or purely logical serves to distort and buttress false dilemmas of method and justification. Logical positivism is widely discredited, but its implications for the theory of argument continue to be sturdy survivors of their ancestor. Presuming exhaustiveness, one too easily ignores interesting argument types such as a priori analogy (appeals to consistency) and conductive or 'balance of consideration' arguments. Both are common within philosophy itself. In past years, these arguments have received more attention from theorists. The question as to whether a priori analogies are deductive has been of some interest, and there have been many accounts, and many doubts expressed, concerning conductive arguments. These types of arguments, one putatively deductive, the other putatively inductive, are discussed in Chapter Four.

It is traditional to divide arguments into two basic types: deductive and inductive. The division is regarded as important, because it is thought that deductive arguments meet standards that inductive arguments do not meet, and that inductive arguments serve epistemic purposes that deductive ones

cannot serve. The theory that there are two and only two kinds of argument, deductive and inductive, may be termed the positivist theory of argument. Where deductivism is monolithic, the positivist theory is dualistic. Theorists long impressed with the force of deductive arguments of course noted the importance of empirical cumulation of data, particularly in scientific work. Recognizing that an entirely deductive account of everyday and scientific knowledge was not plausible, they departed from deductivist rationalism to allow for a second type of argument based on empirical reasoning. The tradition that arguments are either deductive or inductive goes back to Aristotle and was a prominent feature of logical positivism. It fits naturally into a positivist theory of knowledge within which knowledge must come either from logic and mathematics (sources of deductive arguments) or from the empirical sciences (sources of inductive arguments).

1. Versions of the Great Divide

Perhaps because of this venerable tradition, there are several versions of the distinction between deductive arguments and inductive ones. For Aristotle, it was a matter of form. Deductive arguments were syllogistic in nature; inductive ones went from particular premises to universal conclusions. Aristotle's way of putting the distinction is no longer influential today because it is regarded as too narrow. A look through contemporary texts and monographs will produce a number of different versions of the 'inductive/deductive' distinction. These versions differ in two ways. First, they vary in how they explain the content of the distinction. Second, they vary in strategy for applying it – some to arguments directly, some to what is 'claimed' for the connection in an argument, some to arguers' intentions, and some to the standards of appraisal for arguments, rather than to arguments themselves. Here we primarily consider matters of content. In some versions, the two blend together, as will be apparent.

On some accounts, deductive arguments are those in which the premises entail the conclusion, thereby necessitating the truth of the conclusion in any case in which the premises are themselves true. Inductive arguments are those in which the premises, if true, would make it probable that the conclusion is true. Such an account is given in Wesley Salmon's *Logic*. On this view, in a deductive argument:

1. if all the premises are true, the conclusion must also be true, and
2. all the information in the conclusion is already contained – at least implicitly – in the premises.

whereas in an inductive argument,

1. if all the premises are true the conclusion is probably true, but not necessarily true.

and

2. the conclusion contains information not implicitly in the premises.¹

On this version of the distinction, we have a dichotomy of good arguments. Bad arguments would fail to be either deductive or inductive, based on these definitions. If an argument has premises that are irrelevant to the conclusion, or contains an error in deductive reasoning, it will fall in neither category.

A similar account is offered in Robert Neidorf's text, *Deductive Forms*, where the inductive/deductive distinction is stated as follows:

*In an inductive argument, the conclusion probably follows from the premises. In a deductive argument, it certainly follows. An argument which fails as deductive may nevertheless constitute a good inductive argument.*²

Henry Kyburg's distinction in *Probability and Inductive Logic* is essentially similar: the distinction is given in terms of success and bad arguments fall into neither category.³ The account appears to be exhaustive, not for all arguments but for all good arguments. Bad arguments are in limbo.

Another way of drawing the inductive-deductive distinction puts all the bad arguments in the inductive category. On this view, deductive arguments are those in which the premises entail the conclusion. Inductive arguments are all the rest. This version may be adopted for the express purpose of guaranteeing exhaustiveness. Often this intent is made obvious by the replacement of 'inductive' by 'nondeductive', 'nondemonstrative', or 'nonconclusive'. This is the version which Nicholas Rescher must have had in mind when he said: 'an inductive argument is simply an argument whose conclusion outruns the information provided by its premises.'⁴ The scheme was also adopted by Baruch Brody in his text on theoretical and applied logic. Brody defined validity, and discussed deductive arguments and deductive validity. Then, potentially in a departure from the positivist theory, he allowed that arguments which fail to be deductively valid are nevertheless sometimes 'perfectly acceptable' in some other way.⁵

With this approach the category of inductive arguments will be large indeed. It will include all poor arguments, as well as a motley variety of good arguments. All deductive arguments will be valid by definition. (That is to say, there will be no such thing as an invalid deductive argument.) Inductive arguments will include those in which the premises, if true, would make the conclusion probable; those in which the premises are completely irrelevant to the conclusion; all formal and informal fallacies; analogies; inferences to the best explanation; so-called 'good reasons' arguments; and potentially many others. Thus the 'inductive' category will explicitly serve as a leftover category. This way of drawing the distinction will guarantee, by definition, an exhaustive and exclusive dichotomy. The result that there are no invalid deductive arguments will be unsettling to many traditionalists, however, and the inductive category will exhibit little coherence.

On a third view, deductive arguments are those in which *it is claimed* that the premises entail or necessitate the conclusion. Inductive arguments are those in which *it is claimed* that the premises make the conclusion likely or probable. This kind of account is suggested in Max Black's *Encyclopedia of Philosophy* article on induction. Black says:

*The name 'induction', derived from the Latin translation of Aristotle's epagoge, will be used here to cover all cases of nondemonstrative argument in which the truth of the premises, while not entailing the truth of the conclusion purports to be a good reason for belief in it.*⁶

The most important sources for this version of the inductive/deductive distinction are Irving Copi's classic texts. In the fourth edition of *Introduction to Logic*, Copi put it this way:

*Accordingly, we characterize a deductive argument as one whose conclusion is claimed to follow from its premises with absolute necessity, this necessity not being a matter of degree and not depending in any way upon whatever else may be the case. And in sharp contrast we characterize an inductive argument as one whose conclusion is claimed to follow from its premises only with probability, this probability being a matter of degree and dependent upon what else may be the case.*⁷

This version of the inductive-deductive distinction may be the most standard one. It allows for the commonsensical result that there are both valid and invalid deductive arguments and both strong and weak inductive arguments.

The problems with this account begin with the expression ‘*is claimed to*’. When people present arguments, it is often unclear whether logical entailment or merely some less tight support is ‘*claimed*’. Their words often do not suggest one or the other. Furthermore, the expression “is claimed” is ambiguous. One may mean by it that the arguer intends one or the other connection or one may mean that the wording, context, and nature of the argument themselves suggest either a deductive or an inductive goal. Since Copi and others who follow him have not made their distinction explicitly intentional, it seems best to follow the direction of the second interpretation of ‘is claimed’ here.⁸ To see what connection is claimed in an argument, we have to study the nature of that argument itself: the stated premises and conclusion, the context, the indicator words, qualifying or hedging words such as ‘probably’ or ‘in all likelihood’, and the logical relationships that exist between the premises and the conclusion. These are in the argument, not in the intentions and beliefs of the arguer. Given the inscrutability of arguers’ intentions, especially when they are distant or dead, this seems a more promising direction. However, it is not without its difficulties.

To see how problems can arise when we try to apply Copi’s version of the inductive-deductive distinction, we can consider several examples from his own exercises. Here is an argument which Copi takes from Etienne Gilson’s *The Unity of Philosophical Experience*. *Since man is essentially rational, the constant recurrence of metaphysics in the history of human knowledge must have its explanation in the very structure of reason itself.*⁹

The argument here is:

1. Man is essentially rational.

Therefore,

2. The constant recurrence of metaphysics in the history of humans has its explanation in the very structure of reason itself.

One could say that the word ‘must’ provides reason to take the argument as deductive. It seems to be functioning as an inference indicator rather than as a modal term within the conclusion claim. However, the word ‘must’ has empirical inference uses too, as in ‘you must be tired after all that hiking yesterday’. One might, alternatively, think that since Gilson is dealing with an explanation for the recurrence of metaphysics, he is hypothesizing, and that his argument should be taken as inductive, a kind of ‘best explanation’ appeal. It will hardly do to say that since Gilson is a philosopher and writing as a philosopher, the argument must be deductive. The case is not easily classified using Copi’s distinction.

Another perplexing case is the following, which Copi quotes from Adam Smith.

*A gardener who cultivates his own garden with his own hands unites in his own person the three different characters of landlord, farmer, and laborer. His produce, therefore, should pay him the rent of the first, the profit of the second, and the wages of the third.*¹⁰

Copi classifies this argument as deductive on the grounds that it does not appeal to experience to establish what is probably the case, but appeals to principles of equity to prove what should be

the case. (This appeal must be a tacit one.) Principles of equity are presumed here not to come from experience, which has been classically associated with induction. Now, there was no reference to experience in Copi's definition of induction and it is that notion which has been omitted from modern accounts, presumably in the interests of obtaining an exhaustive dichotomy between deduction and induction. What should be at issue, strictly, within Copi's account, is whether conclusiveness is 'claimed' in the argument. The matter of principles of equity has no bearing on this issue: we might appeal to them hesitantly or assuredly; one might cite them to deduce a conclusion about a particular case, or to hypothesis. We can of course make Adam Smith's argument deductively valid by adding three premises:

1. If a person serves the role of a farmer, he should receive the profit of a farmer.
2. If a person serves the role of a landlord, he should receive the rent of a landlord.
3. If a person serves the role of a laborer, he should receive the wages of a laborer.

But the fact that the argument can be supplemented so as to be deductively valid does not show what is 'claimed' when it is unsupplemented. As we have seen, any argument can be supplemented so as to become deductively valid. If that were sufficient to make it 'claim' deductive validity, Copi's view would amount to deductivism. Clearly, that is not his intent, since he seeks to explain a distinction between deductive and inductive arguments.

These difficulties do not arise just because Copi has selected unfortunate examples. The problem is that the inductive/deductive distinction as Copi draws it is difficult to apply to real arguments. Everything depends on what is claimed in the argument about the tightness of the connection between premises and conclusion. This interpretation must somehow be inferred from the wording and the context. But indicators may go in different directions or fail to be present at all. Neither contexts, nor indicator words, nor the logical ordering of claims, nor the nature of the subject provide firm guidance as to what an argument 'claims' about the connection between its premises and its conclusion.

Some years back, readers of the *Informal Logic Newsletter* were treated to a series of critical articles on the viability of the inductive- deductive distinction. Perturbed by the difficulty in applying the distinction to naturally occurring arguments, several writers defended versions of the positivist theory that would transfer the inductive-deductive dichotomy into another domain. Difficulties in applying various versions of the distinction to arguments directly generated suggestions that the distinction must apply elsewhere. One suggestion, put forward by Samuel Fohr, was that the inductive-deductive distinction did not apply to arguments themselves but rather to arguers' intentions and thereby (derivatively) to arguments *as put forward by particular arguers*. Another suggestion was that it applied to the standards by which arguments could be assessed.

Fohr maintained that arguments were not merely sets of statements to be found in textbooks, but rather claims made by persons seeking to justify further claims. On this notion of argument, Smith and Jones might make the same claims, using the same words, but offer different arguments, if their intentions were relevantly different. An explicitly intentional account had been offered earlier by Robert Olson in his text, *Meaning and Argument*. Olson said:

The term 'imply' has a stronger and weaker meaning. In its stronger meaning, the premises of an argument 'imply' a conclusion if and only if they give conclusive evidence for it. In its weaker meaning the premises of an argument

'imply' a conclusion if and only if they give reasonably good but less than conclusive evidence in its favor. If the arguer believes that the premises of an argument necessarily imply the conclusion, the argument is deductive (or necessary). If the arguer believes that the premises of an argument probably imply the conclusion the argument is nondeductive (or probable).¹¹

Fohr endorsed Olson's account, and put his own distinction this way:

If a person intends that his premises necessitate his conclusion, he is giving a deductive argument. If he intends only that his premises render his conclusion probable, he is giving an inductive argument.¹²

We see a shift here from beliefs to intentions. As Fohr was forced to admit, this version of the distinction makes it non-exhaustive. There are many cases in which those who compose arguments intend only that their premises provide support for their conclusion and fail to have any intention regarding necessitation or making probable. The concept of logical necessitation is a philosopher's concept that is difficult to teach to students, and that we cannot expect the bulk of ordinary people to contemplate regularly in their day-to-day lives, even whenever they are offering reasons. Many arguments will fall into limbo so far as this statement of the positivist theory is concerned. As one critic pointed out, the man who tells his wife that she should help him paint the kitchen because she promised to do so is likely to have little idea as to whether he intends to prove his conclusion or merely make it probable. He wants her to help with the painting, and he's telling her why she should do it. In response, Fohr urged that such arguments be assessed according to *both* kinds of standards (those appropriate for induction and those appropriate for deduction) and maintained that ordinary arguers *should* have the required intentions regarding their premises and conclusions.

Fohr's approach would make the philosophical distinction between necessitating and making probable a norm for argumentative intentions. If arguers do not grasp this norm, we have to consider their arguments from both perspectives. However, these arguers should brush up on epistemology and order their intentions to fit our theory of argument.

Another proposal regarding application was stated by Brian Skyrms in *Choice and Chance* and defended in the *Newsletter* interchange by David Hitchcock. It moves the dichotomy from arguments to standards of appraisal.

Skyrms criticizes the intentionalist account in a footnote, saying:

.. this will not do, for arguments do not intend anything. People who advance arguments intend many things. Sometimes they intend for the argument to be deductively valid; sometimes they intend it to be inductively strong; sometimes they intend it to be a clever sophistry; and sometimes they don't know the difference.¹³

The positivist theory of argument, on this version, would say that there are many diverse arguments – some hard to classify – but that there are, broadly speaking, only two types of standards for appraising arguments. These are deductive standards and inductive standards. On this account, the distinction between inductive and deductive is not a distinction between types of argument. Nor is it a distinction between types of intention arguers might have. Rather, it is a distinction between types of standard that may be used for appraising arguments. There are two broad types of standard: deductive standards and inductive standards. Deductive standards are used when we wish to determine whether the premises of an argument entail its conclusion. Inductive standards are used when we wish to determine whether the premises of an argument make its conclusion probable. Skyrms put it this way:

We defined logic as the study of the strength of the evidential link between the premises and conclusions of arguments.

We have seen that there are two different standards against which to evaluate the strength of this link: deductive validity and inductive strength. Corresponding to these two standards are two branches of logic: deductive logic and inductive logic. Deductive logic is concerned with tests for deductive validity – that is, rules for deciding whether or not a given argument is deductively valid – and rules for constructing deductively valid arguments. Inductive logic is concerned with tests for measuring the inductive probability, and hence the inductive strength, of arguments and with rules for constructing inductively strong arguments.

David Hitchcock defended Skyrms' view, saying that the inductive/deductive distinction provides an exhaustive dichotomy of standards of appraisal, rather than an exhaustive dichotomy of types of argument. Hitchcock said that in deductive logic, we are offered a theory of the circumstances in which premises do or do not make it logically impossible for a conclusion to be false given the premises. In inductive logic, we have a theory of the circumstances in which an argument is inductively strong or inductively weak – that is, in which it is more or less probable that its conclusion is true, given that its premise(s) are true. Within each theory there are various types of logic. In deductive logic we have the logic of truth-functional sentence connectives, first-order quantifiers, the logic of identity and so on. Within inductive logic we have the logic of the confirmation and disconfirmation of hypotheses, the logic of analogical arguments, the logic of inferences from sample characteristics to population characteristics, the logic of controlled experiments to prove causal claims, and so on. Then there is the logic of conductive or balance of considerations or good reasons arguments. Possibly there are other standards.¹⁴

Both Skyrms and Hitchcock argue that it is not always easy to decide which sort of standard to apply to a particular argument. For this reason, they believe that it makes more sense to think of a *dichotomy of standards* rather than a *dichotomy of arguments*. There are two puzzling aspects of this view, however. First, we may question why we have a dichotomy of standards, rather than a plurality. This question will certainly strike forcefully if we look at Hitchcock's list for the inductive standards. It is hard to see what analogy, balance-of-considerations reasoning, and the use of controlled experiments to justify causal conclusions will have in common. One suspects that they have been lumped together, seen as involving a common *inductive* standard (whatever that might be) precisely in the interests of getting an exhaustive dichotomy. The account is slightly anomalous, as Hitchcock acknowledged in reply to critics, because one would presume a connection between the articulation of *standards* for appraising the inferences within arguments and the existence of *arguments* to which those standards are appropriately applied. The former should presuppose the latter. The view can be amended to incorporate this point if one says that standards exist and there are arguments to which it is clearly appropriate to apply those standards. But at that point the issue will be whether standards fall broadly into just *two* types: deductive and inductive.¹⁵ Again, the great divide can be questioned. It is reasonable to suppose that we develop standards of one kind or another because there is a substantial group of arguments to which they are appropriately applied.

Among philosophers, the positivist theory of argument seems to be the most popular theory. It is Copi's version which is the most commonly accepted, perhaps due to the influence of his texts over several decades. It is also because this view and it alone allows one to apply the inductive-deductive distinction to all arguments and to have good and poor arguments within each category. Salmon, Neidorf, and Kyburg give a version of the distinction applicable only to good arguments. Black and Rescher state one which allows inductive arguments to be either good or poor, but leaves all deductive ones as valid. Fohr transfer the distinction to intentions, with the result that it cannot be exhaustive after all.

Most who rely on a positivist theory of argument have not articulated a particular version, for it has been ‘common wisdom’ amongst logicians and philosophers. They would hold that the theory is exhaustive, that it applies to arguments (as distinct from intentions or standards) and that it allows for good and poor arguments (inferentially speaking) within each category. These presumptions make Copi’s account the most attractive one.

As we have seen, significant problems arise in applying Copi’s distinction, due mostly to the phrase ‘is claimed to’ in the definition. This phrase does not make explicit reference to the intentions of arguers. A person might use words that, as normally understood, make a claim she did not actually intend to make. The Copi version of the inductive/deductive distinction does not commit us to the tight relationship between the intentions of the arguer and the direction and force of the argument. Rather, it requires that we look at the wording of the argument and try to determine whether the argument as stated is *claiming* a necessary or probabilistic connection between the premises and the conclusion. The difficulty at this point is that indicators may give conflicting signals, or be absent altogether. Hence we are frequently left not knowing whether to classify an argument as deductive or as inductive. We saw problems even with examples that Copi himself selected for exercises. Here is another:

*The peculiar evil of silencing the expression of an opinion is that it is robbing the human race; posterity as well as the existing generation; those who dissent from the opinion still more than those who hold it. If the opinion is right, they are deprived of the opportunity of exchanging error for truth; if wrong, they lose, what is almost as great a benefit, the clearer perception and livelier impression of truth, produced by its collision with error.*¹⁶

In this argument of J. S. Mill’s we may ask whether ‘it is claimed’ that the conclusion follows with absolute necessity from the premises. The conclusion is that suppressing the expression of an opinion always robs the human race especially ‘posterity’ and dissenters. It is quite clear what this conclusion is, and it is also fairly clear as to what premises are stated in defence of it. (Interpreters may dispute as to whether the argument contains unstated premises. But for now it is only the classification of the argument as inductive or deductive on the basis of what ‘is claimed’ that is at issue.) There seems to be no conclusive evidence as to how tightly the conclusion ‘is claimed’ to be related to those premises. One might regard the argument as deductive or as inductive.

Nor is this example unrepresentative. As Skyrms, teachers of informal logic, and a number of writers on the inductive-deductive distinction have noted to their consternation, examples like this are all too easy to find. Consider again:

It is the singular feature of such ethnic explanation (of poverty) that it is all but exclusively confined to conversation. The reputable scholar unhesitatingly adverts to it in casual interchange but rarely if ever puts it in his books or even his lectures. What is wholly plausible in conversation is wholly impermissible in print. There is obviously something odd about an explanation of poverty and well-being that must be so discreetly handled.

Here John Kenneth Galbraith, in a discussion of mass poverty, argues from the absence of ethnic explanations of poverty in print and in lectures to the ‘oddity’ of these explanations of poverty.¹⁷ It is clear what his conclusion and premises are, but unclear what ‘is claimed’ about the relation between them. The word ‘obviously’ indicates that Galbraith confidently believes his conclusion to be true, but does not indicate whether he believes it to be necessitated, or rather made probable, by his premises.

It is no accident that such examples are easy to find. People who argue do (at least implicitly) distinguish conclusions from premises and ‘claim’ that the latter provide reasons for the former. But

they often do not, even implicitly, make claims about what sort of connection is supposed to hold between these premises and their conclusion. A major reason for this is that most arguers have not reflected on the difference between deductive entailment and making probable, and hence would not raise the question about strength of connection as philosophers would like them to raise it. They do not, explicitly or implicitly, 'make claims' about an issue that for them does not arise at all. A further problem is that even if ordinary arguers *did* wish to indicate whether a necessary or probable connection existed, our language provides very few words which would conveniently serve the purpose. (At least, that is true of English.) Indicators such as 'therefore' and 'must' are sometimes urged by textbook authors to indicate deductive arguments, but are also to be found in arguments that tradition would label as non deductive. Given that the notion of deductive entailment and the related notion of 'following with absolute necessity', which Copi uses in his definition, are philosophical constructs, it is not surprising that ordinary language lacks terms that reliably indicate a claim to either sort of connection.

Those who continue to believe that ordinary arguers would do well to master this distinction and learn to observe it should recall that the closely related distinctions of analytic versus synthetic statements, and of necessary versus contingent statements, are contested. It is a commonplace of modern philosophy that these distinctions are difficult to draw with precision. Since Quine's 'Two Dogmas of Empiricism' and Waismann's 'Analytic-Synthetic' series, few philosophers have used these distinctions with confidence. Current analyses of scientific reasoning emphasize the difficulty of classifying terms as either conceptual or observational and the related difficulty in classifying statements as either logical or empirical. Given such acknowledged difficulties, it is a tribute to the sheer force of unanalyzed tradition that the inductive-deductive distinction has remained so prominent as the basis for a theory of argument.

Depending on which version of the positivist theory we are dealing with, we need to find out whether all the information 'in' the conclusion is already 'in' the premises; whether the truth of the premises would make the falsity of the conclusion 'logically impossible'; whether the argument or the arguer 'claims' or 'intends' either of these; and so on. If there are many borderline cases when we try to determine whether statements are analytic or synthetic (or necessary or contingent, or *a priori* or empirical), there will obviously be borderline cases for arguments as well. The question for arguments can be collapsed into the other: we ask whether the associated conditional is empirical or necessary instead of asking whether the argument is deductive or inductive. If the argument is deductively valid, its associated conditional is necessarily true. If it 'claims' deductive validity, it 'claims' that the associated conditional is necessarily true. If its author intends it to be deductively valid, he intends that its associated conditional is necessarily true, and so on.

To illustrate this point, consider the following argument from Thomas Kuhn's early book, *The Copernican Revolution*. Early in his career, Kuhn felt an obligation to defend what was then an unusual practice – combining the history of science with the philosophy of science. He said:

*.. the combination of science and intellectual history is an unusual one. Initially it may therefore seem incongruous. But there can be no intrinsic incongruity. Scientific concepts are ideas and as such they are the subject of intellectual history.*¹⁸

There is a subargument structure here:

1. Scientific concepts are ideas.

So,

2. Scientific concepts are the subject of intellectual history.

Therefore,

3. There is nothing intrinsically incongruous about combining science and intellectual history.

Asking whether this argument is deductively valid is, in effect, asking whether its two associated conditionals are logically necessary. These are 'If scientific concepts are ideas, then scientific concepts are the subject of intellectual history' and 'If scientific concepts are the subject of intellectual history, then there is nothing incongruous about combining science and intellectual history'. Are these statements logically, or necessarily true? It is not clear in either case. The first might be said to assume that all ideas are the subject of intellectual history, and thus not to be necessarily true as stated, on the grounds that it assumes something false. On the other hand, it might be said to assume only that scientific ideas are serious ideas and all serious ideas are the subject of intellectual history, and the claim might be made that these assumed statements are true, perhaps even necessarily true. The matter is arguable. Nor are standards of incongruousness precise. It is by no means easy to work out an answer to the question of whether the second conditional is necessarily true. Probably the most cautious answer is to say that neither conditional is necessarily true. We can see from this example just how directly difficulties with the necessary/ contingent and analytic/synthetic distinctions transfer to the inductive/deductive distinction. If we ask whether Kuhn *intended* either or both conditionals to be interpreted so as to come out as necessarily true, or *claimed implicitly* that either or both were necessarily true, the problem would not be more easily resolved.

To add to these difficulties, there are further problems that appear when we consider the possibility that arguments have unstated premises. As the topic of missing premises is a large and thorny one for any theory of argument, we cannot pose it as a special problem for the positivist theory. However, it augments difficulties of classification because, as we have seen, *any* argument can be reconstructed as a deductively valid argument by suitable addition of premises.¹⁹ Perry Weddle, among others, once urged that such possibilities for reconstruction leave too much indeterminacy in classification. He urged a shift to a monolithic theory as a result. One might urge that if an argument can be reconstructed so as to be deductively valid, this in itself may be seen as a reason to think that the arguer must, in effect, have 'claimed' that his premises (stated and understood or unstated) would lead with absolute necessity to his conclusion. Some who believe that such reconstructions more accurately depict the direction and force of the original argument will see the emerging 'fact' that the reconstructed argument is deductively valid to be a reason for thinking the arguer 'claimed' an absolutely necessary connection. But it is not a good reason.

It is not easy to sort actual arguments into the two positivist categories on the basis of the Copi sort of account which constitutes standard logical wisdom on the part of many philosophers today. That many difficulties arise in applying the distinction cannot be denied. What is debatable is not the existence, but the significance, of these difficulties. The distinction between A's and B's may be important even though there are many items that are borderline cases and might be classified either as A's or as B's. Yet one must acknowledge that application problems do not by themselves show that a distinction is untenable. It is likely that the classifying problems that plague the positivist theory of

argument have their counterparts in other pluralistic theories of argument. We might have to choose between a theory with classifying problems and a monolithic theory. That theory would presumably be deductivism, given that no one doubts that there exist at least some arguments that are deductively valid.

There are almost always several ways of interpreting what people say and write. This point applies to arguments as it does to all other discourse. Any theory of argument allowing for several categories of argument will have to make some allowance for this flexibility in interpretation. Those who adopt the theory will have to develop a policy for borderline cases. The fact that there are many cases that are not easily classified according to the positivist theory does not count conclusively against that theory. If one is convinced that the basic dualism of the theory is built around something fundamental and important, one may attribute the many borderline cases to variations in context, the flexibility of written and spoken language, and the problem of missing premises, and decide to maintain some version of the theory.

The key issue is the nature of this basic dualism. The term 'positivist' is appropriate for the theory of the great divide because that divide owes much of its domination of our thought to the belief, common some decades back, that mathematics-logic and the empirical sciences are the only two sources of human knowledge. The different versions of positivism are all dualistic, though the dualism appears in different places in the various versions. The key common idea is that there is a basic kind of connection between premises and conclusion that is deductive, and there is one other kind of connection. Only one. The deductive side of the dichotomy seems relatively unproblematic. To be satisfied with the positivist theory, however, we have to be satisfied with both sides. Moreover, and most significantly, one has to convince oneself that this dichotomy is exhaustive. The key issue for any version of the positivist theory, is whether there is just one kind of nondeductive connection.

The usual way of describing an inductive connection between premises and conclusion is to say that the premises, if true, make the truth of the conclusion likely or probable. This may be a way of saying only that the premises have some bearing on the conclusion but fail to entail it. If so, no independent understanding of inductive connection is gained. One has simply, in effect, reiterated one's belief that deductive connection is an important thing to understand and negatively defined a second derivative category. To have a good understanding of the dichotomy around which the positivist theory of argument is built, one should have an independent and clear understanding of inductive connection. If the theory is to dichotomize arguments, this understanding should yield a distinction that will be relatively easy to apply and that will exclusively and exhaustively divide arguments into the two types.

The term 'probable', which is often used in defining inductive arguments, is most naturally applied to contexts where we are expressing roughly quantifiable degrees of confidence in empirical statement and where we are willing, in at least a rough sense, to make quantitative judgments. Probability theories deal with the quantitative assessment of confidence or likelihood of some empirical statements, given a prior quantitative assessment of others, based in the final analysis on relative frequencies. If one is to use 'probable' or a related term in order to specify a sense of 'inductive' which will provide a firm basis for a clear and exhaustive 'inductive/deductive' distinction, one need to define the term more broadly. There are many arguments that have conclusions that are non-empirical and in which, nevertheless, the supporting reasoning is, on the face of it, not deductive. (They appear to be *a priori* and yet not deductive.) In such contexts, a standard conception of probability is a poor fit.

Consider arguments of the following types:

- consistency arguments by analogy. In such arguments it is urged that case (a) is relevantly similar to case (b); that case (b) has been treated as such-and-such; and that therefore case (a) should be similarly treated. The conclusion is normative; the reasoning is based on parallel cases.
- arguments of the type that Carl Wellman has called ‘conductive’ and which others have referred to as ‘balance-of-consideration’ or ‘good reasons’ arguments (Baier) or as ‘convergent arguments’ (Thomas). In such arguments, several reasons are cited; these appear to bear independently on the conclusion. All premises may be relevant; none taken alone is likely to be sufficient. Frequently the conclusion is normative; it may also be about an issue of classification or interpretation.
- non-conclusive philosophical arguments. These may be of one of the above types. They are noted separately here in the hope that philosophers will be particularly familiar with the idea that in their own discipline there are often arguments that seem to have some force, yet not to be deductively valid. (For example, the failure of many physicalistic terms to apply naturally to such phenomena as belief and thought *counts against* the mind-brain identity thesis, but how seriously? It does give a reason to think there may be something wrong, or overly-simple, about the thesis. But it does not *entail* its falsehood. Nor would it be natural to say that this linguistic fact makes it ‘improbable’ that the identity thesis is true. The notion of probability does not fit the case well. And obviously, the truth or falsity of the thesis is not straightforwardly empirical.)

p class="import-Normal indent" style="margin-left: 0.7pt; margin-right: 0.5pt; text-indent: 10.05pt;">>There are two themes underlying the idea that an inductive connection is probabilistic rather than necessary. The first is a negative idea: the premises do not necessitate the conclusion. The second is a positive idea: the premises offer some support to the conclusion. This second idea requires clarification; ‘some support’ should not be understood merely as ‘nondeductive support.’ How helpful is it to say that the premises will (if true) make the conclusion *more probable*? I submit that it is not very helpful.

Appeals in this context to the term ‘probable’ are not useful outside contexts where the conclusion is empirical. The reasons we offer for and against normative and conceptual conclusions are not naturally understood as making these more or less *probable*. For example, an argument in which abortion is assimilated to infanticide is not one in which the premises, if true, make it *probable*, or more probable, that abortion is wrong. They provide some reason to think that abortion is wrong. It makes little sense to attach probabilities to normative conclusions of this type.²⁰

If a probabilistic connection is any connection other than a deductive one, then of course consistency arguments, conductive arguments, and many philosophical arguments are based on such a connection. If that connection is allowed to define what an inductive connection is, the inference in question may be said to be inductive. But little understanding is thereby gained.

One may understand probabilistic connection in this broad way. But no information is thereby provided as to what the various inductive arguments have in common. It will not elucidate the category ‘inductive’ so as to yield a balanced dualism in the positivist theory of argument. On this understanding, one has deductive arguments (in which an entailment of conclusion by premises is exemplified, intended, or ‘claimed’) and one has other arguments (in which no entailment is exemplified, intended, or ‘claimed’). The inductive is the ‘other’, about which one has said nothing informative. The broad understanding of probabilistic connection is misleading insofar as concepts of probability are most commonly associated with, and most straightforwardly applicable to, the confirmation of empirical statements by empirical evidence. This association, together with the more

fundamental association between induction and scientific reasoning, has led many to ignore the fact that reasoning that is probabilistic in the broad sense is often not probabilistic in the narrower sense. Non-empirical conclusions may be defended by reasoning that is non deductive in the sense that it does not exemplify (or is not *intended* or *claimed* to exemplify) the connection of logical entailment of conclusion by premises. The shifting between a broad and a narrower sense of 'probable' and related terms makes it too easy to ignore the existence of nondeductive arguments that are primarily non-empirical in character.

In light of these considerations, the basic dualism underlying the positivist theory of argument is not sufficiently clear and compelling to outweigh classificatory problems. Though this is probably the theory of argument most popular among philosophers, and it has a venerable history going back through Hume even to Aristotle, I contend that it is not a satisfactory theory.

The strong philosophical attachment to the positivist theory of argument may be due to two beliefs, both prominent in tradition and both having a firm hold on many. There is first the tradition going back to Aristotle, which maintains that there are two and only two broad types of argument: deductive arguments, which are conclusive, and inductive arguments, which are not. There is secondly the tradition – with the same venerable history – that inductive arguments are the arguments of science: fundamentally induction deals with the empirical confirmation of scientific hypotheses. The problem is not with either of these traditional beliefs but with their conjunction. If one is loyal to both at once, one is led to ignore many arguments common in morality, history, literary interpretation, law, and philosophy.

There are many issues that are neither amenable to techniques of empirical confirmation (not straightforwardly, in any case) nor settled deductively. Inductive logics have dealt primarily with arguments that are classically inductive (enumerative inductive). They may venture occasionally into inferences from correlational data to causal hypotheses, or to the inference-to-the-best-explanation. But generally they fail to include many patterns and style of argument which a naturalistic analysis of discourse would reveal: appeals to authority, arguments from separate reasons, interpretive arguments, *ad hominem* arguments, consistency arguments by analogy, and various other types of philosophical and legal argumentation. In fact, such arguments are rarely systematically studied under any name.

This is the real danger of the great divide in the positivist theory of argument. One sets up the inductive-deductive dichotomy, making it true by definition that all arguments are either deductive or inductive. Then one looks at the work which has in fact been done by logicians. There are systems articulating various aspects of deductive logic and there are systems called 'inductive logic'. The latter deal with sampling, generating empirical hypotheses, causal inference, and so on. One readily comes to believe that the types of arguments covered in these standard systems are all the types there are. But many arguments that are inductive in the broadest sense have not been covered.

This theme has been emphasized by Chaim Perelman and L. Olbrechts-Tyteca.²¹ In their substantial book, *The New Rhetoric*, they offer illustration after illustration of such arguments, castigating logicians and philosophers for having been so mesmerized by the traditional 'inductive/deductive' distinction as to have denied their very existence.

The great divide between deductive and inductive arguments is spurious and theoretically dangerous, because it makes it too easy to ignore the many non deductive arguments which are not classically inductive. Confidence in this spurious dichotomy leads one to false simplicity in classificatory categories and falsely founded problems of justification in philosophy and elsewhere.

Acknowledging the existence and epistemic legitimacy of other types of argument would alter approaches to such problems as the justification of normative and interpretive statements while at the same time enhancing our understanding of natural argumentation.

Notes

1. Wesley Salmon, *Logic*. (Englewood Cliffs, N.J.: Prentice Hall, 1973. Second Edition.)
2. Neidorf, *Deductive Forms*. (New York: Harper and Row, 1967).
3. Henry Kyburg, 'Ordinary Language and Inductive Argument', in *Probability and Inductive Logic*, (New York: Macmillan, 1970), pp. 97-98.
4. Nicholas Rescher, *Plausible Reasoning*, (Assen: Van Gorcum, 1976), pp. 100-101.
5. Baruch Brody, *Logic: Theoretical and Applied* (Englewood Cliffs, N.J.: Prentice Hall, 1973), p.74.
6. *Encyclopedia of Philosophy*, 1967 Edition. Black also notes various narrower senses of 'induction'.
7. Irving Copi, *Introduction to Logic*. (New York: Macmillan, 1972. Fourth Edition.), p. 26.
8. A discussion of the intentional interpretation follows; it should not be attributed to Copi.
9. Cited by Copi, p. 27. No indication is given as to what his own classification of this argument would be.
10. Cited by Copi, p. 27. The answer he suggests is on p. 491.
11. Robert G. Olson, *Meaning and Argument* (New York: Harcourt, Brace, and World, 1975), p. 175. Olson distinguishes simple enumerative induction from induction in the broad sense in which every nondemonstrative argument is deemed to be inductive.
12. Samuel D. Fohr, 'The Inductive-Deductive Distinction', *Informal Logic Newsletter*, vol. ii, 2. See also my 'More on Inductive and Deductive Arguments', in *Informal Logical Newsletter*, vol. ii, 3 and David Hitchcock's 'Deductive and Inductive': Types of Validity, not Types of Argument', *Informal Logic Newsletter*, vol. ii, 3.
13. Brian Skyrms, *Choice and Chance* (Encino, Calif.: Dickenson, 1975. Second Edition.), pp. 11-13.
14. David Hitchcock, 'Deductive and Inductive: Types of Validity, not Types of Argument'.
15. See Hitchcock 'Deduction, Induction, and Conduction', in *Informal Logic Newsletter* iii, 2, pp. 7-15 and my 'Assessing Arguments: What Range of Standards?', *Informal Logic Newsletter* iii, 1, pp. 2-4. I have profited from a subsequent informal discussion with Hitchcock about this point.
16. Mill, 'On Liberty', in *The Utilitarians* (New York: Doubleday 1960), p. 4.
17. John Kenneth Galbraith, *The Nature of Mass Poverty* (Cambridge, Mass.: Harvard University Press, 1979), pp. 14-15.

18. Thomas Kuhn, *The Copernican Revolution* (Cambridge, Mass.: Harvard University Press, 1957), p. vii.
19. See Perry Weddle, 'Inductive, Deductive', *Informal Logic Newsletter* ii, 1, pp. 1-5, and 'Good Grief: More on Induction, Deduction', *Informal Logic Newsletter* iii, 1, pp. 10-13.
20. Compare my comments in 'Assessing Arguments: What Range of Standards?' and remarks by David Hitchcock in 'Deduction, Induction, and Conduction'.
21. Ch. Perelman and L. Olbrechts-Tyteca, *The New Rhetoric: A Treatise on Argumentation*, (Notre Dame: University of Notre Dame Press, 1969. Translated from French by John Wilkinson and Peircell Weaver.)

CHAPTER 4.

TWO UNRECEIVED VIEWS ABOUT REASONING AND ARGUMENT

My interest in these topics continues to this day, and I have written and commented further on both of them. I remain grateful to John Wisdom for permitting me to read his lectures on explanation and proof, popularly known as the Virginia Lectures, and to Roger Shiner for loaning me his copy of that fascinating material. The doctoral work of Jerome Bickenbach and the summary provided by Renford Bambrough were also helpful and should remain of interest to scholars. The topic of analogical arguments has been of interest to others, notably Marcello Guarini and Lilian Bermejo-Luque and their students.

The question of whether a priori analogies should be considered as distinct from deductive arguments also remains of interest; I sense some consensus in favour of an affirmative answer to that question. In any analogy the target case (topic in question) and the analogue are both similar and different. Assessment of an argument based on analogy presupposes awareness of those similarities and differences, and hinges mainly on the issue of their significance (in support, or in objection) to the conclusion claim. Reconstructing those arguments with a universal claim regarded as a missing premise remains a temptation for analysts and theorists. It is a temptation I would still resist, for reasons given here. Of course reconstructing by adding a universal missing premise is not the only way of rendering a priori analogies deductively valid; one can take a modus ponens approach using the associated conditional.

Clearly, if one thinks that a priori analogies are not deductive arguments, one presumes a distinction between the a priori and the deductive. One might say that a question is a priori if it is to be resolved by considerations of concepts, criteria, meaning, and significance; accordingly a style of argument would be a priori if these features characterize it. When we ask whether a priori analogies are deductive arguments, we need to ask what sort of argument counts as deductive. The matter is problematic. One might say that an argument is deductive if the truth of its premises render the falsity of its conclusion impossible or if the arguer intends that to be the case. On such a definition, it is clear that the a priori and the deductive may be distinguished. (Of course Kant thought so long ago, for different reasons.) Given these conceptions of the a priori on the one hand and the deductive on the other, I continue to maintain that a priori analogies are not deductive.

John Wisdom argued that due to its role in settling questions about the application of words, case-by-case reasoning was more fundamental for human thought than either deduction or induction. So far as I am aware, that challenging hypothesis has not been seriously studied.

*Carl Wellman's ideas about conductive argument received little attention for many years, but have recently been subject to sustained discussion and criticism. My own developments of Wellman's ideas have been part of that picture. A key volume, resulting from a Windsor conference is *Conductive Arguments: An Overlooked Type of Defeasible Reasoning*, edited by Ralph Johnson and J. Anthony Blair. Topics considered in recent discussions include the convergent/linked distinction, ways of diagramming the structure of conductive*

argument, the role of counter-considerations in argument, the distinction between counter-considerations and objections, and the appropriacy of such language as 'weighing' and 'balancing' in considering the significance of cumulating factors. In his work *The Concept of Argument*, Harald Wohlrapp argues that the pros and cons of conductive argument can better be understood as stages in an ongoing discussion, so that in a process (as distinct from product) model of argument, the category 'conductive' will disappear.

It is quite possible that a priori analogies and conductive arguments are not the only types of arguments ignored because of the misleading and spurious exhaustiveness of the inductive/deductive distinction. If 'inductive' is so broadly defined that every non-deductive argument counts as inductive, the inductive category will include a large variety of argument types. For example, it is common to think of abductive arguments as inductive. Abductive arguments have not been ignored by theorists, a fact that may be due to their importance in scientific reasoning. A close study of a variety of works inside and outside philosophy might well reveal other candidates that are neither deductive nor empirically inductive in nature. I suspect it would. Perelman and Olbrechts-Tyteca's *The New Rhetoric* could serve as an excellent starting point in the quest for examples.

The prevailing theories of argument among philosophers seem to be deductivism and positivism. Of course there have been dissenters from these views. Some dissenters, such as Wittgenstein, Toulmin, and Perelman, were people of considerable professional prominence. Despite this, their views on argument have not greatly influenced thinking about logic and argument.

Among dissenting views on reasoning and argument, two are of particular interest. The first is that of John Wisdom, elaborated most completely in the unpublished lectures 'Explanation and Proof', presented at the University of Virginia in 1957, and commonly known as the Virginia Lectures. In these lectures, Wisdom described what he called 'case-by-case reasoning' or 'reasoning by parallels'.¹ He argued that it was a nondeductive, noninductive, type of reasoning which was, in fact, more basic than either deduction or induction. The second neglected, but interesting, view is that of Carl Wellman, articulated in 1971 in *Challenge and Response: Justification in Ethics*.² Like Wisdom, Wellman challenged the prevailing belief that arguments are either inductive or deductive. He defined a third category which he called 'conductive', in which distinct, separately relevant factors are cited to support a conclusion. Wellman was concerned to show the relevance of conductive arguments to issues about the justification of moral beliefs; however his account has broader application as well as this single important one.

Although case-by-case reasoning and conductive reasoning are not the same, they fit into a similar gap in the theory of argument and may have been widely ignored by philosophers for similar reasons. Both fail to supply deductive support to conclusions and yet are frequently used in *a priori* contexts to resolve issues that are conceptual, philosophical, normative, or in some other sense nonempirical. In addition, both seem recalcitrant to treatment by general rules. Case-by-case reasoning depends on specific similarities and differences between individual cases. These cases have to be compared and 'seen' as such, rather than handled by covering generalizations. Conductive reasoning depends fundamentally on judgments of positive and negative relevance and on how these separately relevant pro and con factors are significant when considered in the balance.

1. Wisdom's Virginia Lectures

John Wisdom's Virginia Lectures offer a sustained elaboration and defence of a view which he applied and formulated more briefly in some of his published work. The lectures are conveniently and accurately summarized in a paper by D. Yalden-Thomas, available in a collection of essays on

Wisdom's philosophy. They were the subject of several doctoral dissertations in the late nineteen fifties and of a thorough analysis in a 1977 doctoral dissertation by Jerome Bickenbach. To some extent, Wisdom's views have been promulgated by his former students and colleagues: several works on meta-philosophy and meta-ethics, including Renford Bambrough's *Moral Scepticism and Moral Knowledge*. Stephen Barker's *Elements of Logic* shows Wisdom's influence, particularly in footnotes and cautionary comments in the third edition. Barker was in the audience in Virginia, and some of his questions and comments appear in the typescript of the lectures.³ On the whole, however, Wisdom's views have had little influence on those who reflect on the nature and types of argument.⁴ Even a recent paper concerned to defend analogy as a distinct form of inference and referring to a wide variety of sources neglects Wisdom's view.

According to Wisdom, the most basic, primary, kind of reasoning is case-by-case reasoning. This reasoning is used, either explicitly or implicitly, in order to show that a word is properly applied to a particular case. Since both deduction and induction presume the proper application of words to particular instances, any kind of reasoning which is a prerequisite of doing this can lay claim to 'most basic' status. Examples of instances where issues of correct application of a term arise are whether a pattern of behavior amounts to *negligence*; whether the Jews constitute a *nation*; and whether a trailer that has been fixed in one position is still a *mobile home*. There may be important disputes in such cases and there is a rational way to resolve them. We find an instance which is clearly a case of negligence, nationhood, being a mobile home, or whatever, and we closely compare and contrast that instance with the unresolved one. The only way to show that terms have been correctly applied is to reason from agreed instances of their correct application. In this way, we can argue for a conclusion on the point. Case-by-case reasoning is a species of argument from analogy.

Wisdom considered four sorts of contexts in which case-by-case reasoning is necessary: where we need to resort to comparison with a paradigm; where we are evaluating 'paradoxical' statements such as those commonly made in metaphysics; where we are trying to resolve borderline cases; and where criteria are not sufficiently explicit to bring out correct standards of applicability in a process of deduction. The second context here is tied to metaphilosophical disputes in the forties and fifties, and merits some explanatory comment. Wisdom had in mind such claims as 'nothing is really solid'. His concern was to show that reasons could be offered for and against such metaphysical statements, and that they were not meaningless as positivists had maintained but were, rather, significant statements — though not about either matters of fact or matters of verbal usage.

Questions about the correct application of such terms as 'solid', 'negligence', 'nation', 'race', 'solvent', and many others are not purely verbal: they may have profound legal, political, moral, or psychological significance. Wisdom had an ingenious way of contrasting purely verbal disputes with significant conceptual ones. He claimed that if two people have a purely verbal dispute, their disagreement could be explained by the way in which they have used words in the past. Their past usage would be divergent. However, in a case where two people are disagreeing on a significant conceptual issue, such as whether anything is really solid, in the light of particle physics, this disagreement is not necessarily reflected in differences as to how they have previously applied the term. Rather, it is a difference as to the correct decision about how the term should be used in the future, in the light of significant new data. Nor is the difference between them a factual one, for it will not be resolved by future observations. In an inductive argument, we reason to a conclusion that can, in principle, be determined in some other context to be true or false on the basis of empirical observation. But here, the issue is one that requires *decision* as distinct from *prediction*.

Where some authors have contrasted *a priori* and inductive analogy, Wisdom tends to use 'analogy' to refer to inductive analogy and to call what others term '*a priori* analogy' case-by-case reasoning. The difference as he understands it is that in standard, or inductive, analogy we support a prediction about a case by comparing it with an actual known case. (For example, one might seek to predict the effects of cyclamate on humans by comparing humans at a certain dosage with rats at what would be a comparable dosage for them. Or one might seek the correct diagnosis of symptoms in one patient by comparing her with another patient known to have had a specific disease.) In such cases, we use actual instances to predict unknown ones, and future experience will show whether we are right or wrong.

1a. A Priori Analogy

With Wisdom's case-by-case reasoning (or *a priori* analogy) it does not matter whether the instance used as a basis for comparison is actual or hypothetical, and the reasoning issues in a decision, not a prediction. Consider, for instance, Judith Thompson's famous analogy between the woman carrying an unwanted fetus and the person who unexpectedly finds herself hooked up to a dying violinist.⁵ The analogue is obviously hypothetical, but this fact does not affect the merits of the argument. Thompson is arguing that the two cases are relevantly similar, so if we grant that there is no obligation to restrict one's activities to support the life of the violinist, we ought, in consistency, to believe there is no obligation for the unexpectedly and unwillingly pregnant woman to adapt her activities so as to support the life of the fetus. In case-by-case reasoning, as contrasted with inductive analogy, there is no way of taking further measures to find out by empirical observation whether the parallelism suggested here is or is not the case.

In his systematic study of Wisdom's theory, Bickenbach referred to case-by-case reasoning as 'reflective reasoning', following Wisdom's emphasis. In the present discussion the terms '*a priori* analogy' and 'logical analogy' are used. Because there is reasoning that goes from one case to another and that is inductive, the expression 'case-by-case reasoning' does not quite serve to pick out the kind of reasoning Wisdom was dealing with: it is too broad. So too is the concept of reflection.

The thrust that underlies logical analogies is that of consistency – not the consistency required in order to avoid assenting to contradictory propositions, but rather, the consistency required for consistent behavior. This is the consistency of treating relevantly similar cases similarly. It is inconsistent to say that all men are poor listeners while admitting that John and Fred, both men, are good listeners. It is, in another and equally important sense, inconsistent to treat relevantly similar cases differently. If one organism is regarded as alive and another as not alive, there must be a relevant difference between them, at pain of inconsistency. If one man is given three years for theft and another three months, there must be a relevant difference between them, or else the law is inconsistently (and unjustly) administered. Logical analogy focuses on similarities between cases, and arguments based on such analogies urge us to make a decision on a case based on the consideration of a closely similar one. We are pushed to do so by considerations of consistency: similar treatment for similar cases.

The negative use of logical analogy is found in the technique of refuting arguments by citing parallel flawed arguments. If two arguments are fundamentally similar as to structure, and the first is flawed, the second is flawed also. To regard one of the arguments as cogent and the other as not cogent would be to make decisions inconsistently. This is a familiar use of logical analogy. Wisdom, in his lectures, emphasized the philosophical, moral, and legal contexts in which such reasoning

is ubiquitous and necessary. The appeal to consistency is also extremely important in law, moral reasoning, and administration.

When he gave the Virginia Lectures, Wisdom seems to have been more interested in reasoning and epistemology – particularly the epistemology of philosophy itself – than he was in argument as such. Nevertheless, it is clear that he thought that case-by-case reasoning was not only a distinct and important type of reasoning but was the basis for a distinct and important type of argument. Any temptation to remodel logical or inductive analogies into deductive or inductive arguments should be resisted, because the type of reasoning such arguments employ is not only a distinct and quite proper type of reasoning but is, in fact, more fundamental than the alternative to which it is to be ‘reduced’. Arguments based on appeals to cases are not reducible to arguments of some other type.

As with other nondeductive arguments, *a priori* and inductive analogies can be recast as deductively valid arguments, if we are willing to add general premises of a sufficiently sweeping nature. Consider any analogy:

1. (1) Case x has features a,b,c.
2. (2) Case y has features a,b,c.
3. (3) Case x is of type e.
Therefore,
4. (4) Case y is of type e.

One might regard such an argument as elliptical, insisting that cases (x) and (y) must both be subsumed under the appropriate generalization. Thus:

1. Case x has features a,b,c.
2. Case y has features a,b,c.
3. Case x is of type e.
Missing Premise: All things which have features a,b,c, are of type e.
Therefore,
4. Case y is of type e.

But there are significant objections to such an approach.

The added premise makes two of the stated premises redundant as far as the logic of the inference is concerned. If we know that all things with a,b,c, are of type e, then we can apply that universal statement to case (y) directly. We have no need for premises (1) and (3), which cite information about case (x). The comparison of cases is unnecessary. The supplementation makes the key premises which describe the analogy redundant. In effect, the reconstructed argument ceases to be an analogy. A particular (case y) is simply subsumed under a generalization. The analogy has been destroyed, not recast.

In defense of this enthymematic approach to analogy, one might seek to incorporate case (x) into the argument in a purely psychological way, saying that it serves to remind us of the general truth under which case (y) is subsumed. This suggestion still leaves the conclusion that there are no inferences-by-

analogy: analogy is purely a psychological crutch. In fact, this view has been taken seriously by some authors of logic textbooks, including Susan Stebbing and Monroe Beardsley.⁶ Nevertheless, given that the generalization must bear the whole weight of the argument, it is rather unsatisfactory to have to admit that a subsumed particular case is psychologically necessary in order for us to remember what that generalization is. We may ask why the generalization is not more directly accessible, if it is known. And the word 'if' should be taken seriously here.

The requisite generalization is typically not known and this, indeed, is usually the primary reason for appealing to analogy in the first place. We do compare cases as such, and we can do this in the absence of a known generalization. As W.H. Shaw and L.R. Ashley point out in their article on analogical inference, much familiar reasoning involves the direct comparison of cases without appeal to an intermediate generalization. Ashley and Shaw say:

Alternatively, consider the rich employment of analogies in contemporary ethical writing. Where is the implicit enumerative induction? We do not perform inductions about lifeboat situations, kidnapped kidney donors, trapped spelunkers, out of-control locomotives, or any of the other bizarre cases which moral philosophers spend their time inventing, when we reason analogically from them to the moral situation actually facing us.⁷

Usually, to supplement analogies with universal statements is to distort their logical character and weaken them epistemically: in most cases, those universal statements will not be known. In fact, even to formulate them is often a challenge.

If we knew, somehow, that all reasoning had to be deductive, we would have grounds for insisting that such reconstruction of *a priori* analogies is necessary. But we do not know this, and we have no such basis. Analogies are, and should be, appraised not by formulating and criticizing generalizations, but by careful consideration of the relevant similarities and differences between the cases considered. This point holds for both *a priori* and inductive analogies. (Wisdom, as explained, was emphasizing the former over the latter.)

In *Moral Scepticism and Moral Knowledge*, Renford Bambrough defends Wisdom's claim that reasoning about cases is logically prior to reasoning by the application of universal claims or rules. If a case is to be settled, and we try to settle it by deducing a conclusion from a universal rule, the epistemological problem is that the universal rule already includes a resolution of this case. Bambrough says:

Once we are convinced that there will be no exceptions we may state our conclusion in the form of an exceptionless rule, but such a rule cannot be the fundamental ground upon which we accept a conclusion about one of its own instances. Whatever is to provide us with grounds for a conclusion about this instance of an argument in this form must take the form of considering other arguments, other instances. A rule will not do the work, for a rule cannot refer to the others without referring to this one as well. It does not compete, but simply awards itself the prize.⁸

Here, Bambrough turns the tables on those who would make individual judgments about cases dependent on universal or general rules. He sees general rules as arbitrary considered simply in themselves and as gaining their credibility (implicitly or explicitly) from their correct application to instances. On this analysis, Bambrough follows Wisdom in thinking that cases can stand alone. Mill, Moore, and Wittgenstein also accepted this. But it is a minority position in philosophy. Philosophers have usually been inclined to have universal principles stand alone as 'self-evident' logical or moral truths.

1b. The Universal and the Particular

The issue raised here is whether the universal or the particular is logically prior. We may say, with Wisdom, Moore, and Bambrough, that nothing can have greater force than a clearly understood particular case, and that what universal truths we know are in one way or another derived from our knowledge of such cases. Or, as is more common in a generalizing and theorizing discipline, we may regard particular cases as epistemically incomplete, as being mere expressions of intuition or common sense unless 'grounded' in universal principles. In fact, this general issue itself may be stated in a way that is too insensitive to particulars. Perhaps the truth is that what is epistemically prior varies from case to case and from context to context. But at the very least we can find in Wisdom and Bambrough, as in Mill, Moore, and Wittgenstein a useful, reminder that arguments from universal premises are not without their epistemic problems.

Despite their insistence that analogical inference is a distinct type, Shaw and Ashley take the opposite view to Wisdom's about particulars and universals. They see the general as more fundamental than the particular and urge that a full understanding of relevance and irrelevance depends on background theory. On their account, a full understanding of the cases compared in an analogy will ultimately require a background theory, in which we are told *why* certain features a,b,c are relevant to the judgment that cases x and y are of type e. Shaw and Ashley allow that analogies, both *a priori* and inductive, constitute a distinct type of argument. They acknowledge the epistemic difficulty of formulating and knowing the requisite generalization for remodelling the arguments. And yet they see the appeals to relevant similarities on which analogies depend are theoretically incomplete.

Consistency is a basic constraint on human reasoning, and we must at the very least judge similar situations similarly even in the absence of a clear notion of relevance, the resemblance of two situations provides some warrant for the inference that what is right in one case is right in the other. But this may be thought to beg the question. Do we not need a theory to designate the relevant and irrelevant similarities? Ultimately yes. But in the meantime we have, prior to any particular normative theory, a perception of two situations as similar, and this is enough (along with our commitment to consistency) to provide some intrinsic plausibility to the analogical move.⁹

Wisdom would have regarded such a view as symptomatic of 'Euclid's disease', an ailment he and Wittgenstein diagnosed in those who disparage particular cases and regard universal knowledge, by 'criterion' or general reason, as the only knowledge. He saw judgments about the relevance and significance of features of individual cases and resemblances between those features of cases as being ultimate, and as not requiring or being amenable to further justification by appeal to anything more basic. According to the manuscript of the Virginia Lectures, Barker asked Wisdom why it was that the particular case always had more epistemic force than a universal that might be cited in support. In raising that question, Barker suggested that each might have force and, in some context, require revision of the other. Barker, in effect, anticipated a version of Rawls' influential view that we seek 'reflective equilibrium' between theoretical principles and nontheoretical judgments about particular cases. In response, Wisdom reiterated the predominance of the particular as a ground for generalization, saying:

What most plainly presents the data on which the rest is based is the argument from particulars to particulars.¹⁰

Following Wisdom, Bickenbach contended that a major symptom of Euclid's disease is the belief that systematization is a precondition for genuine or complete understanding.¹¹

Whether the judgments about the relevance of various similarities and differences that underlie our evaluation of analogies are in some ultimate sense theory-dependent is a broad philosophical issue that cannot be resolved here. The notion of reflective equilibrium between theoretical and case judgments has been applied by Goodman to deductive and inductive logic and by Rawls and others to ethical and political theory. It requires that both particular judgments about cases and theoretical principles have some initial credibility. Sometimes it is reasonable for us to revise our pre-theoretical judgments about individual cases on the basis of principles; sometimes, we seek to build up theoretical principles on the bases of knowledge of cases. We may revise principles if they do not fit our judgments about particulars that would be subsumed under them. We may also revise our judgments about cases according to principles that we have accepted. Thus principles and case-based judgments must each be adjusted in the light of the other.¹²

Even if the disputable view that the general is always logically prior to the particular were to be true, the pertinent background theories often do not yet exist. In the meantime, it is clear that analogies, both *a priori* and inductive, have a real epistemic use.

Hume's *Dialogues on Natural Religion* contain many vivid illustrations of arguments of this type. Consider, for instance, this example:

*The Brahmins assert that the world arose from an infinite spider, who spun this whole complicated mass from his bowels, and annihilates afterwards the whole or any part of it, by absorbing it again and resolving it into his own essence. Here is a species of cosmogony which appears to us ridiculous because a spider is a little contemptible animal whose operations we are never likely to take for a model of the whole universe. But still, here is a new species of analogy, even in our globe. And were there a planet wholly inhabited by spiders (which is very possible), this inference would there appear as natural and irrefragable as that which in our planet ascribes the origin of all things to design and orderly system and intelligence, as explained by Cleanthes. Why an orderly system may not be spun from the belly as well as the brain, it will be difficult for him to give a satisfactory reason.*¹³

This argument is an *a priori* analogy between two arguments; the spider's argument that the world has been spun from the bowels of an infinite spider is compared to the human's argument that the world has been designed by an infinitely expanded human mind. Hume invites us to see the second argument as being as ridiculous as the first.

Apart from Hume, other prime philosophical sources for *a priori* analogies include Robert Nozick's *Anarchy, State, and Utopia*, and Stanley Cavell's *The Claim of Reason*. Given that this technique of arguing is common among philosophers, it is surprising that it has not received more attention from theorists.

Such analogies are common, not only in philosophical thinking about moral problems, but in ordinary non-philosophical thinking as well. Nor is this kind of reasoning restricted to the moral realm. It is also used in conceptual and interpretive contexts, by philosophers and others. Consistency reasoning is prominent in law, especially in the common law system where cases may be resolved by appeals to precedent. Even where there are explicit statutes, constituent terms are interpreted according to their prior application to cases. The core of legal reasoning is, as Wisdom noted, case by case. The appraisal of such reasoning requires careful attention to the similarities and differences between the cases, and a judgment as to how relevant these similarities and differences are to the decision at hand.

A type of argument of obvious prominence and importance has been widely ignored by theorists. Probably this is due to the fact that it is less prominent in science and in mathematics than in moral

life, law, administration, criticism, and philosophy. Philosophers have tended to construct theories of knowledge and argument as though positivism were true.

Case-by-case reasoning as Wisdom describes it is not itself amenable to extensive theoretical analysis. Case-by-case reasoning is recalcitrant to treatment by general rules, because we cannot say in general what cases are going to be similar and why. This may lead us to think that endorsing it will lead inevitably to scepticism or relativism. But no such consequences follow.

In isolation from information about which cases are at issue and why they are being compared, what may be said? One possibility is to explore further cases. If two cases are deemed to possess feature *e* in virtue of other features *a,b,c* then that implies that the features *a,b,c* function to establish *e*, *other things being equal*. This relationship should hold in general. If we find a third case in which the relationship does not hold, we then must seek further to see how that case might undermine the basis of the analogy. It might turn out that the new case differs from the original analogue with respect to some feature *f* and that it is *f* which undermines *e*. If so, the original analogy tacitly depended on the two compared cases both lacking feature *f*. By a close examination of relevantly similar and relevantly different cases, we can rationally adjudicate differences of belief as to whether comparisons are apt and whether particular similarities and differences are significant.

It is an open question as to whether we can set out a general 'logic' for appraising *a priori* analogies. Wisdom and others following him tend to write as though this could not be done. Their opinion has probably been shared by systematic logicians, who have always found analogy less interesting than deductive reasoning and empirical inductive reasoning. Whether a set of rules for the comparing and contrasting of cases can be devised remains to be seen. But even if it cannot, this would not entail that case-by-case reasoning fails to exist at all. Whether or not such reasoning is recalcitrant to systematization, it is real.

My point, like Wisdom's, is not merely descriptive. It is normative as well. Case-by-case arguments, or *a priori* analogies, are both real and epistemically legitimate. I would urge that some such arguments are good ones and can establish a conclusion. Though rules may not exist to resolve disputes about the merits of these arguments, there remains room for rational debate and reasonable resolution. Similarities and differences can be pointed out, and the significance of these can be rationally discussed.

To the Euclidean theorist who is not satisfied with such a response, we can reply by turning the tables. Rules and generalizations do not stand independently. They themselves ultimately require justification, and in the final analysis will receive it from their application to cases.

2. Carl Wellman and the Concept of Conductive Argument

Do philosophers prove by chains of demonstrative reasoning what they wish to say or without attempting to support in any way one thing by another, just set out the self-evident or what appears to them self-evident? This question gives one a queer feeling because one wants to answer that they do both and neither ... It is true that, when we read, for example, Hume's appendix on the analysis of right and good or Broad on theories of the nature of matter, we find that a number of what Mill might call 'considerations capable of influencing the intellect' are advanced. But they are not connected chainwise. They bear independently upon the issue.¹⁴

Carl Wellman's *Challenge and Response* was ostensibly about meta-ethics, but in fact dealt largely with the subject of justification in general. Wellman devoted much time and care to discussing the question 'What is justification?', and had some rather unorthodox things to say in reply. He summed up his view as follows:

... justification is to be understood essentially as a process of responding to challenges made. It may be observed and described as a psychological struggle in which one person tries to force another to back down, or one person struggles to come to terms with his own doubts and conflicting convictions. But it is more than a psychological struggle because at its core are certain critical claims to truth, validity, to be upsetting, to be reassuring, and to be adequate. Therefore the actual outcome of any particular psychological struggle never settles once and for all the issues being fought over in the process of justification. It is this peculiar ambivalence of justification that enables what we actually do in discussion and thinking to serve as a test of critical ideas like truth, validity, and being justified.¹⁵

Much justification proceeds by argument and Wellman said some interesting and unusual things about arguments in his book.

Wellman argued that the inductive/deductive dichotomy is not exhaustive and that there is at least one other type of argument, which he termed 'conductive'. Wellman's definitions of 'deductive' and 'inductive' are somewhat unusual. He defines deduction much as Copi does: a deductive argument is one in which the claim is made that the conclusion follows necessarily from the premises. In ethics, which is his primary concern, Wellman associates deduction with deriving conclusions about cases by subsuming the cases under general principles. Induction according to Wellman, is that sort of reasoning by which a hypothesis is confirmed or disconfirmed by establishing the truth or falsity of its implications. Conduction, a third type of reasoning, is distinct from both deduction and induction, being that sort of reasoning in which (1) a conclusion about some individual case (2) is drawn nonconclusively (3) from one or more premises about the same case (4) without any appeal to other cases. In conductive reasoning where there are several supporting premises, we draw together these *independently relevant* factors to support a conclusion. A conductive argument, then, depends crucially upon the concept of relevance. It differs from a deductive argument because the factors cited do not entail, and are not put forward as being sufficient for, the conclusion stated. It differs from an inductive argument in that it is not a case of confirming or disconfirming hypotheses by instances and in that (typically) separately relevant reasons are cited in support of a normative, conceptual, or philosophical conclusion. The issue is frequently not empirical.

Wellman sought to establish this third category of argument in order to show that there is more flexibility than most of us suppose in the matter of justifying conclusions. He was especially concerned to combat the common view that justification in ethics must be a matter of deriving particular conclusions from universal or general principles. On Wellman's account there are at least three different types of ethical reasoning, all of which are used to justify conclusions about what we should do. First, we may deduce such conclusions from general principles, in cases where we are certain enough of such principles to use them in this way. Second, we may confirm or disconfirm general hypotheses using judgments about particular instances, thus reasoning inductively in Wellman's sense. Third, we may support a conclusion about a particular problem by citing a fact or several facts that are nonconclusively relevant to it.

Suppose one says, 'You ought to take your son to the movie because you promised to do so, it is a good movie, and you have nothing better to do this afternoon'. One is reasoning conductively to a conclusion about what to do.

Wellman's discussion may appear less generally interesting than it is due to his contestable accounts of deduction and induction. There are problems with defining deductive arguments in terms of 'claim to necessary connection'; in many arguments there is just nothing to indicate whether such a connection is claimed or not. Furthermore, Wellman unnecessarily limits himself to deduction from the universal to the particular. Obviously, there are other forms of deduction. Then again, Wellman's

definition of 'induction' is highly idiosyncratic, as he recognizes himself. One might maintain that it is useful to have an account which allows for induction in *a priori* contexts. A problem arises because many *modus tollens* arguments, which are deductively valid, will count as inductive in Wellman's sense. Consider, 'If all my students are computer science majors, then since Joe is my student Joe will be a computer science major. But Joe is not a computer science major. Therefore the hypothesis that all my students are computer science majors is incorrect' is an argument in which a hypothesis is disconfirmed by an instance. It is inductive according to Wellman's definition. But obviously it is deductively valid. And it could be claimed to be deductive in Wellman's sense too – it can easily be regarded as 'claiming' deductive validity. Wellman's notion of induction is too broad because it will include some deductively valid arguments to count as inductive. But it is also too narrow, given that causal reasoning, reasoning to the best explanation, and reasoning from generalizations based on past experience to a future case will not count as inductive in this sense. These results are highly (and unnecessarily) counter-intuitive. With such an unorthodox concept of 'induction' the claim that there is a distinct type of non-deductive and non-inductive reasoning may appear to be no more than the result of an unorthodox classificatory system.

As Wellman noted, but did not emphasize, conductive reasoning is not restricted to ethical contexts. It is common in contexts where we are trying to reach a decision about a classificatory issue, in interpretive contexts, and in contexts of philosophy and theory. Arguments that are conductive typically bring forward several relevant factors in the premises. It may happen that only one non-conclusively relevant factor is cited; in this case, the difference between the conductive argument and a deductive one is that the factor is not sufficient and other factors, not mentioned, could have been mentioned to count as well.

Also, conductive argumentation is a favoured context for 'pros' and 'cons' in arguing. We may allow that there are factors relevant to the conclusion that count against it, mention these in the argument, and then cite supportive factors for the conclusion. We judge, and ask our audience to judge, that the supportive factors outweigh the counter considerations.

Consider, for example, the following interpretive argument:

Hume is not a sceptic, for although he argues that our basic beliefs are not rationally justified, he rails against classical sceptics, and he maintains that we are as much determined to believe as we are to think and feel.

This is a conductive argument of the 'pro and con' type. One factor is cited which would count towards Hume being a sceptic, and two other factors are cited which would count against that view. The latter two factors are deemed to outweigh the first one so that the argument overall presents good reason to believe that Hume is a sceptic. Much actual reasoning seems to involve this kind of consideration of pros and cons, and estimating or 'summing up' their collective significance. A conductive argument may be the product of such reasoning about pros and cons. It will typically involve the specification of several such factors and adduce a conclusion on the basis of what the arguer takes to be their cumulative force. Such arguments had been tacitly recognized by other writers.

2a. Related Views

Kurt Baier's emphasis on 'good reasons' arguments in ethics is one case in point. In *The Moral Point of View*, first published in 1958, Kurt Baier described the variety of reasons available to justify moral conclusions, and seems to have had something like conductive arguments in mind. He said:

*To say that a certain fact is a consideration, a pro or a con, is to say that this fact gives rise to a presumption, namely, that the agent ought or ought not to enter on the course of action in relation to which the fact is a pro or a con. Exactly the same point is made when it is claimed that some reasons are prima-facie reasons, or reasons other things being equal. All that is meant is that the facts which are the reasons give rise merely to a presumption that the agent ought or ought not to enter on the line contemplated.*¹⁶

Both Michael Scriven and Stephen Thomas noted the existence of arguments in which distinct factors cumulate, or converge, to support a conclusion. However, in neither case was there much discussion of such arguments as a distinct type.¹⁷ Thomas, in fact, incorporated theorizing inconsistent with the claim. As a result of my critical notice in the *Informal Logic Newsletter*, calling attention to Wellman's account and arguing for its significance, David Hitchcock incorporated a recognition of conductive arguments in his textbook. In general, however, Wellman's account did little to upset philosophers' confidence in deductivism and positivism as theories of ordinary argumentation.

The notion of conductive argument does not owe its interest solely to Wellman's somewhat idiosyncratic classificatory system. The idea that in many arguments the basic notion is that of nonconclusive relevance and that such arguments readily incorporate 'pro and con' considerations is important and had been explicitly or tacitly recognized by other analysts. What I should like to do here is endorse Wellman's ideas about relevance and pros and cons and drop some other features of his account. I do not wish to endorse his definitions of 'induction' and 'deduction', nor his limitation of conductive reasoning to contexts where a particular conclusion is defended. Wellman made conductive arguments by definition about particular cases. But this seems unfortunate, as it is easy to think of examples where separate facts are cited to nonconclusively support generalization. Consider, for instance:

Blacks are equal to whites because they are as healthy as whites, they are biologically similar to whites, they are as intelligent as whites, and they share basic needs with whites.

Whatever the substantive merits of this argument, we can readily see that it is based on separate nonconclusively relevant premises. It is the sort of argument where 'cons' could be acknowledged and 'weighed' with the 'pros'. The various premises about blacks and whites are separately relevant to the conclusion in the sense that if one were false, the others would remain unaffected. Thus the example fits much of what Wellman has to say, and yet the conclusion is not particular in form. Clearly, we may reason about cases by citing relevant factors, and in addition, much conductive reasoning is about cases. However, conductive reasoning may also be used to support conclusions that are general or universal in form.

Conductive argument and *a priori* analogy are distinct types. Wellman says that in conduction the link between premises and conclusion is not established on the basis of the experience of analogous cases; it is entirely *a priori*.

Conductive reasoning and Wisdom's case-by-case reasoning fit into a similar gap unnoticed by many who have supported deductivist and positivist theories of argument. Both deal with nonempirical reasoning that is nonconclusive, or at least not 'conclusive' in the deductive sense. Conductive arguments require separately relevant non-sufficient factors and readily admit counterconsiderations as part of the argument; *a priori* analogies use comparison of cases to press for consistency of treatment, and depend fundamentally on the concept of relevant similarity.

To clarify the contrast between conductive arguments and others, it is useful to refer to different

ways premises may combine to support conclusions in multi-premise arguments. These different styles of support have to do with the structural arrangement of premises, and not with the strength or character of the support those premises are able to give to a conclusion. Nor do they concern the truth or plausibility of the premises. They concern the diagramming of arguments, not their classification or inferential appraisal. The classic accounts of this style of support are Beardsley's early text and Thomas' text on reasoning in natural language. The latter is justly famous for its exposition of structure and adaptation of Beardsley's techniques. The distinction presented is between convergent and linked argumentation.¹⁸ When the pattern of support is linked, one premise is not even relevant to the conclusion without the others. In a convergent support pattern, premises bear separately upon the conclusion. All conductive arguments exemplify the convergent pattern or support, except in the limiting case where there is only one premise. However, the converse does not hold, as Wellman was careful to note. It is possible to offer an argument which exemplifies the convergent support pattern, in which there are several different premises, each of which, taken alone, deductively entails the conclusion. This situation may occur either because the arguer expects that some of his premises will be contested or because he is not aware that the entailment relationships hold and make some of his premises logically redundant. He offers more reasons than are logically required. In a conductive argument, the premises strengthen each other as support, even when they are not in question: *'it is the logical force, not the probative force, of the argument that is increased with the addition of each new premise'*, Wellman says.¹⁹

We cannot define conductive arguments solely with reference to the convergent support pattern, because if we were to do so, some deductive arguments would be conductive. There is a similar problem with induction. Some inductive arguments use the convergent support pattern, particularly if a number of distinct, and apparently unrelated cases, are cited to support a generalization. Typically, in a conductive argument no one premise deductively entails the conclusion. Nor do the premises entail the conclusion when considered together. The premises count in favour of the conclusion in the sense that they are, or are taken by the arguer to be, positively relevant to it. Here 'relevant' does not mean 'sufficient.' The method by which we assess a conductive argument is not to test for deductive validity. Rather, it is to ask ourselves whether the premises are relevant, how much support they give to the conclusion, and whether unmentioned factors that are also relevant to the conclusion would 'outweigh' the premises. We may also consider further cases to test claims of relevance. The conclusion is not a generalization from cases, as it would be in an enumerative induction. Nor does it presume empirical regularities among considered cases or the kind of background empirical knowledge needed for explanatory or causal inductive reasoning. Whether X is relevant to Y, in these contexts, is a conceptual, normative, or 'criterial' issue.

A priori analogies, like all analogies, employ the linked pattern of support. They are of the general type:

1. X has features a,b,c.
 2. Y has features a,b,c.
 3. X has feature e.
- Therefore,
4. Y has feature e.

The premises link to support the conclusion, as they do also in the more schematic version of analogy:

1. X is similar to Y.
2. Y has feature e.
Therefore,
3. X has feature e.

Wisdom dealt with analogy arguments in which support is linked and reasoning moves from a point about one case to a conclusion about another. Wellman deals with arguments in which the support is convergent and connections are by criterial relevance, not comparison. Thus we must have two types, not one.

2b. Further Examples

Since Wellman's main concern was with the justification of ethical propositions, he gave examples primarily from the domain of moral reasoning. But this restriction is not essential; examples dealing with many subjects can be found. Here is one, cited by Scriven.

*We can be proud that America has turned the corner on the depression of the last few years. At last the many indexes of recovery are showing optimistic readings. The rate of inflation has slowed, unemployment has more or less stabilized, inventories are beginning to drop, advance orders are starting to pick up, and – the best news of all – the average income figures are showing a gain. The doomsayers have been discomfited, and the free enterprise system once more vindicated.*²⁰

Here, a number of distinct pieces of evidence are cited to support the proposition that America is recovering from the depression: slowing of the inflation rate, stabilization of unemployment, increase in advance orders, and gain in average income figures.

An example from the field of literary criticism is the following:

*There can be no doubt that Emily Bronte cast a vague incestuous aura over the entire plot of Wuthering Heights. Heathcliff marries his lost love's sister-in-law; his wife's son marries her brother's daughter; Cathy's daughter marries her brother's son. An unconsciously incestuous love between the two leading characters would not run counter to the tone of a novel filled with violent and savage scenes, such as the sadistic rubbing of a wrist over a broken window pane, Cathy's fierce delirium, or the sight of Heathcliff smashing his bloody head against a tree.*²¹

Here, four separate premises are given to support the conclusions that there is an incestuous element in the novel: three specify quasi-incestuous relationships, and the fourth cites other violence, claiming that the savage mood of the novel is such that incest would not be out of place. A conductive argument is used to support an interpretive claim.

We can also find examples of conductive arguments within philosophy. Consider, for instance:

*We found that either (a) the corresponding sense-datum is usually not identical with the observed surface of the object or (b) the corresponding sense-datum usually lacks the qualities it is sensed as having. For (1) the qualities which it is sensed as having are usually incompatible with the qualities of the surface: and (2) the qualities which different observers sense their corresponding sense-data as having are usually incompatible with one another.*²²

The conclusion is the disjunction of (a) and (b); statements (1) and (2) constitute separately relevant

premises. That sensed qualities are usually incompatible with those on the surface of the object and that sensed qualities, as sensed by different observers, usually differ and are incompatible, are two distinct claims put forward as support for the conclusion. Neither entails it; both are conceptually relevant to it.

Another philosophical example, this time incorporating counter considerations, is:

That 'this exists' has any meaning in such cases, where, as Mr. Russell would say, we are using 'this' as a 'proper name' for something with which we are acquainted is, I know, disputed; my view that it has involves, I am bound to admit, the curious consequence that 'this exists' when used in this way is always true, and 'this does not exist' always false; and I have little to say in its favor except that it seems to me so plainly true that, in the case of every sense-datum I have, it is logically possible that the sense-datum in question should not have existed – that there should simply have been no such thing.²³

The conclusion is that 'this exists' has meaning. There is one major reason advanced for it: 'this' names a sense datum (understood as part of the background and context) and it is logically possible that any particular sense datum should not have existed. It is acknowledged that there are two points counting against the conclusion. One is that 'this exists' will always be true. The other is that 'this does not exist' will always be false. The author (G.E. Moore) makes it clear that the single pro factor *outweighs* the cons in his judgment. (He does not tell the audience why he thinks this.) My point here is not that Moore's argument is a good one, or even that it is a clear one. The point is that it is a philosophical argument that is conductive in type.

I have noticed a tendency among beginning students in practical logic to approach arguments in a way which is inappropriate for standard deduction and induction. Students often seem to believe that the more premises an argument has, the better it is. They find it almost impossible to believe that a perfectly cogent argument may have only one premise. Furthermore, asked to assess the connection between premises and conclusion, they will often begin by looking at the premises one at a time, to try to determine, for each premise, whether it is relevant to the conclusion and what support it might offer. Such preconceptions are often incorrect, but they are appropriate for conductive arguments. It is likely that their prevalence among beginners is a kind of testimony to the presence, in ordinary argumentation, of many conductive arguments in which various reasons are offered to support a claim.

There is a tendency in some philosophical circles to want to reduce conductive arguments to deductive ones. The standard strategy is available here: we regard conductive arguments as being enthymematic. Wellman spends some time rejecting this approach and offers a splendid account. Briefly, the major objection is that if we try to turn such an argument as 'you should return the book because you promised to do so' into a deductively valid argument, we will need an additional premise, deemed, of course, to have been 'missing' in the original. But candidate added premises will turn out to be either false, unverifiable independently of a judgement about the case in question, or impossible to formulate in advance. That you should always keep promises is false; that you should always keep promises other things being equal is unverifiable independently of a judgement about the case at issue; that you should always keep promises in circumstances of type (abc) is impossible to formulate in advance. The enthymeme approach, here as so often, makes an inference watertight at the cost of introducing an unknowable premise. Wellman denies

that such reformulated arguments can be used to justify ethical conclusions in the way that their originals can. This is because one is often not in a position to justify the premises that must be added to make the arguments deductive

*in form. Since I believe that arguments really do, at least in some cases, justify the conclusions drawn from them, I conclude that it is a mistake to try to save deductivism by trying to find additional premises.*²⁴

Proposed additions are likely to distort the original argument, which is typically not put forward as being conclusive, and make the merits of the argument impossible to determine. If one adds a premise with an 'other things being equal' clause, then in order to determine whether this premise applies to the case at issue, one will have to make a prior determination of the case. (Thus the deductive reasoning is not what is providing the answer.) In a case where several premises appear, the problem is even worse, because one argument is turned into several, each 'conclusive' from an inferential perspective and having an unknowable premise.

Like Wisdom, Wellman insists that we can and do reason about particulars without relying on linking generalizations. Such a position, though a minority one within philosophy, has a venerable history, and was clearly put by Descartes. When Descartes introduced the Cogito, some critics argued that 'I think therefore I am' was really a syllogism, with the missing premise 'Everything that thinks exists'. Descartes denied it.²⁵

He who says, I think, hence I am, or exist, does not deduce existence from thought by a syllogism, but, by a simple act of mental vision, recognises it as if it were a thing that is known per se. This is evident from the fact that if it were syllogistically deduced, the major premise, that everything that thinks is, or exists, would have to be known previously; but yet that has rather been learned from the experience of the individual – that unless he exists, he cannot think. For our mind is so constituted by nature that general propositions are formed out of the knowledge of particulars.

In a letter, Descartes anticipated some of Wisdom's themes when he said:²⁶

... But the greater error here is our critic's assumption that the knowledge of particular truths is always deduced from the universal propositions in consonance with the order of the sequence observed in the syllogisms of the dialectic. This shows that he is but little acquainted with the method by which truth should be investigated. For it is certain that in order to discover the truth we should always start with particular notions, in order to arrive at the general conceptions subsequently, though we may also in the reverse way, after having discovered the universals, deduce other particulars from them.

When Descartes said that 'everything that thinks exists' would have to be 'learned from the experience of the individual', he did not mean to say that the premise is empirical, but rather that we are able to know it because we have had insight, in one or more particular cases, into the logical connection between thinking and existence. The idea that the universal may be known in and through the particular is also prominent in Aristotle's theory of knowledge.

There is no good reason for the belief that all particular inferences require supplementation with universal premises. Such a view 'clarifies' arguments logically only by weakening them epistemically. The logical structure in which a particular case is resolved by being subsumed under a generalization is, indeed, simple and lucid. But its logical elegance masks epistemic weakness: all too often that generalization is one we do not or cannot know. There is no sound basis for insisting that all conductive arguments be recast as deductive ones in which cited factors are linked to the conclusion by supplementary universal premises.

3. Cases, Relevance and Rules

Neither conductive reasoning nor case-by-case reasoning is fully amenable to treatment by general rules. Perhaps it is for this reason that these kinds of reasoning have been so widely ignored by

logical and philosophical theorists. There seems little scope for theory construction and research projects. So far, theorists have done little more than make some rather general comments about their appraisal. How much systematization is possible remains in doubt. Those who insist on general rules as a presumption of correct argumentation will find this situation disturbing. These arguments quite certainly exist although the rules that are allegedly required do not seem to. It is often alleged that any judgment of merit – whether in the domain of logic or elsewhere – is based on a rule. With no rule, there can be no sound or unsound, no valid or invalid, no better or worse. If that claim were true, we might have to admit that there can be no critical discrimination for *a priori* analogies and conductive arguments. Their existence would make at best a negative contribution to logic and epistemology.

There is a discussion of this view in Wellman's book.²⁷ He counters it by citing an independent basis for judgment as what is necessary for objective content and then remarking that there is at least some sense (a weak one) in which this condition can be met in the case of arguments for which there are no generally application rules of validity. That is, 'Argument A is sound' will admit of truth or falsity if there is something relevant to its truth apart from our believing in it. This condition can be met to some extent, even in the absence of a general rule. If we think about A and find its premises relevant to its conclusion, and sufficient for the truth of that conclusion, this does not itself guarantee that they are so. We have a way of checking up on whether we are right. This is, on Wellman's account, to 'think it through again'. Judicious and careful reflection on the matter can make us change our mind. We do this and find it pertinent. We do sometimes change our minds, and we are sometimes quite certain that we were right to do so.

Is this all that can be said? Perhaps not. The issue will hinge on two further ones: first of all, whether judgments of relevance can be rationally adjudicated, and secondly whether the 'weighing up' of factors is subject to any general principles of method. It has been suggested that judgments of relevance can be tested by bringing factors to bear on other cases. (For instance, if equality of distribution counts for justice in consideration of property, it ought similarly to do so in contexts of punishment or reward.) Another possibility is that procedures might be sought for assessing the significance of pros and cons. These possibilities need exploration. Wellman may not have taken this matter as far as it can be taken. However, even if he is right about the limitations of rules in contexts of conductive argument, this limitation would not show either that the arguments fail to be a genuine type or that they are never logically cogent.

The same can be said for analogies. We may find an analogy striking and convincing and then, on reflection, spot a key difference between the cases that is relevant to the point and decide that the analogy is faulty after all. Or a scrutiny of further comparable cases may reveal the significance of other factors we had not noticed at first. Such processes are not as elegant and person-independent as the application of a formal or general rule, but it exists and is more than nothing.

Theories of reflective equilibrium require that sometimes judgments about particulars have to stand as a check on rules. This requirement presupposes that there is such a thing as logical adequacy in the absence of rules. To serve as a check on a rule, as much current theory in linguistics, science, and ethics requires, a judgment about a particular case must have its own logical credibility which is not dependent on a rule.

For a number of reasons, Wellman rejects the view that validity must be formal and must be demonstrable by appeal to formal rules. Prominent among them is the ultimate dependence of formal rules on nonformal, extrasystematic judgments of validity.²⁸

(S)urely the existence of valid reasoning does not presuppose the existence of any such calculus of derivation rules, for

the inferences formalized by Hilbert and Ackerman, say, were valid before they invented their logical system, just as the syllogism was valid long before Aristotle. As a rule, the logician tries to construct his calculus so that it will reflect some sort of reasoning that is recognized to be valid independently of his system. To be sure, the inventive logician can think up queer logics which suggest new, and sometimes strange, ways of reasoning. But if these queer logics become too queer, they are no longer considered logics, but only symbolic games of some similar sort. This indicates that even here, our standards of validity are outside and independent of the derivation rules in any uninterpreted calculus.

This kind of point has been strongly emphasized by such theorists of formal logic as Arthur Pap and Susan Haack. Validity is not by definition formal validity, and legitimate connections between premises and conclusions need not be formally appraisable in order to be real. The absence of formal, or even general accounts does not rob critical judgments about such arguments of all content.

Suppose we were to have a background theory pertinent to a specific argument. The theory might, for instance, include laws, principles, or rules explaining the relevance relations on which both conductive and case-by-case reasoning ultimately depend. Surely such a theory would be useful in evaluating the argument. Ashley and Shaw pressed this point of view in their article on analogy, and it might be extended to conductive arguments as well. It is not comfortable to be left insisting that something just *is relevant* and something else just *is not relevant*. To defend our judgments, we have to try to explain connections: a well-established theory would help to do that. Insofar as general theories are obtainable, they can help to buttress these arguments. Such background theories may be empirical, normative, or conceptual; what matters is that they cover the phenomenon in question, and be widely accepted and well-confirmed.

Granting this belief, one might be inclined to see analogies and conductive arguments as temporary crutches needed only in a time of incomplete knowledge. That seems to be the direction of Ashley and Shaw's account. Analogies would not be necessary if we had general knowledge about all the things that interest us. Since we don't, they are, according to these authors.

I submit that such a view is not plausible. It ignores the dependence of theoretical principles on particulars. Furthermore, it neglects the key role of analogical reasoning in language learning and use. No amount of theory could entirely avoid the need for *a priori* analogical reasoning. To determine whether a new case should be subsumed under a law or principle of the theory we would have to compare and contrast that case with others so subsumed. We would still create and learn language by tacit assimilation of relevantly similar cases. We would still seek consistency in logic, law, ethics, and administration. Case-by-case reasoning is a key stage in establishing theoretical principles and remains a key stage in applying these once they are established. It is not doomed to extinction by prospective all-encompassing theories.

A similar point can be made about conductive argumentation. All current accounts of theory acceptance specify several distinct conditions as relevant to the merits of theories. If empirical, they must be well confirmed; they must have explanatory value; they must be consistent with established theories; they must have predictive power; they must be simple; they should have research potential (be 'fruitful'). Different philosophers of science vary the list and have varying interpretations of what the items on it mean. But all agree that there is more than one item on that list. Competing theories will almost always measure up differently on different criteria. Thus an argument for the acceptance of a theory is bound to be a conductive argument. Comparable comments can be made about normative theories: there is more than one *desideratum* and competing theories will satisfy these differently. For moral theory we want sensitivity to considered judgments; coherence; ready teachability; and ease of application.

Meta-theoretical arguments about the various merits of competing theories will be largely conductive. In addition, after normative and empirical theories are accepted, novel cases not handled by the theories are bound to arise. These will not be fully covered by existing principles, and we will have to deal with them as best we can: by specifying various relevant factors and seeing how they add up, or by comparing and contrasting new cases with standard ones. That means using conductive reasoning and defending our conclusions with conductive arguments. No amount of theory is going to eliminate the need for these.

As nondeductive, *a priori*, and particularistic ways of arguing, *a priori* analogy and conduction are real and important. They are not about to disappear. I believe that much of what Wisdom and Wellman had to say is true. Their work gives us significant additions to epistemology and the theory of argument.

Notes

1. John Wisdom, 'Explanation and Proof', Lectures presented at the University of Virginia, 1957, manuscript. I am grateful to Professor Wisdom for giving me permission to read this manuscript and to Roger Shiner for lending me his copy.
2. Carl Wellman, *Challenge and Response: Justification in Ethics* (Carbondale: Southern Illinois University Press, 1971). See also Trudy Govier, 'Critical Notice of Carl Wellman's Challenge and Response', *Inform~1 Logic Newsletter* Vol ii, 2 (April, 1980), pp. 10-14.
3. These lectures have not been published, but a transcript prepared by Prof. S.F. Barker is in limited circulation.
4. Renford Bambrough reports that they may eventually appear in print. See also chapters 3, 4, 6, and 7 in *Philosophy and Psychoanalysis* (Oxford: Blackwell, 1953; chapters 6, 8, 10, and II of *Paradox and Discovery* (Oxford: Blackwell, 1965); and 'Moore's Technique', in *The Philosophy of G.E. Moore* edited by P.A. Schilpp (LaSalle, Ill.: Open Court, 1942; Volume II), pp. 419-450. 5. See Bambrough, *Op. cit.*, and D.C. Yalden-Thomas, 'The Virginia Lectures', in Bambrough (editor), *Wisdom: Twelve Essays*. (Oxford: Blackwell, 1974.) It was W.A. McMullen who first interested me in Bambrough's work. For relevant discussions of case-by-case reasoning, see Harrison, Frank Russell II, 'Concerning the Possibility of a General Theory of Analogy', University of Virginia, 1961; Arnold B. Levison, 'Proof and the Case-by-case Procedure', University of Virginia, 1959; Jerome Bickenbach, 'The Nature and Scope of Reflective Reasoning', University of Alberta, 1977. Compare also J. Bickenbach, 'Justifying Deduction', *Dialogue* Vol. XVIII, No.4 (December 1979), pp. 500-516 and 'The Diversity of Proof', *Informal Logic Newsletter*, Vol iv, 2 (May, 1982), pp. 7-12. A case somewhat similar to Wisdom's, but with a different emphasis has been developed recently by F.L. Will. See especially his 'Rules and Subsumption: Mutative Aspects of Logical Processes', *American Philosophical Quarterly*, 22, no. 2 (April, 1985), pp. 143-152. Relevant points are also raised in Steven Sverdlik, 'Counter-examples in Ethics', *Metaphilosophy* 16, no. 2 (April, 1985), pp. 130-145. See also Douglas Lackey, 'Empirical Disconfirmation and Ethical Counterexample', *Journal of Value Inquiry*, 10, (1976), pp. 30-34; and J.O. Urmson, 'A Defense of Intuitionism', *Proceedings of the Aristotelian Society* LXXV (1975), pp. 1-12 and 111-119.

5. Judith Jarvis Thompson, 'In Defense of Abortion', *Philosophy and Public Affairs*, Vol. 1, no. I (Fall, 1971), pp. 47-66.
6. Monroe Beardsley, in *Practical Logic* (Englewood Cliffs, N.J.: Prentice Hall, 1950) said 'an analogy doesn't prove anything' and regarded analogies as suitable for illustration or hypothesizing but fallacious when used to argue a point. (See p, 107,) R.H. Thouless took a similar view in *Straight and Crooked Thinking* (London: Pelican Books, 1933), saying 'any analogy, good, imperfect, or obviously absurd, tends to produce conviction in the same immediate and unreasonable way as does repeated affirmation of a good slogan,' Susan Stebbing's position in *Thinking to Some Purpose*, (London: Pelican Books, 1938), is much the same.
7. William H. Shaw and L. R. Ashley, 'Analogy and Inference', *Dialogue*, Vol. XXII, No. 3. (September, 1983), pp. 415-432. Quoted passage is from, p, 425.
8. Bambrough, *Moral Scepticism and Moral Knowledge*, and R.W. Newell, *The Concept of Philosophy* (London: Routledge and Kegan Paul, 1967).
9. S. F. Barker, *The Elements of Logic*, (New York: McGraw-Hill, 1965). See especially p. 21 and pp. 286-290.
10. John Wisdom, 'Explanation and Proof'.
11. J. Bickenbach, 'The Nature and Scope of Reflective Reasoning', p, 75. Compare Barker, *The Elements of Logic*, Chapters 6 and 7 and my own *A Practical Study of Argument* (Belmont. Calif: Wadsworth, 1985 and 1987). Chapters 9 and 10. See also Ashley and Shaw, 'Analogy and Inference'. These authors recognize the appeal to consistency in moral and logical reasoning as distinct from the empirical basis of many other analogies. However, in my view, the conditions they offer for judging the strength of analogies are not sufficiently sensitive to this distinction. See p. 421. David Hitchcock, in *Critical Thinking: A Guide to Evaluating Information* (Methuen: Toronto, 1983), cites as a condition for the proper addition of a premise that it does not make any explicit premise redundant. See pp, 76-77, The deductivist or 'covering statement' model of analogy violates this very reasonable condition.
12. Classic sources with regard to reflective equilibrium are Nelson Goodman's *Fact Fiction and Forecast* (Third Edition) (Indianapolis: Hackett, 1979), pp. 66-68 and John Rawls, *A Theory of Justice* (Cambridge, Mass.: Harvard University Press, 1971), p. 20f and 48-51. See also Norman Daniels, 'On Some Methods of Ethics and Linguistics', *Philosophical Studies* 37 (1980), pp, 21-36, and 'Reflective Equilibrium and Theory Acceptance in Ethics', *Journal of Philosophy* LXXVI, no. 5 (May, 1979), pp. 256-282.
13. David Hume, *Dialogues on Natural Religion*, in *The Empiricists*, (New York: Anchor Press, 1974).
14. John Wisdom, 'Moore's Technique', p. 424.
15. Wellman's account of induction differs both from some elements of tradition and from my own account, as noted in my critical notice, cited above.

16. Kurt Baier, *The Moral Point of View*, (New York: Random House, 1958), p. 39.
17. Michael Scriven, *Reasoning* (New York: McGraw-Hill, 1976), pp. 78-81 and S.N.Thomas, *Practical Reasoning in Natural Language*, First Edition (Englewood Cliffs, N.J.: Prentice Hall, 1973), pp. 37-40.
18. Thomas made this technique important pedagogically, adapting it from Beardsley. I offer a version in my text, tightening up some distinctions. Chapter Seven (Second Edition).
19. *Challenge and Response*, p. 29.
20. Michael Scriven, *Reasoning*, p. 78.
21. Eric Solomon, 'The Incest Theme in Wuthering Heights', *Nineteenth Century Fiction*, XIV (June, 1959).
22. G.E. Moore, 'Is Existence a Predicate?', in *Philosophical Papers* (London: George Allen and Unwin, 1959), p. 126. I am grateful to Jennifer Dance Flatman for locating this and the two preceding examples.
23. G.E. Moore, *Ibid.*
24. *Challenge and Response*, p. 16.
25. *The Philosophical Works of Descartes*, transl. by E.S. Haldane and G.R.T. Ross, Vol. II, (Cambridge, Eng.: Cambridge University Press, 1968), p. 38.
26. *Ibid.*, p. 127.
27. *Challenge and Response*, pp. 73-83.
28. *Ibid.*, p. 74.

CHAPTER 5.

THE PROBLEM OF MISSING PREMISES

Missing premises – or the allegation that they are needed – often play a kind of deus ex machina role in deliberations about argument type and structure. That is to say, premises said to be missing can too easily be imported into an account to serve or save a favoured account. The strategy enables ad hoc defenses of one or another interpretation, and should be avoided.

With few exceptions (David Hitchcock is clearly one), scholars have been hesitant to seriously address the rather messy set of issues that constitute the problem of missing premises. Which arguments have missing premises? How do we know, or how should we judge, what those missing premises are? And how do our responses to these questions depend on broader theories about argument typology? Argument interpretation? Argument criticism? Not all assumptions amount to missing premises, but how is the distinction between assumptions and missing premises to be drawn? I think I can safely say that none of these questions have been answered and few, if any, have been given sustained consideration.

As mentioned in this essay, various terms are used as roughly equivalent to “missing premises”. These include “implicit premises”, “unstated premises”, “hidden premises”, and “assumptions.” I argue, and would still maintain, that the term “assumptions” is too general and hence unsuitable as a substitute. But what about the others? It has been maintained (in a 1985 article by Jim Gough and Christopher Tindale) that the term “hidden premises” should be preferred, because that term suggests that the material to be added is present in a discourse in a slightly disguised form; it is there to be found; it is not simply added. I agree that one should carefully consider what is there before supplementing with something that is not there. But there are challenges hidden in the notion of ‘hiding’. We can dispute as to whether the associated conditional or a universalization of it is hidden in a succession of two particular claims, just as we can dispute whether such claims are missing.

*More radical is a suggestion urged by Dan Levi in 1995: he argued that the problem of missing premises emerges only because analysts insist on setting out arguments in a premise-conclusion (PC) structure. Then, looking to their structure and finding it to be less than complete and clear, they sense that something is ‘missing’. If people following this strategy – including of course myself – would employ a different method, shifting away from PC models, the problem of missing premises would disappear. Avoiding the strategy of standardization, one would preserve relevant rhetorical aspects of context and voice, and these aspects would assist in interpreting the argument. If one did not seek a PC structure, one would not have to worry whether this or that version of it was correct. This radical suggestion would challenge much work in informal logic and does not seem to have been seriously pursued. It is similar in some respects to suggestions made later by Harald Wohlrapp in *The Concept of Argument*.*

In this chapter I challenge deductivism both as a theory and as providing a response to the problem of missing premises. I also consider how the role of charity — the ways in which a commendable desire to be polite and fair

to an arguer — may lead us to rework that person's argument so as to make it fit with our own views. As I argue here, charity can be taken too far. It needs to be qualified, and when it is, its implications for missing premises are altered. Whether it is a deductivist lens or the generosity of charity, we tend to reconstruct arguments to be clear and cogent in the ways we would like. The risk we face is that this tendency will produce distortions; the fact that a reconstructed argument strikes us as clear and cogent does not show that the improvement constitutes an accurate version of the original. What I call in this chapter 'strong charity' has been more recently discussed as 'steelmanning.' Steelmanning is the opposite of strawmanning: instead of addressing a weak version of an opposed position as in the straw man, one addresses what one takes to be a strong version of an opposed position. Among those who discuss steelmanning, many seem to favour it, but some object on the grounds that a person who purports to strengthen a position may distort it and, in any event, displays arrogance in presuming the ability to know best what the best opposed argument is.

One thing which makes people differ as to theory of argument and as to the analysis of particular arguments is different approaches to the matter of missing premises. For instance, some people insist that analogies all have a missing premise and that when this is filled in, they can be seen to be deductive arguments. Others find no need for such supplementation and would regard analogies as a distinct type.

In fact, the 'problem' of missing premises is too complex to be just one problem. There are a number of distinct problems. To begin with, we must distinguish the question of which arguments have missing premises from the question of how to decide just which missing premises they have. In addition, there are several different purposes for which people may examine arguments, and for different purposes, quite different approaches to reconstruction through the addition of premises are appropriate.

Of course, premises are not the only thing that can be missing from arguments. Arguments may have unstated or missing conclusions as well. This is less often discussed than the problem of missing premises, for it makes less difference to the overall structure of the argument. It does, however, make an immense difference to the classification of discourse as being argumentative or not. Often people write in an argumentative tone, in a context of controversy, indicating they are 'opposed' to something, but do not state explicitly that the thing is wrong or incorrect. Rather, they strongly imply it. Here, it seems interpretively appropriate to regard what is said as an argument, though the conclusion is not stated explicitly.¹ Those who are generous in adding premises and ungenerous in supplementing conclusions will find few fallacies in natural argumentation. Those who are ungenerous in adding premises and generous in adding conclusions will find many. We can see, then, how the matter of missing conclusions has a significant effect on one's overall view of argument.

There are a number of different terms used as virtual synonyms of 'missing premise'. These include 'tacit premise', 'unstated premise', 'hidden premise', 'suppressed premise', 'implicit assumption', 'assumption', 'underlying assumption', 'suppressed assumption', and others. It is a serious mistake, I think, to identify unstated premises with unstated assumptions. Many assumptions that are required for arguments to work are not required to fill inference gaps—the standard role for missing premises.² For this reason it is better to speak of missing or unstated premises rather than missing or unstated assumptions. As to other variations in terminology, these do, to be sure, have nuances that could be exploited to good purpose and would become significant. For instance, to speak of premises as 'hidden' suggests that the stated material contains good cues that these premises are endorsed by the arguer and contained in the text, though not in the form of explicit statements.³ To say that they

are 'missing' does not suggest those cues in the text, but does suggest a strongly realist notion of interpretation. Here, these nuances are not exploited: the standard philosophical usage, according to which 'unstated premise', 'missing premise', 'implicit premise', 'tacit premise', and 'hidden premise' are used as virtual synonyms, is followed.

1. Deductivism and Missing Premises

Deductivism is the view that all good arguments are deductively valid. Applied to the problem of missing premises, deductivism yields the suggestion that an argument should be supplemented with additional premises to the point where (as reconstructed) it becomes deductively valid. When thus reconstructed, it is a fully 'filled out' argument that can then be subjected to critical scrutiny. Sometimes the added premises make the argument a sound one, for they are true, and thus the reconstructed argument is valid and has true premises. Sometimes they show the argument to depend on unverifiable premises. And sometimes these added premises are false, or implausible, and show the argument to be a poor one. On a strong deductivist view, all arguments have, implicitly, all the premises needed to make the stated premises and the added ones entail the conclusion. Criticism of an argument is not appropriate until these unstated premises have been filled in. This is often an extensive task, to say the least.

Understood in this way, deductivism has the curious consequence that logic is relevant solely to the reconstruction of arguments and not to their appraisal, once reconstructed. When appropriately reconstructed, all arguments are logically equal inferentially, and all are logically good. The difference between cogent arguments and poor ones can only be found in the truth or plausibility of their premises.

The deductivist account will be natural and familiar to many readers, and is often appealed to by philosophers — in both theoretical and practical contexts. It is at work in many texts on natural reasoning. Here we will look briefly at one such text, that of Stephen Thomas. Thomas is interesting in this regard because his deductivist policy on missing premises is, in fact, incompatible with his broader theory of argument. That is a Spectrum Theory. The fact that Thomas lapses into this policy when trying to handle the problem is evidence of the naturalness and very great intuitive appeal of the deductivist approach.

In *Practical Reasoning in Natural Language*, Thomas goes into considerable detail telling students how to add premises to arguments in order to render them deductively valid. He says that when all these premises have been added, then:

Any uncertainties about the truth of the final conclusion which were due to inconclusive inferences in the original argument have now been driven back onto the total set of basic reasons in the new constructed revision. That is, all uncertainty about the inferences has been eliminated (since all are now ironclad) and it remains only to determine whether every member of the new set of basic reasons is true.⁴

(The 'basic reasons' are the premises.) Once the missing premises, or premises deemed to have been missing, have been added, the argument is valid. It is valid because it has been made valid. We should note, as Thomas does, that it is always possible to make an argument deductively valid. One can sometimes do this with significant and genuinely illuminating additions, as Thomas points out. Failing this, we can do it with trivial and unilluminating additions, as he and a number of other analysts have pointed out.

The simplest method for achieving deductive validity is to link up all the stated premises to form a

conjunction. Call this conjunction CON. Then, calling the conclusion C, supplementing the original with the claim 'If CON, then C' will render the argument deductively valid. The statement 'If CON then C' may be called the associated conditional.⁵ Of course, the associated conditional is not the only possibility here. Any statement that entails the associated conditional will do equally well. Another vacuous, but always available possibility is to add conclusion, or a generalization of it, as a missing premise. This strategy will also make the argument deductively valid — though question-begging. Again, there are an indefinite number of possible variations on this move, for we could add any statement which entailed the conclusion, in order to make the argument deductively valid.

Naturally enough, Thomas now recommends premise assessment as the next (and only possible) stage of argument criticism.

*Only if one or more of them is false can the argument's final conclusion be false. If all the basic reasons in the revised argument (i.e., original plus new reasons) are true, then so too is the argument's final conclusion. So if you know that all the basic reasons are true, then you know that the conclusion is also true. But if a falsehood arises in every possible set of suppressed assumptions whose addition would create a deductively valid expansion of the original argument, then the original argument is unsound.*⁶

The emphasis is added here to indicate the link, in Thomas' analysis, between deductivism as a solution to the problem of missing premises and deductivism as a theory of argument. This is an unqualified deductivist view.

Thomas supposes that the premises needed to make the original argument deductively valid are somehow part of the original argument and that their evaluation is pertinent to the evaluation of the original argument.⁷ Nondeductivists would deny this. Consider, for instance, the case of analogy. If we add to an argument by analogy sufficient premises to make that argument deductively valid, those added premises may very well be seen by a critic going beyond the original premises. If the added premises turn out to be false or unacceptable, that will not (at least, not in the eyes of the non-deductivist critic) indicate that the original argument was at fault. On the critic's view, the original argument was not deductive. The fact that a premise needed to make it deductively valid turns out to be a false premise shows nothing about the merits of the original argument.

Thomas is committed to disagreeing with such a position: he insists that when the added premises are false, the original argument is shown to be unsound. This indicates that he thinks of the original argument as having really depended on these claims; although they were not stated, they are necessary to make the argument work. But making it work means making it work as a deductively valid argument. Since the account is applied to all arguments, without qualification, we can only suppose that Thomas holds that for an argument to work, the premises have got to entail the conclusion. This stance is, of course, that of deductivism. The relevance of the supplemented premises to the critique of the original, unreconstructed argument presupposes that whatever sort of argument the original seemed to be, it was actually an aspiring deduction which, as stated, didn't pass the (deductive) test. If this theoretical presumption were false, the falsity (or unverifiability, or implausibility) of the added premises would show nothing about the original argument.

Another significant feature of this account is Thomas' claim that only if one or more premises in the argument is false can we regard the original argument as unsound. The original argument will be unsound only if 'a falsehood arises in every possible set of suppressed assumptions whose addition would create a deductively valid expansion of the original argument'. The problem is that there is an indefinitely large number of ways of expanding a stated argument so as to produce a deductively

valid argument. (This result is obvious even from the possibilities generated by the trivial associated conditional and ‘add the conclusion’ strategies described earlier. Of course there are many other devices which can be employed.) Given this fact, it is hard to see how we could ever be in a position to assert with confidence that a falsehood will arise in every possible set of supplementary premises. Thomas seems to be aware of the difficulty, because he says:

*For practical purposes, you can take this to mean that if every reasonable attempt to supply the argument’s suppressed assumptions requires the addition of some falsehood, then for all intents and purposes, you may regard the original argument as unsound.*⁸

This position is neither practically satisfactory nor theoretically adequate.

An unqualified deductivist policy on missing premises licenses overabundant expansion of arguments. One way in which it is overabundant is that it raises the prospect of all arguments which are not, as stated, deductively valid, being enthymemes — a counterintuitive prospect, to put it mildly. On this view, there are no fallacies (formal or informal), no enumerative inductions (hasty or otherwise), no analogies, no inferences to the best explanation, and so on. This is a counterintuitive result which runs contrary to established traditions in logic and to recent work in the philosophy of science.⁹ Another way in which unqualified deductivism is overabundant is that it licenses an indefinitely large number of expansions for each argument. Finding a flaw in any one of these will not constitute a definitive criticism of the original argument, for there are always many alternative reconstructions remaining to be considered; on purely deductivist grounds, these reconstructions are all of equal merit. Thus deductivism by itself cannot provide a complete and adequate policy on missing premises. It must be qualified so as to apply only to some arguments and supplemented so that not all deductivist reconstructions are of equal critical relevance. Later we will consider what some of the appropriate qualifications might be.

The problems with a deductivist approach to missing premises appear in a more concrete guise when we consider specific examples. First, let us look at an example of a poor argument, and see how a deductivist policy on missing premises will advise us to reconstruct it. As an example, here is a short argument of Garret Hardin’s on sterilization.¹⁰

It should be easy to limit a woman’s reproduction by sterilizing her at the birth of her nth child. Is this a shocking idea? If so, try this ‘thought experiment’: let n equal 20. Since this is not shocking, let n diminish until population control is achievable.

Here Hardin argues from the premise that it would be tolerable to sterilize a woman after her twentieth child to the conclusion that it would be tolerable to sterilize a woman at whatever point was necessary in order to achieve population control. The argument appears to be an outright fallacy of a rather original kind.¹¹ (Is it some kind of reverse slippery slope?) And yet the inference from permissibility in the one context to permissibility in the other seems simply mistaken: there is an enormous, and morally significant, difference between them. We can add premises which will fill the gap in various ways. Three possibilities are:

3. If it is permissible to sterilize a woman after her twentieth child, then it is permissible to sterilize her at whatever point is necessary in order to achieve population control.
or
4. If it is permissible to perform an operation on a woman in an extreme case, then it is permissible

to perform that operation on a woman in a less extreme, but socially significant, case.
or

5. Whenever it is permissible to do anything in an extreme case, then it is permissible to do that same thing in a less extreme, but socially significant, case.

(3) will suffice to make the argument deductively valid. However, this is a redundant and useless addition, because (3) is the associated conditional, which simply reiterates the original argument. If we can assess (3), we can assess the original argument directly and have no need of (3).

The other additions are not purely reiterative. However, unlike (3) they may not by themselves suffice to make the argument deductively valid. They are generalizations on the associated conditional, and we have to grant that the generalization is done appropriately. This, for (4), means granting that sterilization is an operation; that sterilizing a woman after she has had 20 children is sterilizing her in an extreme case; and that sterilizing a woman at whatever point is necessary to achieve population control is sterilizing her at a socially significant, but non-extreme, point. Similar points arise for (5). More importantly, (4) and (5) go considerably beyond the original argument in scope. It is perhaps not fair to commit the unhappy author to these sweeping premises, which are so much more easily attacked even than his original inference. The generalizations on the associated conditional have the critical virtue of non-redundancy. But they can be critically useful only insofar as they open the door to considerations which are not exactly what would be called for by the original inference. There is, then, some critical benefit from adding these more general premises. But exactly the feature which makes them appear critically useful makes them interpretively questionable.¹²

Another example reveals further peculiar problems. Consider the following brief passage from Stephen Toulmin and June Goodfield's *The Architecture of Matter*. Toulmin and Goodfield report describing to a colleague who commented on Voltaire's efforts to weigh fire. They asked their colleague how he would have persuaded Voltaire that experiments directed toward the weighing of fire were useless. The man replied lightly that he should have told Voltaire to use his common sense. Of this response, Toulmin and Goodfield comment:

*The common sense of Voltaire's time was not, and could not have been, identical with the common sense of our own period. For Lavoisier helped to create our contemporary common-sense ideas about matter, just as Newton, earlier, had helped to establish our common-sense picture of the planetary system. If, in retrospect, it seems too obvious that fire is not a substance, we should regard this 'obviousness' with grave suspicion.*¹³

Here, we have a subargument and then an argument, both with a single stated premise and conclusion:

1. Lavoisier helped to create our contemporary common-sense ideas about matter.
2. The common-sense of Voltaire's time was not identical with the common-sense of our own time.
3. The 'obviousness' of the idea that fire is not a substance should be regarded with suspicion.

Neither the subargument from (1) to (2), nor the main argument from (2) to (3) is deductively valid as it stands. We have seen, above, that there are certain problems which arise when the associated conditional or generalizations of it are used as supplementary premises. We shall approach the Toulmin and Goodfield example in another way, then, by trying to add premises which will make the argument deductively valid and which are neither the associated conditional nor generalizations of it.

Some natural and plausible additions, which would appear necessary whether one was a deductivist or not, are:

4. *Lavoisier had not yet created our contemporary common-sense in Voltaire's time.*
5. What seems obvious depends upon our common-sense.
6. Common-sense that can fluctuate from one time to another should be regarded with suspicion.
But still, (1) and (4) do not entail (2); (2) and (5) and (6) do not entail (3). We need more additions yet. For the subargument, for instance, we need:
7. No two sets of common-sense beliefs are identical unless they are created at the same time.
8. The common-sense of Voltaire's time had been created at his time.

Even this may not be sufficient.

When we do not revert to the associated conditional or a generalization of it, the necessary additions start to seem indefinitely many and excruciatingly pedantic. A 'reconstruction' of two very simple arguments which has seven or more supplementary premises is a critical and pedagogic monster. Are these premises really 'there', unstated, because they are 'needed' in order to make the original inferences work in a deductive sense of 'work'?

These examples indicate that deductivism does not always make for easy and elegant criticism. It is not always interpretively plausible, and it can be cumbersome in practice. Reiterative addition of the associated conditional is simple and always applicable; however it is a critically redundant manoeuvre. Generalizations of the associated conditional are not by themselves sufficient without further premises spelling out the 'assumption' that the generalization is an appropriate one. It may be interpretively incorrect to attribute the generalization to the arguer. If the arguer is not committed by the original argument to that generalization, then any analysis of that argument via a reconstruction with the generalization as a missing premise will be misdirected. In addition, attempts to make some arguments deductively valid will be cumbersome when they avoid the associated generalization and its conditional – as some deductivists have, themselves, admitted.

But in so many contexts, and to so many people, deductivist instincts on missing premises seem correct. The above account will doubtless not dissuade convinced deductivists. Why is this approach to missing premises so appealing to so many people, despite its running counter to strong theoretical traditions in logic and to economy in criticism and analysis? There seem to be at least two plausible explanations.

First of all, the deductivist reconstruction of an argument will often be straightforward and elegant. It will make sense. It will provide a model in which the stated premises, together with other claims, lead in a direct logical way to the stated conclusion. The model will be a logically clear and coherent argument, even though some of the premises of that argument may be disputable. Such an argument has definite logical appeal; its appealing character may make it seem an excellent substitute for the original argument, which lacked such logical coherence and structure. Given all this, it is easy to confuse two issues: the real issue of whether the model is an accurate rendition of the original argument and the quite distinct issue of whether the reconstructed model is a logically 'virtuous' argument. The second matter is guaranteed in the nature of the case. The first is something else

entirely. It is one thing for a reconstructed argument to be clear and another for it to be the correct (or even a correct) model of a stated argument.

We should not let the logical appeal of a reconstruction lead us, by itself, to the belief that the reconstruction accurately reflects an original. The beauty of a portrait does not show that it accurately represents its subject. There is perhaps a tendency to confuse the clarity of the reconstruction considered on its own terms with its interpretive accuracy as a plausible version of the original argument.

Secondly, the following line of reasoning is tempting: *If a person argues for a conclusion, C, then provided that he or she is arguing sincerely, he or she believes C to be true. If that person believes C to be true, then he or she must believe a set of claims which entails C. Thus, if the arguer's stated premises do not entail C, it is appropriate to supplement them to the point where they do entail C.*

The problem with this account comes in the second statement. First of all, the 'must' is ambiguous as between a psychological and a logical must. Interpreting 'must' as psychological, the statement is false, because people often believe claims with no support or with some partial support, or on fallacious grounds, as a matter of psychological fact. Also, psychologically interpreted the claim could require a vicious infinite regress of beliefs. The logical interpretation of the 'must' makes the statement somewhat more plausible. The claim would then amount to the insistence that anyone who believes a conclusion C is logically committed to some set or other of claims which entails C. On this view, if we take an argument which that person puts forward for C and we read into it enough premises to make the stated premises, together with the new ones, entail C, we will not go beyond anything to which that arguer is not already committed.

On this interpretation, the claim amounts to an especially strong version of foundationalism. It is open to all the criticisms which can be made of traditional foundationalism, and more besides.¹⁴ Furthermore, even if it were true that anyone who believes C is committed to some set of claims that entails C, given that the number of such sets is indefinitely large, the connection between this set and the one generated by a logician reconstructing the original argument is likely to be remote.

Thus, deductivism cannot offer a complete and satisfactory policy on missing premises. The intuitive appeal of the policy disappears when we look more closely at theory and practice and when we examine some of the accounts which may underlie those intuitions. To add to arguments all premises necessary to make those arguments deductively valid and regard these additions as premises which were missing in the unreconstructed version of the argument is not, in general, a reasonable thing to do.

It may be suggested that a deductivist approach to missing premises can be endorsed, in the interests of clarity and elegance, without any commitment to a deductivist theory of argument. David Hitchcock has taken this approach, which he regards as a kind of heuristic deductivism. But there are two problems with this approach. First of all, it is hard to give a good reason for seeking to reconstruct an argument so as to render it deductively valid, if one does not endorse a deductivist theory of argument. We can find a missing premise, or gap-filler, such that, if it is added, the resulting argument becomes deductively valid. But if someone asks, why should we want to render this argument deductively valid, no answer will be forthcoming. Secondly, as indicated here, deductivism does not in fact generate an elegant solution to the problem of missing premises.¹⁵

The story is different so far as missing conclusions are concerned. If an arguer has stated several claims and there is good reason to interpret these claims as premises in an argument, then there is never any problem about 'reading in' a statement which is, in fact, entailed by those claims. Anyone

who does so will attribute to an arguer no more than he or she is already logically committed to. We are not committed to all claims which entail beliefs we hold, but we are committed to all claims which are entailed by beliefs we hold.

Suppose that an advertisement reads as follows:

The bigger the burger, the better the burger. The burgers are bigger at Burger King

We can justify adding the unstated conclusion that the burgers are better at Burger King. The entailed claim can appropriately be regarded as a conclusion that is supported by the stated material. There is good reason for taking advertisements of this type as arguments. Sometimes there are problems about interpreting passages as arguments, and the issue of whether to add a conclusion which is not stated but is entailed or suggested is linked to this interpretive issue. Whether a person is trying to prove a point or is rather merely giving a description, explanation, illustration, or comment is often a moot point. This interpretive problem can make the addition of conclusions questionable in some contexts. But in general, it seems a more manageable problem than the problem of missing premises, and a deductivist approach to it will always give results within reasonable interpretive bounds.¹⁶

2. Missing Premises and Assumptions

Often the problem of missing premises is thought to be a problem about assumptions. The idea is something like this: when people present arguments, they do not always mention all of the beliefs which they hold which are pertinent unstated claims, the truth of which is a necessary condition of the argument's working the way it should. People could not state everything pertinent to the argument in this way. They necessarily leave much unstated. Often unstated assumptions would be accepted by virtually everyone, and it would be a great bore for the arguer and the audience to spell them out. Sometimes arguers are not aware of their unstated assumptions; sometimes these assumptions are highly questionable, and neglecting to spell them out lulls the unwary audience into accepting things it would not have granted on critical scrutiny.¹⁷ It is often said that such unstated assumptions are the missing premises of the stated argument.

A statement of this view appears in Irving Copi's *Symbolic Logic*, in a discussion of the logic of relations:

Relational arguments are often used, and many of them depend essentially on the transitivity, or symmetry, or one of the other properties of the relations involved. But that the relation in question has the relevant property is seldom – if ever – stated explicitly as a premise. The reason is easy to see. In most discussions a large body of propositions can be presumed to be common knowledge. The majority of speakers and writers save themselves trouble by not repeating well-known and perhaps trivially true propositions that their hearers or readers can perfectly well be expected to supply for themselves. An argument which is incompletely expressed, part of it being 'understood', is an enthymeme.¹⁸

It is clearly true, as Copi says, that in most discussions many propositions are presumed true, as common knowledge. Discussion would be completely impossible without such presumptions. But whether all such presumptions should be counted as assumptions that amount to missing premises and all arguments depending on them should be regarded as enthymemes, are further questions.

In *On Certainty*, Wittgenstein argued that in order for some problems to be discussed and considered, many other aspects of life and language must be accepted as givens. In a specific context, someone might wonder whether his hand is made of real human flesh. (Perhaps someone had a

hand transplant and cannot remember whether it was the left or the right — my example.) But to contemplate even such a radical question, a person must nevertheless take for granted other aspects of mundane life—such as knowing what ‘hand’, ‘flesh’, and ‘human’ mean. *On Certainty* gives us a sustained elaboration of the fact that we cannot question everything at once. Questions and problems require a background.

That is to say, the questions that we raise and our doubts depend on the fact that some propositions are exempt from doubt, are, as it were, like hinges on which those turn

. . . it belongs to the logic of our scientific investigations that certain things are indeed not doubted.

*But it isn't that the situation is like this: We just can't investigate everything, and for that reason we are forced to rest content with assumptions. If I want the door to turn, the hinges must stay put.*¹⁹

This view of the background of questions can be applied directly to the case of arguments. A person who presents an argument puts forward reasons to support his conclusion, trying to raise the credibility of that conclusion to an audience he is addressing. The argument can be seen as aimed towards its conclusion, and as attempting to resolve a particular question—whether that conclusion is true. In the context, the question is open.²⁰ This question, like others, will make sense only against an assumed background of beliefs and practices.

What is wrong with Copi's account is not his claim that discussion requires assumptions, but the conflation of such assumptions with missing premises. Copi is following logical tradition when he says that if part of an argument is missing, that argument is an enthymeme. But the parts of an argument, according to logical tradition, are its premises and conclusion. Thus an enthymematic argument is one in which one or more premises, or the conclusion, is not stated. So far, so good. But logical tradition also has it that there exist non-enthymematic arguments. This is an element of the tradition worth preserving, if ‘enthymeme’ is to play a useful role in the classification, understanding, and criticism of arguments. If unstated assumptions and missing premises are identified, then every argument will be an enthymeme, because it is clearly true, as Copi says, that in every argumentative discussion there are unmentioned presumptions on which the arguer and his or her audience agree.

Missing premises constitute a subset of these unstated assumptions, not the whole set. One important first step in resolving the problem of missing premises is to distinguish between those assumptions that are required by the argument but are not missing premises, and those assumptions that do amount to missing premises. There are many ways in which an argument may be based on an assumption, A. These include at least the following:

1. The truth of A may be a necessary condition for the terms used in the argument to have a referent.
2. The truth of A may be a necessary condition for the subject of the argument to be of interest to anyone.
3. The truth of A may be a necessary condition for the meaningfulness of any language.
4. The truth of A may be a necessary condition for properly inferring the conclusion from the stated premises.
5. The truth of A may be a necessary condition for the appropriacy of the methodology used by the arguer when he or she cites the premises as support for the conclusion.

6. The truth of A may be a necessary condition for the truth of one of the stated premises.
7. The truth of A may be a necessary condition for words used in stating the premises and conclusion to have the meaning which they do have, and on which proper understanding of the argument depends.

To make matters worse, these do not exhaust the possibilities. If we think of missing premises as premises that should be added in order to make the inferences of the stated argument work, then at most assumptions of the type in (4) and (5) would qualify as missing premises. (As we shall see later when discussing Lewis Carroll's argument, level (5) assumptions should not be regarded as premises.) Copi's account seems to require that all assumptions pertinent to the workings of an argument be incorporated within that argument as premises. This would make even short arguments indefinitely long when they were completely 'filled out'.

That this is really what Copi means is confirmed by his discussion of an example from the logic of relations. After the passage quoted earlier, he goes on to say:

In most cases there is no difficulty in supplying the tacit premises that the speaker intended but did not express. Thus, the first specimen argument stated at the beginning of this chapter:

Al is older than Bill.

Bill is older than Charlie.

Therefore, Al is older than Charlie.

ought to be counted as valid, since it becomes so when the trivially true proposition that 'being older than' is a transitive relation is added as an auxiliary premise. When the indicated missing premise is supplied, a formal proof of the argument's validity is very easily set down.²¹

But this must be wrong. The argument which, according to Copi, has the missing premise 'Being older than' is a transitive relation' is in fact, deductively valid as stated. Copi's account goes beyond deductivism in that he seeks to make the argument not just deductively valid, but deductively valid in virtue of its *form* as identified within a specific system of logic. The stated premises do entail the stated conclusion. It is just not formally provable that this is the case. One can formally derive the conclusion from the premises, given the apparatus developed to that point in Copi's book, if one adds the auxiliary premise.

The proposed auxiliary premise is meta-linguistic. But other metalinguistic premises are also 'assumed' in the argument Copi discusses. For instance, the argument 'assumes' that 'Al' can be used to name something that has an age, and that 'Al' names the same entity in the conclusion as in the first premise. These meta-linguistic assumptions are essential to the workings of the argument. If the first did not hold, the first premise and the conclusion would be meaningless. If the second did not hold, the premises would not be relevant to the conclusion. If we follow Copi in adding one meta-linguistic premise and insisting it was 'missing' from the original argument, why should we stop at one?

That language and concepts work is 'assumed' by every argument. If all the pertinent workings need to be spelled out in auxiliary premises, even the smallest, clearest arguments will be enthymemes that have to be filled out in an highly cumbersome way. Following through on the demand that meta-linguistic assumptions be incorporated as premises will lead us to a vicious infinite regress. The supplemented arguments will use new terms and premises spelling out assumptions requisite to these will also need to be added, and so on.

Copi is quite entitled to add a premise for some specific purpose, but he is not entitled to regard

the original argument as an enthymeme solely because this can be done. The policy of adding meta-linguistic premises because what they say is 'assumed' is not a constructive one. Missing premises are a subset of the unstated assumptions behind an argument. The problem is to specify what that subset is.

There is an unfortunate tendency to use 'missing premise' and 'missing assumption' virtually as synonyms. This can be seen in Michael Scriven's early work at one point. Scriven advises that 'in assumption hunting you're trying to reconstruct the premises that someone would have put forward if stating the argument in full. He continues as follows:

The requirement that the extra or 'missing' premise (which is what an assumption is) be new immediately precludes a mere repetition of the supposed connection between the given premises and the required conclusion. There's nothing new about the statement that what is already being provided is supposed to give support to what is alleged to be the conclusion of the argument. So, typically, an assumption should be referring to something else that hasn't been mentioned in the given premises.²²

The same sort of thing occurs in the first edition of Johnson and Blair's *Logical Self-Defense*. The authors begin their discussion of missing premises by saying that a missing premise is a proposition which, though unstated in an argument, is needed in order to link the stated premises with the stated conclusion. Later they say that a missing premise is necessary for the intelligibility of the argument, and may be called an assumption.²³ They seem to have decided that this equivalence was a mistake, because the second edition of the work says instead that missing premises are one type of assumption.²⁴

Not all assumptions underlying an argument are its missing premises. There are assumptions that must hold if one argues about anything (general pragmatic assumptions), assumptions that must hold if anyone is to argue about this particular thing (specific pragmatic assumptions), meta-linguistic propositions about the meaning and appropriate use of words used to state the argument, evidence which would support stated premises, and much else. None of these assumptions are properly regarded as missing premises.

Missing premises are to fill a quite specific role, one not filled by these kinds of assumptions. As Robert Ennis argued in an important paper, they are to fill a 'gap' identified in the stated argument.²⁵ The gap is an inference gap, and is deemed by the critic to arise because the stated premises do not, by themselves, lead to the stated conclusion in the appropriate way. If we have interpreted a passage as containing an argument, and we are sure that that argument is supposed to work as a syllogism, we will easily be able to supply the appropriate missing premise.²⁶ If we have interpreted it as a passage containing an argument and we are sure that the argument is supposed to work as a formally valid propositional argument, again we can supply the appropriate missing premise.²⁷ In both cases, inserting the missing premise presupposes the interpretive judgments, and once these are made, we apply a familiar model to generate a missing premise. We have a theory of argument that tells us that the model is of a type of argument which exists and is legitimate, and we have interpreted the passage in question as containing an argument of this sort. The theory of argument, and considerable interpretation are presupposed to give a solution to the problem of missing premises.

One difficulty with deductivism is that the theory of argument and the policy on missing premises are too intimately related. In order to maintain deductivism, we need to apply a deductivist policy on missing premises practically everywhere. Yet there seems no rationale for such a policy save in deductivism itself. The deductivist approach to interpretation thus seems question-begging and self-serving or, to put it another way, too *ad hoc*.

I would say, with Ennis, that arguments have missing premises when they have inference ‘gaps’. These gaps are identified when we apply our theory of argument and canons of interpretation to the discourse in which the argument appears. If we see the argument as an inference to the best explanation, and we understand that kind of argument as one in which the inferential pattern must go in such-and-such way, then when the argument fails to exemplify the appropriate pattern, it will have a ‘gap’. Something will be missing, and we can make this something appear by adding a premise. Clearly, perceiving these gaps is tantamount to perceiving some inferences as inadequate.²⁸ This perception depends on our perception of how the inference is working in the stated argument, which is a matter of interpretation. It also depends on our view of how it should work, to yield an argument without ‘gaps’. This is a matter of logic. This issue explicitly reveals the need for a theory of argument, for our view will depend on our view as to how many types of good inference there are.

That missing premises fill gaps in arguments does not yet tell us which of several possible gap-fillers should be selected as ‘best’. One problem about missing premises is to apply a theory of argument and to interpret a discourse and generate the judgment that there is an argument there with a missing premise. Another is, given different candidate statements which would all fill the identified gap, to select one of them as the most appropriate gap filler. Even when we limit the role of missing premises to that of filling inference gaps, there is considerable room for disagreement about them. Some people see gaps where others don’t, due to disagreements about the theory of argument. And some people see gaps where others do not because of disagreements about the explicitness or implicitness of inference rules. All this has only to do with the first question of whether a gap exists. Needless to say, there is also disagreement about the second problem, that of selection of candidate fillers from an array of possible ones once we have granted that there is a gap to be filled at all.

On the matter of premises and inference rules the *locus classicus* is, of course, Lewis Carroll’s famous dialogue about Achilles and the Tortoise. The stubborn Tortoise shows us the possibility of finding inference gaps in even the most straightforward *modus ponens* reasoning.²⁹ This meticulous character insists that in reasoning ‘A and B; If A and B, then Z; Therefore, Z,’ we ‘assume’ that *if A and B, and if A and B, then Z, then Z*. He insists that the ‘assumption’ be written into the argument, since the shorter version required the ‘assumption’. But then his lengthened argument requires a comparable, but longer assumption, in the form of a new associated conditional. The same problem arises at every stage; it repeats. The dialogue shows that inference is impossible unless the mind is willing to move from some claims to others according to a rule which is not ‘written in’. That is, principles of inference according to which inferences are made cannot, on pain of a vicious infinite regress, be written into the argument as unstated premises. They must be used and not said, at some point, or no inference is possible.

Every argument ‘assumes’ the associated conditional, ‘if CON then C’. There is no point in adding this conditional as an explicit premise in the interests of completeness, for the amended argument will again depend on just such a principle — namely its own associated conditional. There is no point in adding it for critical understanding, for it is no easier and no harder to assess than the original unreconstructed argument. Whatever else we say about the determination of which statements are the missing premises, we can agree to ban the associated conditional as one of them.

Carroll’s Tortoise seems especially meticulous and demanding because he will not reason according to *modus ponens* without having that rule stated as a premise in the argument. Logicians feel outraged because *modus ponens* is, paradigmatically, a logically sound principle, and because the unamended argument exemplifying the *modus ponens* pattern is paradigmatically not enthymematic. However,

comparable moves seem more plausible when we move from deductive to nondeductive inference or from formal deductive inference to substantive deductive inference. (Substantive deductive inference depends on meaning rather than on form.)

A hot topic for discussion among philosophers of logic used to be whether the inference from 'this is red' to 'this is colored' required another premise, 'whatever is red is colored'. Many people believed that it did, for the inference was 'material' and not 'formal'. The example is like the relational argument Copi discussed, in that it is deductively valid *in its original unamended form*, in the perfectly straightforward sense that a state of affairs in which the premise is true and the conclusion false is an impossible one. It seemed to some logicians to be incomplete, because it did not exemplify a *formal* pattern of valid inference. Gaps will appear when one's theoretical expectations are not satisfied. For a non-formalist deductivist, this argument is complete as it stands; for a formalist, it needs amendment.

Judith Jarvis Thomson discussed the problem, and took the following stand:

*there is no such possibility as the possibility 'if this is red, it is colored' were not true, for 'if this is red, it is colored' is not merely true, but necessarily true. And therefore, 'this is red' does by itself imply 'this is colored'. And therefore there is in this no reason for saying that a man who so argues suppresses a further premise. Even if we grant that such a man is not reasoning unless he believes that if the thing is red, it is colored, there is in this no reason for saying that what he must believe if he is to be reasoning must be called a suppressed premise of his reasoning.*³⁰

The point emphasized here is a generalization of the point Carroll made with reference to the associated conditional. Anyone arguing from some premises (CON) to a conclusion (C), must be committed to the claim that if CON then C. This commitment is indicated by his reasoning in the way he does reason, and it is 'assumed' by his argument. However, to say this is not to say that it is a missing premise in the argument.

Thomson reiterates the point in general terms, saying:

*to show that you must believe that p is a reason for q if you are to be reasoning in saying 'p, so q' is not yet to show that 'p is a reason for q' must be construed as a suppressed premise of the argument.*³¹

It is important, then, to distinguish within those assumptions that are necessary in order for the inferences of an argument to work. Only some, bearing particularly and usefully on the argument at hand, are properly regarded as missing premises. The associated conditional should not be regarded as a missing premise. Nor should the conclusion. Nor should a necessary truth which relates the meanings of terms used in an argument already deductively valid without the addition of such a truth. Nor should methodological principles. In reasoning and arguing, we work according to some explicit or implicit rules, and these work as rules, not as premises of our arguments. The mind needs some such rules in order to reason and argue at all. Writing them in as missing premises will not avoid this need. It is a primary task of logic and the theory of argument to articulate and rationalize these principles of inference. However, that is not to say that they are to appear as premises in every argument in which we reason according to them. Carroll showed why this is so for simple deductive logic. The point can be extended.

It is easy to ignore this point, as we can see in a recent paper discussing hidden premises. In "Hidden' or 'Missing' Premises", James Gough and Christopher Tindale incorporate a methodological principle as a missing premise in their analysis of an analogy. They discuss the following argument:

A man who drives his car into the rear of another car is not guilty of careless driving if his brakes failed. Similarly, if a man kills another man he is not found guilty of murder if his mind failed to perceive reality due to mental illness.

*Mental instability is not sufficient to establish insanity, as Mr. C. contends. Our judicial system justly requires that a person must have rationally formed the intention to kill another person to be considered a murderer. Insanity is, therefore, an appropriate defense for murder.*³²

As Gough and Tindale point out, in this argument the analogy between failing brakes in a car accident and a failing mind in a murder is used to support the conclusion that insanity is an appropriate defense for murder. But it is not the sole basis for that conclusion. The analogy is used to support what our judicial system requires – namely that one intend to kill in order to be considered a murderer. However, what is at issue in the present context is not the structure of the larger argument, but the way in which the analogy works. Gough and Tindale say:

*Here the conclusion: 'Insanity is, therefore, an appropriate defense for murder' is supported by a number of premises including the following hidden assertion of a comparison:
HP – The two situations are comparable, so if you accept the principle in the case of the driver/brakes, you should also accept it in the case of the murder/mental illness.*

The authors are arguing, throughout their paper, that it is better to think of the problem of hidden premises than of the problem of missing premises, because this rendering of the problem makes us more likely to stick closely to the exact text or discourse and less likely to 'read in' whatever suits our logical fancy as part of someone else's argument. They believe that the statement which they would add to the analogy is in this sense 'hidden' in the original argument.

*This assertion is not missing, but can actually be found in the argument. One of the considerations in assessing the strength of this argument will be the adequacy/legitimacy of this analogy.*³³

At this point we have a slide into incorporating methodology as premises. Any argument from analogy does assume that from some similarities, others follow or are made likely. We have to assess this part of the argument. Of course this involves determining how closely similar the things are in the relevant

respects; that is what is involved in the evaluation of an analogy. But that does not mean that some assertion to the effect that the things are 'comparable' and inferences can be made from their comparability needs to be contained. If a person did not believe that this was the case, or that the two cases he compares 'are comparable', he would not reason by analogy, just as a person would not reason 'p, so q' unless he believed that p is a reason for q. In the latter case, as we have seen, *we should not regard the inferential assumption as a missing premise.*

We do not put into every deductively valid argument the supplementary premise 'when the truth of the premises makes the falsehood of the conclusion a logical impossibility you can infer the conclusion from the premises' or 'no contradictory state of affairs is possible'. We do not put into classically inductive arguments the supplementary premise 'unexamined cases are more likely than not to resemble examined cases'. We do not put into arguments by explanation a supplementary premise that 'the best explanation of observed phenomena is likely to be correct'. To do so would be to emulate the Tortoise, in wanting our rule of procedure to be spelled out as a premise. Missing premises are those gap-fillers that will make inferences from stated premises to conclusions work as they 'should' and that meets further conditions – to be specified. The gaps they fill are identified by interpreting discourse in the light of a theory of argument. No theory of argument should identify gaps on the grounds that inference rules are unstated, as Carroll's arguments show.

It is seriously misleading to use 'missing premise' and 'unstated assumption' as though they were synonyms. Only some unstated assumptions are in the proper sense missing premises. Other unstated

assumptions are worth noting, sometimes, and criticizing them often provide important insights. Nevertheless, pragmatic, meta-linguistic, necessary, or methodological propositions which must hold in order for the argument to work are not, as such, propositions which fill in a specific inference gap in an argument. They do not play the role missing premises are supposed to play.

3. Pragmatism, Scepticism and Missing Premises

When we perceive an inadequacy in the inferential basis for an argument, we may decide that that argument has one or more missing premises. Then we have to select from among an indefinitely large number of candidate premises that could fill this logical gap. There are various considerations that enter in here. There is the desire to be charitable and fair to the arguer, often taken to entail attributing to him or her tacit premises which will be true or plausible and will strengthen the argument from an epistemic point of view. There is the desire for interpretive accuracy, leading to a perceived need to justify supplementation with reference either to other stated material or to the known background beliefs and assumptions of the arguer. And there is the desire for efficiency and simplicity in argument analysis. Obviously, these can pull us in different directions.

At this point we encounter a broader issue. That is the purpose of argument interpretation and criticism. There are two directions we may go, one emphasizing the issue which the argument is about, so that we try to fill out the best argument possible for the conclusion; and the other, a more closely interpretive approach, emphasizing what the arguer said and whether the stated reasons should be amended, in accordance with his or her implied beliefs and intentions.

The idea that argument evaluation should be closely linked with very charitable reconstruction is rather popular among philosophers and logicians. However, it is open to more objections than many people realize. Reconstructing an argument is not the same thing as appraising it, and argument analysis should not be construed as a task which involves the ambitious accumulation of all evidence bearing on the conclusion. The reconstructive view, in its most strongly charitable sense, leaves it a mystery why we should pay any attention to the stated premises at all. If our purpose is to determine whether the conclusion is true or not, then we can think about the conclusion directly, and the appraisal of anybody's argument for it is a subsidiary project. Pedagogically, the matter is of some importance. A course on argument analysis deals primarily with the structure of argument and the appraisal of inference. Arguments on such issues as abortion or evolution are examples. If the primary purpose of examining such examples were to determine the truth of the conclusion, then the course on argument analysis would have to be a course on abortion and everything else. No one is qualified to teach such a course.

How charitable we should be is an issue that will arise when other principles have already been applied. First we use interpretation and our theory of argument to show that a stated argument has inference gaps. Then we have an array of candidate gap-fillers, all of which will do the logical work of filling the gap or gaps. From these, we can select those that cohere with the beliefs, intentions, and commitments of the arguer, so far as we are able to determine these. We have to decide how much it matters whether we have evidence that arguers did accept these candidate premises, and whether our own standards of truth and plausibility are going to be used in reaching our beliefs about what these arguers would have been likely to believe. We have to balance charity and interpretive accuracy, and how we do this is likely to depend in part on our purpose in appraising the argument in the first place. Overly strong charity ignores the possibility that other people may actually think and reason

in ways which would strike us as implausible, odd, or downright wrong. Overly literal interpretation may produce accusations of pedantic, non-substantive, and uninteresting analysis.

When we look at other people's arguments, we should try to understand what they have said and determine whether they have good reasons for their conclusions. Everyone would agree on this, but people have different standards of what real understanding is, some linking it with charity in that understanding must mean making sense of from our own point of view. If we apply the principle of charity to see how well we, or someone, could defend that conclusion, we move argument analysis in the direction of reconstructive discovery and substantive investigation. If we stick closely to the text and immediately implied beliefs of the arguer, argument analysis looks more like an interpretive project.

Thus, it appears that what missing premises an argument has will depend not only on how it is classified and how 'gappy' it is found to be from a theoretical point of view, but also on the purposes we have in analyzing it. If our purpose is to discover whether the conclusion advanced is true, we will find one tacit premise, perhaps, whereas if our purpose is to see how the arguer in fact reasoned from the stated premises to the stated conclusion, we may find another. Thus, pragmatic considerations enter into the identification of the very structure of an argument. To the classically trained mind, this conclusion will doubtless appear bizarre and unacceptable. We might think that if missing premises have to be identified with reference to the purposes of the critic, the game is given away altogether. The missing premise is altogether a product of the critic's imagination, rather than being a feature of the argument itself.

In an earlier paper, I made the sceptical suggestion that missing premises are nowhere except in the mind of the critic. In that paper, I linked the discovery of missing premises to a concept of 'complete argument' which could be universally applied. I said that we have no obviously applicable notion of exactly what would have to be there in order for the argument to be complete. I asked whether it is as though we judged a young family of man, wife, and two small children to be complete, but had no basis for a view as to how large their complete family should be. I then suggested that in this situation, when a person judges that an argument has a missing premise, he is virtually reduced to saying he would expect as part of the argument, something which is not there. He would expect one or more additional premises. But why? The argument as it stands is not complete. But why? What are complete arguments like, and why does this argument fail to be one? In the absence of a universally applicable notion of complete argument, it appears that the missing premise is a product of the reflective mind. Like Humean causes, it is thrust upon the external text by the active intellect-of the critic.³⁴

What now strikes me about these earlier reflections is the presumption that we need one single general account of what a complete argument is in order to say that a particular argument has a missing premise. I now believe that this is not required. What we need is something less ambitious though perhaps still hard to obtain in some cases. We need a concept of complete argument which we can properly apply to the case at hand. That account need not be applicable to all arguments. Seeing an argument as having a missing premises means seeing its explicit inference structure as inadequate. There is a 'gap' to be filled, not because there are some unstated assumptions that bear on the argument, not because the argument fails to be deductively valid, and not because some stated premises need defense. The gap exists because the premises, as stated, cannot give the appropriate support to the conclusion. We can either see the argument as inferentially flawed or see it as having missing premises. But many judgments have gone into the identification of this gap and many more are needed in order to determine which of the various candidate fillers is most appropriate.

Are gaps there in the argument? Or are they projected by the critic? They are really there, presuming that correctness of all the critic's interpretive and theoretical judgments. They are not 'just there' in a theory-neutral sense. Dogmatic pronouncements to the effect that arguments surely have this or that missing premise should always be regarded with suspicion.

All of these considerations suggest that the problem of missing premises is much more complicated than it might seem at first. It involves all the following factors:

1. Interpretation of the discourse as containing an argument in which particular statements are the stated premises and a further statement is the stated conclusion.
2. Classification of the stated argument as being of some particular type. (Application of one's theory of argument.)
3. Logical judgment that the stated argument is not inferentially sound as an example of that type.
4. Logical judgment that the stated argument would be inferentially sound if one of a candidate set of supplementary premises were added.
5. Logical/epistemic interpretive judgment that the argument is some kind of enthymeme rather than a fallacy or non sequitur and that the gap identified should be filled
6. Selection of one candidate from others, based both on epistemic (modest charity) considerations and on interpretive considerations – respect for the actual discourse and beliefs which the arguer held or would have been likely to hold.

Confident statements to the effect that such and such argument clearly has some statement as its missing premise are inappropriate. Whether a statement is a missing premise in some argument depends on our theory of argument, our purpose in analyzing the argument, and much else.

Notes

1. This matter is thoroughly discussed in Chapter One of the second edition of R.H. Johnson and .I.A. Blair's *Logical Self-Defense*. (Toronto: McGraw-Hill-Ryerson. 1983).
2. The view that missing premises are gap-fillers has been defended and explained by Robert H. Ennis in 'Identifying Implicit Assumptions' (*Synthese*, 51: pp. 61-86) and endorsed in David Hitchcock in 'Filling Premise-Gaps in Arguments' (unpublished paper presented at the Second International Symposium on Informal Logic, University of Windsor, Windsor, Ontario, June, 1983).
3. James Gough and Christopher Tindale emphasized the semantic contrast between 'hidden' and 'missing' in their paper, ' 'Hidden' or 'Missing' Premises'. (Unpublished paper presented at the Second International Symposium on Informal Logic; University of Windsor, Windsor, Ontario. June, 1983.)
4. Stephen Thomas, *Practical Reasoning; in Natural Language*, (Englewood Cliffs, New Jersey: Prentice Hall, 1981: Second Edition), p. 174.
5. A term coined, I believe, by David Hitchcock.

6. Thomas, p. 175.

7. In 'Filling Premise-Gaps in Arguments', David Hitchcock argues that it is possible to endorse a deductivist approach to missing premises without subscribing to a deductivist theory of argument. The same point is developed in 'Enthymemes', a paper he presented to the American Philosophical Association meetings in December, 1983. One might apply a deductivist policy to only some arguments, or to all arguments for purely heuristic reasons, or to all arguments for some specific purposes. Thus one might use deductivism as a policy on missing premises without subscribing to it as an overall theory of argument. However, these more qualified views leave open the broader question of the rationale for deductivist supplementation. If one does not believe that the stated argument was in some sense deductive, it is hard to see why the merits of the supplemented argument have any bearing on the original argument.

8. Thomas, p. 175.

9. Established tradition in logic has it that there are numerous fallacies, formal and informal, and that there is at least one type of nondeductive argument, namely inductive arguments. Philosophy of science is sceptical even about the prospects of formal models for inductive reasoning in science, not to mention pessimism about reducing scientific reasoning to deductive models.

10. Taken from Garret Hardin's 'Parent: Right or Privilege?', in *Science*, 1970.

11. Compare the discussion of the example by David Pomerantz in *Informal Logic Newsletter*, Vol. iii, No. 1.

12. Despite the tendency of some logicians to read in the associated conditional routinely when the argument fails to be deductively valid, a number of writers on the topic have pointed out the uselessness of this manoeuvre from a critical point of view. See Ralph H. Johnson, 'Toulmin's Bold Experiment' (*Informal Logic Newsletter*, Vol. iii, nos. 2 and 3); David Hitchcock, *Critical Thinking A Guide to Evaluating Information* (Toronto: Methuen Publications, 1983), 'Filling Premise-Gaps in Arguments', and 'Enthymemes'. Generalizations of the conditional do not share this feature of sheer redundancy, but they lack it at an interpretive cost. Since the generalization necessarily goes beyond what is said in the original, there is always the question of whether the author is really committed to it. This seems to me to constitute a real objection to Hitchcock's approach.

13. Stephen Toulmin and June Goodfield, *The Architecture of Matter*, (Middlesex, England: Penguin Books, 1962), p. 21.

14. This would be a particularly strong version of foundationalism because it would conjoin to the usual foundationalist demand for basic statements a further demand that these basic statements deductively entail the statements they support. As the difficulties of foundationalism have been thoroughly discussed in writings on epistemology, I shall not revisit them here.

15. Some deductivists admit that there are many examples in which anything other than the associated conditional or a generalization of it will be very cumbersome. Compare the discussion in S.N. Thomas *Practical Reasoning in Natural Language* (pp. 171-182) and Samuel D. Fohr, 'Deductive-Inductive: Reply to Criticisms' (*Informal Logic Newsletter*, Vol. iii, no. I, pp. 5-10).

16. I don't claim to resolve this issue here, of course. It is discussed in an introductory way in my text, *A Practical Study of Argument*, (Belmont, Calif: Wadsworth, 1985 and 1987), Chapter 2.
17. Often missing premises are deemed to be premises that, if stated, would immediately reveal themselves as controversial. Sometimes the contrary view is taken: these premises are unstated because they are so obvious and uncontroversial that nobody would bother mentioning them.
18. Irving Copi, *Symbolic Logic*, (New York: Macmillan, 1972; Third Edition), p. 154
19. *On Certainty*, (Oxford: Basil Blackwell, 1969), sections 341, 342, and 343.
20. Typically, that is.
21. Copi, *Symbolic Logic*, Third Edition, p. 155.
22. Michael Scriven, *Reasoning* (New York: McGraw Hill, 1976), p. 173.
23. R.H. Johnson and J.A. Blair, *Logical Self-Defense*, (Toronto: McGraw-Hill-Ryerson, 1977; First Edition) pp. 43 and 186.
24. *Logical Self-Defense*, Second Edition (Toronto: McGraw Hill-Ryerson, 1983), pp. 180-84.
25. Ennis, *Op. cit.*
26. See David Hitchcock, 'Enthymemes'; Rolf George, 'Enthymematic Consequence', (*American Philosophical Quarterly*, Vol. 9, pp. 113-116); Rolf George, 'Bolzano's Consequence, Relevance, and Enthymemes' (*Journal of Philosophical Logic*, VI. 12, pp. 299-318).
27. We have a pattern, and so can determine what is missing from it.
28. One tough issue is to determine when the inferences are just plain incorrect (fallacy) and when they are insufficiently explicit (enthymeme).
29. Douglas Hofstadter's treatment of Lewis Carroll's paradox in *Gödel. Escher. Bach* (New York: Basic Books, 1979) revived my interest in Carroll's dialogue, which first appeared in *Mind* for 1896.
30. Judith Jarvis Thomson, 'Reasons and Reasoning', in Max Black, Editor, *Philosophy in America* (Ithaca, New York: Cornell University Press, 1965), p. 287.
31. *Ibid.*, p. 297.
32. James Gough and Christopher Tindale, ' 'Hidden' or 'Missing' Premises', p. 5.
33. *Ibid.*, pp. 5-6.
34. These ideas were expressed in Trudy Govier, 'What's Not There: Missing Premises as a Problem for a Theory of Argument', draft paper presented at the Canadian Philosophical Association in Ottawa, Ontario in June, 1982.

CHAPTER 6.

A DIALOGIC EXERCISE

This chapter is written in a favourite form of mine, that of the philosophical dialogue. I continue to enjoy writing philosophical dialogues; most of these are either about social issues (revenge, tolerance, offensive speech) or the views of historical philosophers (Kant, Condorcet, Diderot, Locke). Looking back, I find myself rather amazed that I used this form for this material. Prima facie, the fit would seem poor. The participants explore two perspectives on argument analysis. Charmides takes the view that its point, even when one is focused on a particular argument, is to discover whether the conclusion of that argument is true. If one is inquiring into that subject, further claims, evidence, and inferences are relevant to one's inquiry; one will therefore feel free to augment a particular argument so as to improve it and provide stronger reasons for the conclusion. From that perspective, strong charity may be defended; one seeks a strong case to explore the best support for the conclusion whose truth one is investigating. Charmides is defending what some have more recently called 'steelmanning.' Reconstruction should be generous and can be ambitious. The second perspective, that of Lysis, is narrower: one attends to a particular argument to consider its merits as an argument put forward by a particular arguer. One is exploring how well the proffered premises support the proffered conclusion in this argument by this arguer. The arguer's likely knowledge and beliefs should be taken into account when one seeks to understand the argument; understanding it is a necessary prelude to assessing it. Lysis urges against Charmides that a person evaluating an argument should not assume an obligation to fix up the argument first, especially given that she is likely to fix it up according to her own standards and thereby distort the original.

In this dialogue, I sought balance between the two perspectives. My own perspective is closer to that of Lysis, a fact which may emerge in the dialogue itself and which surely emerges in subsequent chapters here and in the various editions of my textbook, A Practical Study of Argument.

Reading this dialogue again, my thoughts turn naturally to a question not explicitly raised here; that concerns dialogue models of argument. These models are popular and have been endorsed by Frans van Eemeren, Rob Grootendorst, Erik Krabbe, Douglas Walton and many others. They have been challenged by some, including J. Anthony Blair and myself. Blair, in "The Limits of the Dialogue Model of Argument," (1997) points out that there are plenty of arguments that are not put forward in dialogue settings. A person, solo, presents a case in a book, scholarly article, or letter to the editor. In expressing his case, this person should ideally consider how others may respond to it, and may seek to consider possible objections to it. But he and he alone, working solo, has the power to construct and select possible objections; there is no one else with whom he is interacting and responding. Argument should be dialectical in the sense that likely or potential doubts and disagreements are taken into account in constructing the argument. But that is not to say that they are dialogical in the sense of being a turn-taking exchanges. Blair urges that we draw a clear distinction between 'dialogical' and 'dialectical'. I agree.

Blair does not emphasize, as I would myself, that those who favour dialogue models typically construct the dialogue themselves. The supposed opponent is not real; often the proponent is not either. The dialogue is a constructed model and one that does not reflect that real context of many real arguments. In "When They Can't Talk Back" (1999), I argued that the dialogue model is distorting for the many cases in which arguments are put forward in contexts where interaction between the arguer and her critics is impossible.

In the present dialogue, one may say that the only real arguers are the authors whose arguments are quoted and subject to analysis by the characters Charmides and Lysis – that is to say F. Chatelet, Hugh Lafollette, R.L. Gregory and J.G. Wallace, C.S. Peirce, C.W. Lewis, and Janet Keeping; their arguments provide data examined here. The constructed characters Lysis and Charmides analyze and evaluate that data (first level arguments). Their accounts, being about the first level arguments, are on a second level. Lysis and Charmides discuss their style and principles of argument analysis and evaluation. The dialogue itself is about their accounts and is thus on a third level. Accordingly, you might call this a meta-meta-discussion. No one is genuinely in dialogue, in the sense in which being in dialogue means being engaged and interacting with another person with opposed views. The exercise has all been constructed, solo, by a single author: myself. This absent personage has selected all the data and has constructed the norms and claims of both of the perspectives that are portrayed as having interacted (though they never really did). At this point reader's eyes may glaze and heads may ache, as the mind starts to ponder post-modernism and its themes. I assure readers that I knew nothing of post-modernism when I wrote this (fictional) dialogue.

As mentioned, my own textbook is written from a perspective close to that of Lysis. In contrast, a recently successful book Reason in the Balance (first edition 2010) by Sharon Bailin and Mark Battersby proceeds from a perspective similar to that of Charmides. Bailin and Battersby urge that students learn to carefully examine an issue in order to come to a reasoned judgment about that issue. Students will be enabled to go beyond analysis of individual arguments, though fairly standard material of argument analysis and evaluation is provided in the work. One's goal when reflecting on the merits of arguments is to find out whether conclusions (about a given issue) are true or not. Students' attention is directed not to the question of what this or that person may have claimed and reasoned in her presented argument, but rather to the question of whether her proffered conclusion is true. The authors urge that students should employ a constructive, open-minded, yet disciplined inquiry toward that end. Dialogues presented in the work are realistic, though not real. As in the solo case, persons constructing the dialogues retain the freedom to consider those objections and counter-proposals that they select.

I hope the unorthodox form of this chapter does not make it difficult to read, and I urge readers to consider some emerging questions. Is it desirable that participant and spectator roles of argument assessment presume the same norms? Is it more charitable to attribute problematic premises than questionable inferences to an arguer? And inside every poor reasoner, is there a good reasoner struggling to get out?

LYSIS: What's this all about, Charmides?

CHARMIDES: What's what all about, Lysis?

LYSIS: This business of trying to analyze and evaluate other people's arguments? What do we do this for, anyway?

CHARMIDES: The answer should be painfully obvious. We study arguments with a view to finding out whether their conclusions are true. In many contexts it is really important to know what is true or probable. A very basic way of showing that a claim is true or probably true is to justify it using a good argument. We study arguments because we seek the truth.

LYSIS: Do you really think so? My idea is that we evaluate other people's arguments to see whether they have given good reasons, enough to convince us of their views. We aren't just looking to see whether their conclusion is true or not. We want to see how well the conclusion has been supported. After all, we sometimes find poor arguments for conclusions we know to be true and even, occasionally, good arguments for conclusions we know to be false. Anyway, if our primary concern were to discover whether a conclusion were true, I think that analyzing other people's arguments would be a pretty indirect way of doing this.

CHARMIDES: No it wouldn't. What's your model of directness anyway? There's no way of directly investigating a hard question all by yourself. You have to approach the truth by looking at what other people have to say. You look at their arguments and by appraising these, you can get the best estimation of whether the conclusions they state are true or not.

CHARMIDES: Well really, Lysis, this is all beneath discussion. Of course that's what I try to do, and that what any rational person would do. You have to use charity when you interpret an argument, especially when people don't say all they have to say. You will often find arguments that are not very good or that seem incomplete or unclear in some way. And then you can fix these up, by adding a premise or several premises that are true, and plausible, and will improve the argument. Then you should add these, interpreting the arguments so as to make them as sensible as you can. All this is obvious and necessary because you are seeking truth. By reconstructing an argument you can best determine whether its conclusion is true.

LYSIS: I don't understand why you find this all so obvious. To me it is just false. You see, I study arguments to see whether there are good grounds given for the conclusion. I don't keep my attention fixed on the general question of whether the conclusion is *true* or *could be shown true* by some argument other than the one I am studying. I focus on the direct and immediate question of how well the conclusion is supported in the *actual argument* I am considering, the argument that has been stated.

You know, this makes argument analysis a much more viable and manageable task than it is on your view. You see, if someone omits considerations pertinent to his case, or relies on an inference that is hasty or unclear, then on my view that person has offered an argument which is inadequate. The argument should not rationally persuade anybody, because the reasons given don't fully support the conclusion. That is the end of the story, so far as the analysis of this particular argument is concerned.

Now if you want to go further, and ask whether the conclusion might be true for some further reason, not given by the arguer, or whether some new information could be added to the original reasons, and would justify the conclusion, you can of course do this. Nobody is stopping you. But why say it's argument analysis? You are not evaluating the original argument any more. Instead, you are embarking on an independent quest for knowledge. It just confuses things if you try to identify this task with that of argument interpretation and appraisal.

I like to keep life lean, spartan, and simple. If someone gives me a good argument, fine. If he doesn't, I look at what's there, find the holes in it, and state my reasons for seeing it as unsatisfactory. None of these fancy charitable fillings for me!

CHARMIDES: But really, this is too uncharitable to be correct! Don't you think that extra filling

is ever necessary? Why would we even mention the problem of missing premises if there were no missing premises? People do, after all, omit necessary steps from their arguments, sometimes because the arguer deems these truths too obvious to be worth stating, sometimes because they are so controversial the arguer would rather you didn't notice them, and sometimes because the arguer does not realize they are required. Or sometimes out of sheer carelessness. When we do this, it is our moral responsibility as critics to fill in these gaps. Your kind of criticism will amount to nothing but hasty nit-picking. You won't get even to the stage of understanding other people's arguments, much less criticizing them, unless you add the required connecting links.

LYSIS: But, my charitable friend, how charitable are you being right now? Why do you not fill in some plausible intermediary steps in my case, if you think it fails to hold up? Practice what you preach, I'd say. Seriously, though, I do agree that occasionally arguments have missing premises. We need to supplement sometimes, but this is only legitimate when we have some basis for believing that the missing premises are, or would have been, accepted by the author of the argument. After all, you know, the discovery of missing premises is not like the discovery of early human fossils. Missing premises are not buried logical objects. Sometimes I think they are more like frustrated expectations. They are found not in any logical earth, but in the active mind of a critic.

CHARMIDES: So, the ontology of discourse – quite the metaphysical theme! And these are quite the metaphors! But really, you know, we already have to read in a very considerable amount of background information just to understand words and grammatical relations, and the point of the argument, and the significance of facts. People are always active when they understand what is written or spoken, and they always have to bring in information that is not explicitly stated. Given that this is necessary all the time, I can't see why you suddenly want to be so literal-minded so far as missing premises are concerned. Of course we often need to fill in people's arguments, in order to make them sensible and plausible. This is charitable, reasonable interpretation, and it's done in the interests of the fair and efficient pursuit of truth.

LYSIS: Well, I do agree that we sometimes have to resort to supplementing an argument with additional premises. What really bothers me about your view is not the idea that premises could be missing but the fact that it is *charity* which will provide some guidance on when to add premises and which ones to add. Your approach seems to ignore the very obvious fact that there are often differences between an arguer's ideas and beliefs and those of the critic. When you say the critic should be charitable, this all sounds very nice, but the critic may well read in things that he thinks are improvements and by doing so, change the original argument so that it is more his own than that of the author. Surely we should only add premises the arguer would have agreed with, or at least only those that he is logically committed to. A fringe benefit of my approach is that it saves an awful lot of work.

Fundamentally, though, the reason for it is that it keeps us from taking flights of fancy on the wings of other people's thoughts. Call your own arguments your own. Don't go reading them into the work of everybody else. This is misplaced charity and won't help you understand anyone.

CHARMIDES: My good friend, this approach seems most pedantic. What matters, fundamentally, is our quest for truth. What is pertinent to the truth is not whether this or that arguer in fact held this or that belief or used these exact words or some slightly different ones. It is not the arguer and his or her

beliefs at all. It is the argument. Even though every argument is put forward by some person or other, it does not follow that every argument is inseparable from its author, bound to him or her forever by logical ties of ownership. The argument, once given, is a set of statements in the public domain, and for the purposes of systematic rational thought, it is this argument which is interesting. Who cares what its particular author might have happened to believe? Usually he or she is far away, and quite often they're even dead.

LYSIS: You started out as though you, and not I, were the charitable, sympathetic critic. You, not I, were the one who would seek the most sympathetic and careful interpretation of what people have to say. Yet now you are telling me to forget about the arguer, who put forward the argument in the first place, and push relentlessly ahead toward some abstraction called 'the truth'. You seem to be saying that one can best appraise other people's reasoning by forgetting the other people. One can ignore these people and ignore their beliefs. I say, when it comes right down to it, this approach of yours is thoroughly disrespectful. And it is incoherent as well. If there are reasons to attend to the arguments other people present, then attend to those arguments that those people present. If there is no reason to attend to those arguments, just ignore them, or take their premises as data to be added to your general pool of information. You proceed and make up your own arguments. In a curious way, I think my hard line approach actually shows more respect for the ideas of others than your approach. Better to have been understood and rejected than never to have been understood at all.

CHARMIDES: You are begging the question, my friend. You say that you understand a person's reasoning if you stick very closely to his or her stated premises, and you only add premises if you can give good evidence that the arguer either believed them or is logically committed to them. You imply that I do not understand that reasoning, when I add material, in order to fill out what is explicitly there. But this is just the issue, isn't it? What is it to really *understand* someone's arguments? That is the issue. It's completely tendentious for you to insist that what you do gives genuine understanding and what I do does not. Arguers usually intend to give good rational support for their conclusions, and any arguer would be pleased to have plausible or true supplementary premises added to an argument by the critic.

LYSIS: Well maybe I did beg the question, but you just equivocated. Of course it's true that most arguers intend to offer a good argument, but what this means is that when they do offer some specific argument, they regard this specific argument as a good one. What it doesn't mean is that they intend to offer just that argument which *you* regard as a good one. What they offer they see as rationally adequate but they don't necessarily intend to offer that which you see as rationally adequate. I won't say you created an intentional confusion here, but you are surely confused about intentions.

CHARMIDES: We don't seem to be getting very far in this dispute. I guess our two approaches would differ most for what, on the face of it, look like bad arguments. Here I would be inclined to charitably add, and you would be inclined to reject.

LYSIS: Right. When both these approaches are so easy to rationalize you can see why people disagree so much about fallacies.

CHARMIDES: I suppose. But that's another problem. Why don't we both do the best we can to

construct a policy on missing premises and then we can apply our policies to the same examples? We can see what results we get, and then we can continue our discussion in a more concrete way.

LYSIS: All right. But where will these examples come from? Will we know enough about all the subjects to be able to appraise them sensibly?

CHARMIDES: It's strange, but I have this feeling that we are being guided by an external force. When we are made aware of them, we will at the same time be told enough about the immediate contexts in which they were used. Thus we will be able to understand them.

LYSIS: Goodness, that is peculiar. Well, I hope you are right. We shall work for a week and then meet again to compare our results. I'm sure you'll see that my policy is much more streamlined and efficient than yours, and much more true to arguers' actual reasoning.

CHARMIDES: And I'm sure you'll see that mine is much more fair and leads more quickly to the truth.

LYSIS: See you in a week then.

1. Charmides' Proposal on Missing Premises

1. To say that an argument has missing premises is to say that it has inference gaps. The conclusion does not emerge from the stated premises as it should in the type of argument given.
2. When we find such an inference gap in an argument, we should try to fill it. The original arguer could not have intended the argument to work as stated, because human reason does not aspire to create gappy arguments.
3. Gaps should not be filled by statements of general methodological principles, because that just means a gap has been misidentified. Nor should they be filled by a statement of the conditional associated with the argument, or a generalization of that conditional. Those would be reiterative and useless additions.
4. The main point in adding premises is to improve the original argument. Missing premises should be selected so as to fill identified inference gaps and so as to be either true or plausible.
5. Since not all good arguments are deductive arguments, proper addition of premises will not necessarily make a reconstructed argument deductively valid. It will, however, make it an inferentially correct argument of some type. With proper reconstruction, there are no fallacies in the sense of arguments involving inference errors, though there are many nondeductive arguments.

2. Lysis' Policy on Missing Premises

1. To say that an argument has missing premises is to presume that it has inference gaps. That is to say, the inferences we need to make in order to reason correctly from the premises to the conclusion do not go through as they should.
2. When we find a gap in an argument we may, under some conditions, attempt to fill it by inserting

extra premises. However, we should not always do this when we find a gap, and we should not be too confident in doing it. The original arguer may have intended the inference to go through just as the argument is stated, and he or she may have different standards for inference than ours. Adding may distort the original argument that was put forward.

3. There are critically useless ways of filling gaps and these should not be employed even when we do decide that gaps have to be filled somehow. It is redundant to fill gaps with statements of general methodological principles. It is reiterative and critically useless to fill them with the associated conditional, a statement with the conjunction of the premises as its antecedent and the conclusion as its consequent. Nor should we use a generalization of the associated conditional.
4. It is the author's beliefs, intentions, and logical commitments as expressed in the discourse in which the argument appears that give proper guidance for missing premises. If we are to insert any missing premise, we must be able to give good reasons to show that the arguer accepted this claim when the argument was made or that he or she was logically committed to it by other things actually stated. No premises should be inserted that are inconsistent with stated premises or with the conclusion, and none should be added which make any stated premises redundant from a logical point of view.

3. Results of the Exercise

Case One

... if the perception of wax appeared to me more precise and distinct, after that not only sight and touch, but many other cases besides, rendered it manifest to my apprehension, with how much greater distinctness must I know myself, since all the reasons that contribute to the knowledge of the nature of wax, or of any body whatever, manifest still better the nature of my mind? (Descartes, from Meditation II; as quoted in The Rationalists (New York: Anchor Books, 1974), pp. 126 – 7. Translation by John Veitch.)

(Here Descartes is trying to show that, contrary to popular opinion, the mind is better known than physical things. He has just claimed that any judgment that a physical thing such as a piece of wax, exists, commits the subject to a judgment that he himself exists, and that this judgment about his mind is known with greater truth and certitude than the judgment about the physical object.)

Stated Premises and Conclusion

1. Sight and touch and many other things make wax manifest to my apprehension when I perceive it.
2. All the reasons that contribute to the knowledge of wax or any other body contribute even better to the knowledge of my mind.
3. Even if I appear to know a body such a wax precisely and distinctly, I know my mind much more distinctly.

LYSIS: I know that this man Rene Descartes acquired a great reputation, and that he worked out some marvellous theories. But even though this feeling is working in me, I can't see this particular argument as a very good one. First of all, premise (2) is quite implausible. Secondly, there is an inference gap

because this premise speaks of contributing to the knowledge of the mind, whereas the conclusion is about the distinctness with which the mind is known. Knowing more facts about the mind wouldn't necessarily mean knowing the mind with greater distinctness, because distinctness is a matter of differentiation, and when the facts in question are to come from the mind's knowledge of other things, there is no obvious way they could contribute to this differentiation. There isn't really any basis in Descartes for filling in this gap. So we should just recognize that the gap exists and that he has given us a poor argument, with both a very implausible premise and an inference gap.

CHARMIDES: I differ. This fascinating argument must have been part of something very important. As it stands, it isn't very clear, but it can be filled out so that the conclusion will be strongly supported inferentially by fairly plausible premises. There is an inference gap in the argument. We need to relate the greater number of contributions to knowledge that we have regarding the mind, according to premise (2) to the greater distinctness alleged for knowledge of the mind in the conclusion. What we need to do is construct a missing premise which will be as plausible as possible and will connect (1) and (2) with (3) in the most logically acceptable way. Descartes himself may have been a deductivist, but I still think that the most plausible link is going to be less than deductive. Having a greater number of facts about an item does not mean knowing it with greater distinctness. It is most reasonable to say that it will generally go along with knowing it with greater distinctness. Because there could be exceptions – as when if a thing had one and only one feature which defined it uniquely and you could know it with absolute distinctness by knowing only this one thing. The argument has a missing premise. It is:

MP1: In having more contributions to knowledge about one thing than another, I generally know that thing with more distinctness than I would know the other.

When this extra premise is read into the argument, we can see that there is some inductive reason for Descartes' conclusion, granting of course his original premises. There is still a problem: the problem that the second premise needs defense, and a thorough reconstruction would add more reasons to support that as well. But we are only working on inference gaps right now, we are not supposed to do anything about the need for subarguments to support premises.

Case Two

Our degree is not recognized, but we have more students than ever. They come because they think they might learn something. Sure there are idiots. And I have given them credits. There are bigger idiots in the Government. Is it up to me to be more rigorous than the electorate? (Francois Chatelet, as quoted in the Canadian Association of University Teachers Bulletin for September, 1978.)

Chatelet was defending university professors in France against charges of irresponsibility and incompetence.

Stated Premises and Conclusion

1. Idiots have been given credits by faculty members teaching in universities.
2. There are even bigger idiots in the government. Therefore,
3. University faculty are not to be criticized for giving credits to idiots.

LYSIS: This person can't have been nearly so famous as Rene Descartes, even though he seems to have the same nationality. This example is a straightforward instance of a fallacy of relevance. It seems to be a case of 'two wrongs make a right' reasoning. The author cites a deplorable fact in the second premise. He tries to infer from the claim that the so-called idiots in the government are even stupider than the so-called idiots in universities that university faculty should not be criticized. This is irrelevant reasoning, because standards for government officials have nothing to do with standards for universities. University faculty are supposed to pass and fail students according to proper judgments of those students' competence in their areas of study. Government officials' stupidity, even if it exists, has nothing to do with this. The argument is a gross *non sequitur*.

CHARMIDES: Now here is an argument which requires extensive supplementation. It is stated only briefly. Somehow the author believes that standards of competence indicated by the electorate are relevant to standards for credit given out by faculty members at universities. The problem is that we have to find a manner of supplementing the argument in order to express this intended connection in a plausible way, and we have to do this, making not only the inference link but the connecting statements plausible. Without such supplementations, the argument would look like a *non sequitur*. But from the very fact that it was given, we know the author thought government competence was relevant to the allotment of student credits. We have to make the connection. The whole argument may be set out like this:

1. Idiots have been given credits by faculty members teaching in universities.

2. There are even bigger idiots in government.

MPI: The electorate, in tolerating these bigger idiots in government, indicates that community standards are tolerant of idiots.

MP2: University faculty, in giving credits to idiots, indicate that they are tolerant of idiots.

MP3: It is not the obligation of university faculty to be more rigorous in their standards than is the electorate.

Therefore,

3. University faculty should not be criticized for giving credits to idiots.

The argument has three missing premises and should be reconstructed accordingly. The third missing premise is suggested by the rhetorical question in the original argument. The first and second missing premises are read in to make the stated material cogent. The argument has no fallacy, but its premises are controversial, especially MP3. We can surely judge that this premise is false. Faculty are awarding specialized degrees for which special qualifications are necessary. In addition, the second missing premise is not plausible, because even if it is a fact that government people turn out to be idiots, that does not show that people were willing to tolerate idiots when they first elected them. The argument is rather weak, because of these problems with its premises, but it is not a *non sequitur* or fallacy of any kind when it is properly filled in.

Case Three

Our society normally regulates a certain range of activities; it is illegal to perform these activities unless one has received prior permission to do so. We require automobile operators to have licenses. We forbid people from practicing medicine, law, pharmacy, or psychiatry unless they have satisfied certain licensing requirements.

Society's decision to regulate just these activities is not ad hoc. The decision to restrict admission to certain vocations and to forbid some people from driving is based on an eminently plausible, though not often explicitly formulated, rationale. We require drivers to be licensed because driving an auto is an activity which is potentially harmful to others, safe performance of the activity requires a certain competence, and we have a moderately reliable procedure for determining that competence. The potential harm is obvious: incompetent drivers can and do maim and kill people. The best way we have of limiting this harm without sacrificing the benefits of automobile travel is to require that all drivers demonstrate at least minimal competence. We likewise license doctors, lawyers, and psychologists because they perform activities which can harm others. Obviously they must be proficient if they are to perform these activities properly, and we have a moderately reliable procedure for determining proficiency. Imagine a world in which everyone could legally drive a car, in which everyone could legally perform surgery, prescribe medications, dispense drugs, or offer legal advice. Such a world would hardly be desirable.

*Consequently, any activity that is potentially harmful to others and requires certain demonstrated competence for its safe performance, is subject to regulation – that is, it is theoretically desirable that we regulate it. If someone has the requisite competence, then the action is not only subject to regulation but ought, all things considered, to be regulated. (From Hugh LaFollette, 'Licensing Parents', in *Philosophy and Public Affairs*, 1980.)*

LaFollette uses this argument to introduce his major theme, namely that people should be licensed in order to become biological parents.

Stated Premises and Conclusion

1. Driving is licensed because it is potentially harmful and requires a testable competence.
 2. Doctors, lawyers, and psychologists are licensed because they perform
 3. A world in which anyone at all could drive, operate, prescribe drugs, or offer legal advice, would be very undesirable.
- Therefore,
4. Any potentially harmful activity requiring testable competence should be regulated, in the sense that regulating it is theoretically desirable.

LYSIS: This argument is a kind of hasty generalization. The premises provide an insufficient range of cases on which to base the conclusion, which is a universal one. The author seeks to ground a universal conclusion on a considerations of four kinds of activities. He fails to consider that these four may not be fully representative. In the context of his later use of the argument, this failure is very significant. The author uses this argument later to defend his idea that the biological parents of children should be licensed. But considerations of privacy, the human instinct to reproduce, and the harmfulness to individuals' lives of any failure in society's administration of judgments affect this case far differently than those cases cited by the author.

The argument as it stands fails, and not in such a way that it would require supplementary premises to back it up. The direction of the argument is clear. There is no inference gap: we can understand how we are supposed to connect the stated premises with the conclusion. Furthermore, there is nothing in the existing premises or surrounding text that could be used to construct any satisfactory missing premise even if we set out to look for one. The conclusion might be true, but the argument in support of it is hasty and weak.

CHARMIDES: There is a gap in this argument between the premises, as explicitly stated, and the conclusion. In order to support the conclusion with these premises, we have to make an additional supposition about the activities cited. It is a rather difficult matter to construct a plausible version of that supposition, since it is hard to see just what we need to assume about driving, doctoring, giving legal counsel, and giving psychological advice which makes these activities license a conclusion about all potentially harmful activities which require testable competence. We might add something like 'Other activities that are potentially harmful and require testable competence are relevantly similar to these'. This is still a bit too open-ended and will be hard to verify, but we need something like this in order to fill the logical gap between the cases cited and the universal generalization. The argument becomes deductively valid when this premise is added, and its merits will depend on our appraisal of the added premise.

Case Four

*...throughout Hebb argues that the position in the child is basically similar to that of the adult whose vision is restored at operation. Is this a tenable assumption? The adult, after all, has developed a 'touch world' which has served him well for many years, and which has become accepted as the principal vehicle of his occupational and social adaptation. The child, on the other hand, is concerned to develop a 'visual world' ab initio, and although tactile and motor activities contribute in an important way to its evolution, it is difficult to think of the two cases as in any real sense similar (From R.L. Gregory and J.G. Wallace, 'Recovery from Early Blindness: a Case Study', in Paul Tibbets (editor), *Perception*, (Chicago: Quadrangle Books, 1969), p. 385.)*

Gregory and Wallace are arguing that it is a mistake to assimilate the case of an adult with a tactile-motor world but no visual world until an operation restoring sight with that of a child who is simultaneously constructing a visual world and a tactile-motor world on the basis of perceptual experience.

Stated Premises and Conclusion

1. An adult who recovers vision after years of blindness has had a touch world which has served him well for many years.
2. An adult who recovers vision after years of blindness has had a touch world which has become accepted as the principal vehicle of his occupational and social adaptation.
3. A child beginning to see is developing a visual world right from the start.
4. A child beginning to see does not have tactile sensations which constitute a coherent alternative touch world.
So,
5. An adult who recovers vision after years of blindness is significantly different from a child developing visual perception.

LYSIS: This is a good clear argument. There are no inference gaps and it has no missing premises. The authors show that Hebb's position was unreasonable.

CHARMIDES: This is a good argument, and the conclusion is adequately supported by the premises. Since the argument works as it stands, there is no need for any reconstruction using missing premises.

Case Five

The object of reasoning is to find out, from the consideration of what we already know, something else which we do not know. Consequently, reasoning is good if it be such as to give a true conclusion, from true premises, and not otherwise. (From C.S. Peirce, 'The Fixation of Belief,' in *Pragmatism: the Classic Writings*, edited by H.S. Thayer. New York: Mentor Books, 1970, p. 63.)

Stated Premises and Conclusion

1. The object of reasoning is to find out from the consideration of what we already know something else which we do not know.
So,
2. Reasoning which gives us a true conclusion from true premises is good reasoning.
and,
3. Reasoning that does not give us a true conclusion from true premises is not good reasoning.

LYSIS: This is an ambitious argument. The philosopher seeks two conclusions from a single premise. The problem is not with inference. It is that the premise requires clarification. If the word 'know' is understood too narrowly, the premise will be false, for the purpose of reasoning is also to form reasonable beliefs on the basis of other things which we have good reason to believe. However, since this philosopher was a fallibilist, he would likely have been willing to equate having good reason to believe with knowing. If this is done, the premise is all right. The direction of the argument is clear enough.

But just as we had to clarify 'know' in the premises, we have to look at the semantics of the conclusions. First we have to understand them as being about reasoning of a type; because if we don't do this, (2) is vulnerable to counterexample. You can easily reason from a true premise to a true conclusion without employing good reasoning, just by being lucky. So we must understand that the references to reasoning are to general patterns of reasoning. Right after making this argument, Peirce goes on to speak of 'habits of the mind', so this interpretation has a good textual basis. However, there is still a problem with (3). Whereas (2), as explained here, can be inferred from (1) – reasoning has such-and-such purpose; reasoning of so-and-so type serves this purpose; therefore reasoning of so-and-so type is good reasoning, (3) cannot. The only way to make (1) true is, as we have seen, to understand 'know' in a flexible sense that would be suggested by Peirce's fallibilism. On this interpretation of (1), (3) does not follow from (1), because reasoning might give us probable conclusions from probable premises, satisfying (1), but not (3).

Since this argument needs so much clarification, we can rightly accuse the author of vagueness, and since it can only work when 'know' is understood in two incompatible ways, we can also accuse him of equivocation. However, these problems do not generate inference gaps and the clarification needed is not to be supplied by extra premises.

CHARMIDES: This certainly is a challenging case. It doesn't work very well as it stands, so something must be added to it to make it more clear. The argument is really about the purpose of reasoning, which Peirce specifies in (1). Of course here, we will get too limited a purpose if we understand 'know'

in a restrictive way as requiring both solid justification and truth. So we shall have to understand 'know' more loosely, as including believing for good reasons. The point of the argument is that reasoning is good reasoning if and only if it serves its purpose, as stated in (1). The reference to reasoning in (2) and (3) must be understood as referring to reasoning of a type, for otherwise (2), at least, is too easily vulnerable to counterexample. The most elegant thing to do here is to turn Peirce's passage into two separate arguments. The first:

1. The object of reasoning is to find out from the consideration of what we already know something else which we do not know.

MPI: Reasoning that gives us a true conclusion from true premises lets us find out something we do not know from something we do know.

MP2: Reasoning that serves its purpose is good reasoning.

So,

2. Reasoning that gives us a true conclusion from true premises is good reasoning.

The second argument is:

1. The object of reasoning is to find out from the consideration of what we already know, something else which we do not know.

MP3: Reasoning that does not give us a true conclusion from true premises does not let us find out something we do not know from something that we know.

MP4: Reasoning that does not serve its purpose is not good reasoning.

So,

2. Reasoning that does not give us a true conclusion from true premises is not good reasoning.

There is still a problem of language, even after this inferential clarification. It affects the second argument. To get a charitable interpretation of (1), we understood 'know' as a fallibilist would. Yet such an understanding would make MP3 false. Nevertheless, MP3 is needed to reach the conclusion. If we revert to a more classical understanding of the word 'know', consistency of meaning is restored, but on this interpretation (1) is either false or highly controversial. Peirce gave one good argument and one unsound one. Both, when properly understood and filled in, are deductively valid.

Case Six

You can get a large audience together for a strip tease – that is, to watch a girl undress on the stage. Now suppose you came to a country where you could fill a theatre simply by bringing a covered plate onto the stage, and then slowly lifting the cover so as to let everyone see, just before the lights went out, that it contained a mutton chop, or a bit of bacon, would you not think that, in that country, something had gone wrong with the appetite for food? (From C.S. Lewis, *Mere Christianity*, quoted by R. Olson in *Meaning and Argument* (New York: Harcourt Brace and World, 1960.)

Lewis is trying to defend traditional Christian sexual morality. He uses the analogy to argue against sexual display for titillation and amusement.

Stated Premises and Conclusion

1. If people enjoyed watching the uncovering of a mutton chop or a bit of bacon, which they were not going to eat, something would have gone wrong with their desire for food.
2. People enjoy watching a girl undress on stage when they are not going to have sexual relations with her.
So,
3. Something has gone wrong with our desire for sexual expression.

LYSIS: This amusing argument is quite complete as it stands. The direction of the inference is clear. The argument obviously is based upon the analogy between the hunger for food and the desire for sexual expression, both being human appetites. From the first premise, stating hypothetical circumstances, and a posited judgment that in these circumstances, something would have gone wrong, and the second premise, revealing the similarity between the strip-tease and this hypothetical case, we are to infer that something has gone wrong with sexual appetite in the world of strip-tease. Whether the analogy is good or not seems to be a moot point, but in any event there is no need to insert a supplementary premise; the intended direction of the inference is entirely clear. A full appraisal of the argument depends on an exploration of the relevant similarities and differences between hunger and the desire for sex.

CHARMIDES: The argument as it stands is quite clear, but the inference structure could be improved if premises were added formulating and clarifying the basic analogy between the desire for sex and the desire for food. We need to add a premise to the effect that the desire for food and the desire for sex are human desires that are fundamentally similar with regard to deliberate arousal and subsequent satisfaction. We don't say they are fundamentally similar in all respects, because this assertion would be stronger than the argument requires, and implausible. We specify those respects required for the argument to work. Provided this added premise is true, the argument is a good one.

Case Seven

In order to prosecute for using the mail to send obscene material, the police should require the consent of the Attorney General. So urged Janet Keeping, President of the Calgary Civil Liberties Association, in a letter to the Alberta Attorney General. Her letter was provoked by a recent prosecution in that province against Joseph MacDonald for an 'obscene letter' he reportedly wrote to the Unemployment Insurance Commission. Frustrated by delays in the processing of his unemployment claims, Mr. MacDonald had written a letter to the UIC in which he allegedly compared public servants to certain parts of the human anatomy and admonished them to commit unnatural acts. While the court ultimately acquitted Mr. MacDonald, the Calgary civil liberties group is seeking assurances that such matters will not be prosecuted in future.

'There is a distinction between bad taste and criminal conduct', said lawyer Sheldon Chumir, an executive member of the Calgary group. 'If using coarse language is to be considered a crime', said Chumir, 'half of us are going to end up in criminal court.'

(From the Canadian Civil Liberties Association Newsletter, September, 1980. Thanks to David Gallop for bringing this example to my attention. It is Mr. Chumir's argument, as reported that will be dealt

with here. We are told that he used this argument to back up the Civil Liberties group in its contention that the use of coarse language should not be an offense that is prosecuted.)

Stated Premises and Conclusion

1. If using coarse language is to be considered a crime, half of us are going to end up in criminal court.
2. There is a distinction between bad taste and criminal conduct.
So,
3. People should not be prosecuted for using obscene language in letters.

LYSIS: Here is a case which really does have a missing premise, at least as reported. The need for this premise is apparent when we see that (1) is supposed to provide the basis for (2), and yet as these are stated there is no clear connection between the statements. We know that Mr. Chumir, the author, is a lawyer speaking for a civil liberties group, and so it is reasonable to attribute to him a linking belief: namely that it is not desirable for half the population to wind up in criminal court. This can be added as a missing premise in the argument.

CHARMIDES: Several points arise here. Obviously the inference from (1) to (2) is not clear as it stands. We need to add something which will bring out the intended connection. Also, if we take (1) literally, we might think that it requires some defense. The author has a rather dramatic estimate of the numbers of people who use coarse language. But missing premises are to fill inference gaps, not to buttress stated premises. The argument should be filled out so that it reads as:

1. If using coarse language is to be considered a crime, many people are going to end up in criminal court.

MPI: It is not desirable for large numbers of people to end up in criminal court.

2. There is a distinction between bad taste and criminal conduct.

MP2: People who are prosecuted for using obscene language in letters are being prosecuted for bad taste.

MP3: People should not be prosecuted for bad taste.

So,

3. People should not be prosecuted for using obscene language in letters.

We can see that there are two strands in this argument: the numbers who might be in court, and the relation between bad taste and prosecution.

4. Analysis of the Results

CHARMIDES: That was quite exhausting. I am certainly glad it's over.

LYSIS: So am I. Now the interesting part begins. We can discuss our results.

CHARMIDES: Well, our results do seem to indicate that arguments can come out looking structurally different when one is more or less charitable on missing premises. Usually my analyses were quite a lot longer than yours, and I was far more willing to add extra premises. Yet, I wouldn't say, when I look at your exercises, that they really seem wrong. It is sometimes almost as though one and the same passage really can be understood in several quite different ways.

LYSIS: I wouldn't say your analysis looked wrong to me either. Really, it even makes me wonder a little about right and wrong in finding the structure of an argument. Maybe some natural arguments have more than one structure.

You know, it used to be that people thought there was such a thing as the structure of a sentence. There was one single logical form that the sentence had. Then some came to a more sophisticated and flexible view and decided that what form a sentence had could vary depending on why we were looking for its form. A sentence like 'Joe is happy' could be represented a universal statement that all things identical with Joe are happy, or as a single existential statement that this one individual Joe is happy, or even just by an atomic statement represented by a single letter. It's not wrong to show it as one or the other. It's more or less useful, depending on where the sentence appears and what we are trying to do when we are interested in its form.

Different versions of argument structure might work like this. Maybe your longer versions and my shorter versions can equally count as representation of the structure of natural reasoning, and mine is better for some purposes, whereas yours are better for others.

CHARMIDES: I don't know about that. That sort of structural relativism seems at least as confusing as the problem of missing premises itself.

LYSIS: Pragmatic considerations have to play a role here, I think. Couldn't it be that your approach best represents the structure of an argument for some purposes and mine for others?

CHARMIDES: Perhaps. But it would be nice to have a more elegant and definite solution than that. Actually, we did agree in some cases, after all. We thought the argument by Gregory and Wallace, the two psychologists refuting that other psychologist, was successful without any supplementation. And that last argument, you know, the amusing one about obscenity in the mails, we saw it in almost the same way.

LYSIS: Those were good arguments. The inferences were pretty solid and clear. In that last case, it was obvious from the context what had to go in, and what we inserted was obviously true and obviously accepted by the author. Those aren't the kinds of cases where our views differ. Good arguments don't need a lot of supplementation. Usually, a person who puts forward a good argument knows enough that there is not a big contrast between adding plausible claims and adding claims that he or she clearly accepts. It is perfectly understandable that we don't differ much on the analysis of good arguments. We differ on poor arguments. I have the impression that the more hastily an argument is stated, the more carelessly it is put, the crazier its premises, the sloppier its inferences, the more we shall differ. You see a need for more and more additions, and I just reject things as incorrect – having problematic premises or hasty or irrelevant inferences.

CHARMIDES: It's funny though. Even there, the differences between us can be exaggerated. For

instance, although we had very different looking analyses for that argument by Descartes and the other one about the French professors giving credits to idiots, we didn't really disagree on the substance of the case. We just located problems in different places. On Descartes, for instance, you just said he made a hasty inference, explained why you thought it was hasty, and that was that. Whereas I went to a great deal of trouble to set out the argument clearly, adding a claim which I thought was logically presumed in order for the inference to work. It was a hard case, and I'm still not sure I have it right. But then, when I had finished setting out the argument, I could see that the premise I had added was false or at least very implausible. So I didn't say the argument contained a hasty inference but I had to say it was a weak argument, because it had an unacceptable premise. You say Descartes made a hasty inference. I see him as reasoning accurately from premises which are not acceptable. Our structural models were different, but as far as the substance of the issue is concerned, we are really in complete agreement. We both think that Descartes has not established in this reasoning that the mind is better known than any physical body. We both think this because what the mind knows about itself when knowing a body is not the sort of thing that would make the mind *distinctly* known, as Descartes' conclusion requires.

LYSIS: I noticed that. Although we state our results in different ways, there is not a single case where we really disagree on a matter of final assessment. It almost seems to me as though you think of the same criticism which would occur to me and then you form the negation of it and write in that negation as a missing premise. You then find, after reconstruction, that the argument is quite all right, except for that one premise, which is false, or at least highly controversial. With that example about regulating activities, that happened. I said the four cases cited by the author might not be representative. You said that the author presumed that the cases were representative, and then questioned the presumption, regarding the inferentially reconstructed argument as having a controversial or false premise.

Your critical route seems roundabout to me. It is supposedly motivated by charity, by the desire to make out as good a case as possible even for those arguers who express themselves in a hasty way. Given that you almost always have to go on and judge the premises you have added as unacceptable, I must say I am not even sure why this amounts to charity. You are making the same critical points, essentially, and just locating them in different places.

I see your use of missing premises not so much as charity but rather as a powerful critical weapon. In fact, sometimes your technique reveals critical problems I never would have noticed without it.

CHARMIDES: Let me tell you a little story. There was a society in which many people are fat, and these people, especially if they were very fat, were quite often criticized, insulted, and even ostracized by others. The fat women were very different from the fat men. There were more of them, they worried more about being fat, and they responded to criticism and personal attack in a very timid way, quite differently from the way men did. They usually made excuses for themselves, and pretended to be on a diet even if they really weren't. The fat men, on the other hand, were pretty aggressive about handling criticisms of themselves for being fat. They fought back, verbally at least, when attacked.

LYSIS: Really, Charmides, this is rather depressing. Besides, what on earth could it possibly have to do with charity and missing premises? We weren't working on dietary supplementation, you know! Some of this background information we got must really be churning up your mind and brain!

CHARMIDES: Wait a minute. I'm getting to the point. One man who was told he should go on a diet said to his acquaintance, 'I don't have any problem. At least it's easier for me to change my body than for you to change your stupid brain and smarten up.' Some people who heard about this response thought that it was warranted by the insult. But others were shocked. Think about why one might be shocked. We can learn something here, which bears on this matter of charity and missing premises. I mean, why would one find the idea of attacking another's brain or mind so much worse than the idea of attacking another's body?

LYSIS: Gosh, I'm overwhelmed. What kind of analogy are you using here anyway? There have to be some missing inferential links in this one. I am glad you're here to fill them in, because I certainly wouldn't be able to do it.

CHARMIDES: We all have our limitations. Look, the thing is, it is more offensive to insult a person's mind or brain, or intelligence than to insult his or her body. This is because we tend, fundamentally, to identify the real person much more with the mind than with the body. We are like Rene Descartes in this respect. We think a person is essentially a thinking reasoning thing, and we think of the thinking and reasoning capacities as relatively fixed.

LYSIS: Goodness. I think I can see now what you're getting at. You suggest that in just the way a person's mind is more essentially that person than his or her body, a person's reasoning is more essentially him or her than that person's assumptions and beliefs. So it is more charitable, and less threatening, to claim that a person has made questionable assumptions than to claim that he or she has reasoned badly. Assumptions and beliefs can come and go, but our reasoning powers are a fundamental part of us, one that we have forever.

CHARMIDES: That's it exactly. So even though we agree on the substance of the various issues with the arguments I am still being more charitable and more respectful of persons than you. It is because of the way I locate my criticisms. Beliefs and assumptions are more easily shed than styles of reasoning.

LYSIS: Well, there is so much I want to question about these assumptions – yours, I mean. I think, you see, that people may inadvertently reason badly. Bad reasoning on an occasion need not express a permanent *poor quality reason* in a person. And also, I think beliefs and assumptions can be a fundamental aspect of a person's cognitive style. So the contrast between reasoning as expressing a relatively permanent aspect of a person's capacity for thinking, and assumptions and beliefs as more easily droppable is not really valid. As a general contrast, it won't hold up.

I'm fascinated, though, by your analogy. We might think of the common saying that inside every fat person there is a thin person struggling to get out. You could imagine that inside every poor reasoner, there is a competent reasoner, struggling to get out.

I don't think people who make hasty or irrelevant inferences, errors formal or informal, have something in them called 'poor reasoning ability'. Rather, they share with everyone some capacity to reason well. It is just that, for whatever reason, that capacity has not been productively applied to the argument we are criticizing. Perhaps the person was careless, or distracted, or overly emotional about the issue, or so committed to the conclusion that it didn't seem necessary to find very good evidence

for it. Good reasoning can emerge. One thing that will make it emerge is sharp, pungent criticism that points out errors in reasoning and explains why these are errors.

Anyone, however great, original, or profound, can make mistakes in reasoning, as in everything else. To say that this man Descartes, who we were told was a very great philosopher, made a mistake in reasoning is not to insult him or to imply that he lacked *reason*, or even that he was not a great philosopher. It is simply to show that one particular inference wasn't correct, period. Anyway, what makes people great or profound is not just the correctness of their inferences. It is their originality, capacity to identify and resolve new problems, ability to synthesize, and much else. So much else.

CHARMIDES: I see what you're saying. And yet it is more charitable to reject arguments on the grounds of containing unacceptable premises than to reject them on the grounds that they have hasty or irrelevant reasoning. People regard reasoning capacity as a more essential and less variable aspect of themselves than their various assumptions and beliefs. They would far more readily accept a criticism along my lines than yours. Criticism of suppressed premises will be perceived as more charitable – and for that reason it will be more charitable.

LYSIS: You mean, in this context to be perceived is to be?

CHARMIDES: Of course not. But if you can make the same point in two different ways, and one of them is likely to be more psychologically effective than the other, because people's underlying assumptions make them more receptive to it, then you should use that approach.

LYSIS: Well, I don't know. You seem to be shifting grounds. We are now moving from logical and interpretive issues to psychological and pedagogical ones. After all, it could be that what is most effective in causing people to produce clearer, better arguments, using better reasoning, is my approach. It will more quickly shock people out of their sloppy habits and more rapidly lead to carefully structured reasoning. My approach would more quickly improve reasoning and would for that reason be more 'kind' than yours.

CHARMIDES: I won't pursue the subject further then, because we are getting off the topic. Surely which premises are missing doesn't depend on which teaching technique is most effective!

LYSIS: The one analysis of yours that really bothered me was that case where the French professor was trying to defend himself against the criticism that he had given credits to stupid students. Remember? It seemed to me that what he said about the government having even worse idiots was clearly *irrelevant* to the issue. Yet you, with your astounding patience and tolerance, managed to weave a fairly plausible argument around his comments. Of course, as in other cases, it turned out that you had to use several rather implausible premises. But what bothered me was that you did so much work yourself. You were constructing a new argument, rather than analyzing his. Also his argument was just tossed off in a moment of annoyance, it seemed. Because it was amusingly bad, it was quoted in a newsletter. I don't think it deserved the amount of attention that your approach made you give it.

CHARMIDES: I was frustrated by that example for just those reasons. But you know there is another kind of case in which your approach seems inappropriate. We sometimes have to deal with fragmentary texts by great thinkers, or with texts written in a deliberately elusive way, by writers who want their readers to think for themselves and, to achieve this, quite pointedly do not spell everything

out in a pedantic and literal fashion. Here, if you fail to read in, you won't find claims and arguments at all. And yet some of the greatest thinkers have given us, or left us, only fragmentary or elusive texts.

LYSIS: With fragments, I rather think it's better to leave them as fragments, with their poetic flavor intact, and read in a lot of claims and arguments. And as for elusive writers, that's a different case. They do give you the basis in another part of the text for the various attributions you need. You'll be able to add the requisite premises to arguments using my approach, assuming that you want to get an explicit argument in that sort of case. Often, the statement of problems and the suggestion of hypotheses or images is more the issue than the actual argument.

CHARMIDES: But on the French professor example – not Descartes, the other fellow, perhaps that case does reveal something of general importance about my approach. I agree that the amount of work I put into the thing was out of all proportion to the seriousness and worth of the original piece. Perhaps this is because the argument was not the argument of a great man. I didn't owe him the kind of respect I would owe to Descartes or Peirce, or even C. S. Lewis, for that matter. Perhaps I should qualify my policy of charity, and only apply it when the argument was put forward by a person who has a claim to be taken seriously.

LYSIS: I just can't go for that. It's so undemocratic! You're implying that some people have a greater claim to be taken seriously than others. And when people have a greater claim to be taken seriously, then we should adopt your sort of policy toward them, and do a lot of filling out, if necessary, to make their arguments plausible. Whereas, when people have less claim to be taken seriously, they merit less charitable treatment? I don't like this approach. My view is that everyone who enters the realm of rational argumentation deserves equal treatment. If your view is going to be amended so as to apply only to the elite, then it appeals to me even less than it did before.

CHARMIDES: Just as some people have greater credibility as witnesses, or experts on scientific facts than others, so too some people have greater credibility as arguers. It is one thing to attribute a hasty inference to your local bank teller and quite another to attribute it to Descartes or Peirce.

LYSIS: I don't like it. I don't like it at all. It's dialectical elitism, that's what it is.

CHARMIDES: Well, a label isn't an argument. It's just true that different thinkers have different levels of credibility and merit different amounts of respect. Calling it 'dialectical elitism' won't make it false.

LYSIS: Now we're back to the other problem. Is criticizing someone's argument on the grounds that it contains hasty or irrelevant reasoning disrespectful? I can't see that it is, frankly. After all, your criticisms and mine do not differ in substance, only in location. You attack beliefs, and I attack inferences. I never really conceded that that difference makes the difference you ascribe to it.

CHARMIDES: Well it does.

LYSIS: Let me ask you something else. There is a distinction that becomes blurred when people try to argue about the theory of argument. It is the distinction between sitting down to do an 'analysis' of an argument, which pops up out of nowhere and is an example some theoretician is using to illustrate a point, and actively rebutting or accepting someone's real argument in the context of a live conversation or debate. We might call the first spectator analysis and the second participant analysis.

People who try to theorize about arguments are likely to do unusual amounts of spectator analysis. And people who try to teach others how to argue well are likely to do unusual amounts of it as well. Since it is often the very same people who teach and theorize, there is a tendency for the spectator point of view to predominate when these people think about arguments. Yet surely it is participant analysis which is the more fundamental of the two, isn't it? I maintain that it is. Arguing is defending claims with reasons, and people do this in order to rationally persuade others of what they have to say. Typically, people argue and respond to arguments in contexts of actual ongoing debate, where there is controversy and disagreement. If it were not for participants, there would be nothing for the theory of argument to be a theory of. Participant analysis is primary, and spectator analysis is derivative. Spectator analysis should be in accord with what participants do when they respond to each other's arguments.

You and I have been participants in a debate about spectator argument analysis. As theorists, we are stuck doing lots and lots of spectator analysis. It's an occupational hazard, we might say. Just as judges should refrain from seeing all humans as potential court cases and doctors should refrain from looking at everyone as prospective patients, we should avoid looking at every argument from the view point of spectators. An argument is not primarily a thing written on a page; it is primarily a set of claims advanced by a person who is trying to rationally persuade someone else. And responding to an argument is above all, rejecting or accepting claims and inferences, on the basis of reasons that can be put forward to the arguer. Any theory or policy which we come up with, for handling arguments, should apply to participant analysis as well as to spectator analysis.

CHARMIDES: Get to the point, will you?

LYSIS: The thing is, I can apply my policy on missing premises equally as a participant and as a spectator. When I argue, actively, with you, I point out that some inference involves hastiness, or irrelevance, unless the immediate context and my knowledge or your related beliefs permits me to fill in the gaps in your case. If things don't seem right, I just say so, and I let you respond. I can apply my policy in real ongoing debates, as well as in spectator analysis of sample arguments. Can you do this too? Do you? I don't feel, really, when we are arguing together that I, as a participant, get the treatment you recommend for filling in gaps when you articulate your policy for spectator analysis. You imply that when you are doing spectator analysis, but you don't seem to apply it when you are participating in a real debate like the one we are having now. Is your policy like those philosophical theories that won't bear up in practice?

CHARMIDES: Well then, yours just might be one of those debater's practices that doesn't bear up in theory! I'll think about it. The question is whether I apply my charitable policy in real debate. This can be turned into two questions. First whether the policy could be applied in this way; second, whether I do in fact apply it this way. The answer to the first question here is yes and the answer to the second is no, and for good reasons. I don't think this involves any pernicious or wicked split between theory and practice. Let me explain.

Of course people could employ my policy when they are actually participating in ongoing debates. It would make these debates much slower than they actually are, but it would probably make them more careful, tolerant, and polite too. I suspect it is uncommon for people to use my sort of approach in actual ongoing debates, although I wouldn't know for sure. What I do know is that even I, an advocate

of the policy, do not employ it when I am actively responding to your arguments in an ongoing debate. The reason for this is perfectly obvious. It is that you are also a participant, and you are entirely capable of doing your own filling in. If you use an argument which strikes me as containing a *non sequitur*, I can just ask you whether you accept this or that connecting premise, or ask you how the two things are connected, and you can reply. People participating in ongoing arguments on several sides of an issue are in a very different position from people responding to an argument in a written text, where there is no opportunity for direct response from the author. The fact that I don't use my policy in participant contexts doesn't show I have a philosophical theory that cannot be put to practice. Rather, it shows only that I have enough ordinary common sense not to try to think for other arguers when I have to think for myself.

LYSIS: So you are qualifying your policy in two ways, really. First of all, since it demands a lot of work from the critic, you are saying that critics should only apply to arguments put forward by people who have a claim to be taken seriously. Secondly, you apply it only to contexts where you are, in effect, analyzing an argument as a spectator, and not to those contexts where you are actively engaged in arguing against or with someone in a real debate.

CHARMIDES: That's almost right. But the last part is more complicated than you realize. You see, the contrast between analyzing as a spectator and responding as a participant is not as straightforward as you suggest. Of course, when we work out examples in teaching or in trying to figure out a theory of argument, we work as spectators, in your sense. And of course, when we debate with each other, we work as participants. But these contexts are at the ends of a spectrum, really. It's not an either/or. We are often doing something in between. We study arguments written down somewhere, and we study them in the course of developing a theory of our own on some subject. This is participant analysis in that we are not studying an example for some pedagogical or theoretical purpose, but rather we are studying it because we have a direct concern for the issue it deals with. Here is where my original idea comes in. I'd say that this too is participant analysis. However, like spectator analysis in most cases, it typically gives us no opportunity to have a response from the person whose arguments we are studying. It is this unavailability in most spectator contexts that makes my policy appropriate. And it is this that makes my approach better than yours. Provided an author has a claim to be taken seriously and is unavailable to fill out his or her own arguments, my charitable policy is best.

LYSIS: I still don't like it. I don't like the contrast between those who do and those who do not deserve to have their arguments taken seriously and treated with charity. It violates my fundamental respect for human persons.

CHARMIDES: Heavy stuff, this.

LYSIS: Still, it does. And I find your approach cumbersome and long. It leaves the door open to reading in too much, and it deviates from the text too much.

CHARMIDES: Your approach still strikes me as hasty and uncharitable. You never once found a case where I read something in which was not needed for the logic of the argument. And you agreed that my approach was a powerful critical tool. In one case it revealed a problem you had not even contemplated.

LYSIS: What is 'the logic of the argument'? That is a major thing in question here. We shall have to comfort ourselves with the thought that we do not disagree in substance on any case we have looked at. Remember, it was obvious that we were actually finding similar difficulties, only locating them in different places. You say it's more charitable to do this, and offer a theory about people's relative degrees of attachment to their reasoning powers on the one hand and their beliefs and assumptions on the other. I'm still not sure that it is more charitable, in an over-all sense. It seems to me that my approach is simpler and more efficient than yours, reveals substantially the same issues in any given argument (only locating them differently), and it is applicable to all persons and to all arguments, in both participant and spectator contexts. It is a more coherent and elegant policy. I stick with it, and in fact, I can argue that it is just as charitable as yours. I still say, let's not multiply premises beyond necessity.

CHARMIDES: I multiply premises just exactly as much as necessity demands. It's just that things are complicated and persons and contexts differ. Simplicity isn't truth and efficiency isn't morality.

LYSIS: Well, we made some progress in doing all this, but we sure can't claim to have resolved our differences.

CHARMLESS: It is frustrating. We worked so hard. I keep feeling we must be missing something, some fundamental key to it all. Don't you?

LYSIS: In a way I guess. But we can't go on forever. Come on, let's walk down to the ocean and watch the waves come in.

CHAPTER 7.

A NEW APPROACH TO CHARITY

The principle of charity is often cited in textbooks and elsewhere. My latest survey suggests that it is cited as a strong principle, not the moderate one supported here. Many authors urge, just as Scriven did decades ago, that one should make an argument mean ‘something that a sensible person would have been likely to mean’; in other words, one should render a person’s proffered argument as rational as possible. That means selecting and interpreting the premises so that they are true or as plausible as possible, and interpreting the inferences so as to give support to the conclusion. The same presumptions are made by persons who advocate steelmanning. In philosophical circles, advice to be charitable is often tempered in textbooks and academic papers by reminders that while employing a principle of charity one must at the same time be accurate and faithful to what an arguer has actually said. Clearly these two admonitions may conflict. I sense little attention of late to that problem and scant advice as to what to do when there is such a conflict.

The problem that the otherness of other arguers may disappear under the mantle of charity, noted here, has subsequently been discussed and named ‘the problem of cultural imperialism.’ It is agreed that if otherness is made to disappear, that is a problem. Evaluating an argument, one should not interpret others, and especially not others from foreign cultures or different subcultures, as claiming just what one would claim oneself. Making them out to be what we would regard as rational or sensible, or what we would understand to be true statements about the world, risks doing just that. The risk has been acknowledged and defenders of charity in some form or other maintain that it need not go that far.

The Principle of Charity states a norm for interpretation. That norm has often been couched in ethical terms (‘be fair’) or prudential terms (‘you might have to do all your work over again if the argument you criticize can be easily amended so as to be better’). Jonathan Adler (1995) urged that the norm of charity should be regarded as an epistemic norm, based in the desire to evaluate an argument in order to discover whether the conclusion of that was true. That view, he said, was epistemic: presumably one’s goal was that of knowledge — to find out the truth of the conclusion. In other words, Adler took a position close to that of Charmides in the previous chapter. In friendly discussions with Adler, I took a position closer to that of Lysis, urging that the Charmides position risked seeing a person’s argument as merely a kind of launching pad on a road to discovering whether various premises were true and inferences correct. In his 1995 article “Charity, Interpretation, Fallacy,” Adler approved of the Gricean base used here; charity is understood not as based on norms of ethics or prudence but rather as grounded on the purpose of argumentative discourse. That is to state a claim and provide reasons for it; presumably the arguer states a claim that she regards as true or plausible and states support that she regards as strong or conclusive. Adler took the position that a principle of charity, even a fairly strong one, would not be strong enough to eliminate fallacies. That work appeared after this chapter; nevertheless I now feel that I should

have given more attention to the prospect of epistemic norms to rationalize a principle of charity. For me, though, that would still be moderate charity as distinct from strong charity.

Typically, human behavior is interpreted on the assumption of rationality. To understand why someone acted as he did we try to comprehend what his reasons might be. To understand why someone said what he did, we try to comprehend what information he would be trying to communicate. To understand how someone is reasoning, we try to see a line of thought that would be coherent and logical. Charity directs us to adopt that interpretation of human behavior according to which it makes the most 'sense'. Principles of charity have been proposed for the interpretation of action and discourse and the interpretation of arguments in particular. Charity as a principle of argument interpretation may owe part of its acceptance to the prominence of interpretative charity in other explanatory contexts.

1. Background

The principle of charity was introduced by Neil Wilson in an article about reference that appeared in the *Review of Metaphysics* in 1959. Wilson recommended the following rule for translators:

*We select as designatum that individual which will make the largest possible number of statements true.*¹

That is, we assume that others aim to tell the truth. If, by interpreting others who use 'x' to refer to rabbits rather than mammals we can make more sense out of what they say in the sense that more of their statements turn out to be true, it is that interpretation which is correct.

Quine, following Wilson, endorsed charity for what he called radical translation. Suppose we are dealing with an unfamiliar tribe and do not understand its customs and practices when we begin the task of translation. There are always alternative ways of interpreting discourse and actions. Quine recommended that 'assertions startlingly false on the face of them are likely to turn on hidden differences of language', adding that:

*... one's interlocutor's silliness, beyond a certain point, is less likely than bad translation or, in the domestic case, linguistic divergence... the more absurd or exotic the beliefs imputed to a people, the more suspicious we are entitled to be of the translation; the myth of the prelogical people marks only the extreme. For translation theory, banal messages are the breath of life.*²

Among various tenable translation hypotheses, we opt for those that will make the logical and empirical beliefs of the tribe the most sensible and coherent.

Quine assimilates radical translation to understanding in our own culture. He sees it as an extreme case of what must go on all the time in ordinary life and ordinary language. In general, we interpret people's comments so as to make them out to be saying something that makes sense to us. This procedure could be seen as the application of a kind of translation principle to our own language. Within our own tribe, we translate the remarks of a fellow native who uses our own language.

Must we equate our neighbor's English words with the same strings of phonemes in our own mouths? Certainly not, for sometimes we do not thus equate them. Sometimes we find it to be in the interests of communication to recognize that our neighbor's use of some word, such as 'cool' or 'square' or 'hopefully', differs from ours, and so we translate that word of his into a different string of phonemes in our idiolect ... we are always prepared to temper homophony with what Neil Wilson has called 'the principle of charity.' We will construe a neighbor's word heterophonically now and

*again if thereby we see our way to making his message less absurd...The problem at home differs none from radical translation ordinarily so called except in the wilfulness of this suspension of homophonic translation.*³

Quine's ideas were further developed by Donald Davidson, who employed a principle of charity to dispute the claim that different conceptual schemes can be used to differently catalogue the same reality.

*I suggest, following Quine, that we may without circularity or unwarranted assumptions accept certain very general attitudes towards sentences as the basic evidence for a theory of radical interpretation. For the sake of the present discussion at least we may depend on the attitude of accepting as true, directed at sentences, as the crucial notion. Since charity is not an option, but a condition of having a workable theory, it is meaningless to suggest that we might fall into massive error by endorsing it. Until we have successfully established a systematic correlation of sentences held true with sentences held true, there are no mistakes to make. Charity is forced upon us: whether we like it or not, if we want to understand others, we must count them right in most matters. If we can produce a theory that reconciles charity and the formal conditions for a theory, we have done all that could be done to ensure communication. Nothing more is possible and nothing more is needed. We make maximum sense of the words and thoughts of others when we interpret in a way that optimizes agreement (this includes room, as we said, for explicable error, i.e. differences of opinion).*⁴

This is a very strong principle of charity. Davidson requires that, in order to understand others, we must 'count them right in most matters', saying we make 'maximum sense of the words and thoughts of others when we interpret in a way which optimizes agreement'. Thus, the principle Davidson defends will only rarely permit us to attribute to others faulty beliefs or reasoning, and then only when all other feasible interpretations have failed. Notably, Davidson is claiming that charity in this very strong sense is not even optional. We do not choose whether or not to be this charitable, because such a policy is a condition of having any workable theory.

Both Quine and Davidson move quickly from a radical exotic context where little background knowledge may be assumed to the domestic context. In the domestic context, the other minds sceptic would tell us we can assume little. But there are few such people: other minds scepticism has not been in fashion for many decades. It is not likely that Quine and Davidson wished to pose a full-blown problem of other minds and use a principle of charity to solve it. What is at work may be a lingering positivism: positing meanings, intentions, and purposes requires special justification.

Commentators on Quine and Davidson have not been inclined to dispute the argumentative jump from foreign tribes to friends and colleagues in our own native culture. And yet the domestic tribe and the foreign tribe are too readily assimilated. There are surely vast differences here. If we cannot assume that we understand the significance of such gestures as smiles and waves in our own culture, that most of the time people use the word 'dog' to refer to canines, that others are friends with whom we have had previous contact, and so on, then in understanding discourse, we are as anthropologists approaching a foreign tribe. But since we do and must assume these things in order to live and function in our own culture, our position is quite different. As Wittgenstein emphasized in *On Certainty*, were our position not different, we could not survive and live together.

An account can build up a spectrum of cases of varying degrees of difficulty in understanding, such that the foreign tribe is at one end of the spectrum and close individuals in our own 'tribe' are at the other. Thus, we might move, in theory, from my difficulty in understanding the foreign words of a Zulu chieftain, to my trouble understanding the words of an English microbiologist, to my problems understanding the words of a Canadian child, and in understanding the words of my own close Canadian friends. There are differences of degree from the hardest to the easiest cases.

Quine's assimilation of foreign and domestic translation problems may have been tempting to his

philosophical audience; we can easily construct this spectrum of cases, and the cases so arranged differ from each other by degrees. However, it is a well-known fallacy to infer from such facts that all cases on a spectrum are the same.⁵ Differences of degree can accumulate to make significant differences—as when a person gaining an ounce a day eventually gains one hundred pounds. The difference between interpretive problems with foreign tribes and interpretive problems that arise within our own culture are real and significant in practice. The latter should not be assimilated to the former.

As well as radical and radical-domestic translation, the presumption of rationality has been applied in recent philosophy of mind. Daniel Dennett has a concept of intentional systems that requires extremely strong charity. Dennett defines intentional systems as systems in which predictions of behavior using intentional language (the language of desires and beliefs) are effective. (There is no necessary link, on his view, between being an intentional system and being conscious; nor does being an intentional system require any specific physical structure or type of physical structure.) Dennett uses the concept of intentional systems to work out a non-dualistic position on the mind-body problem. He makes a strong presumption of rationality a condition of adopting the intentional stance. For intentional systems, we are committed to strongly charitable interpretation. According to Dennett, if we fail to interpret such systems in this way, we must altogether renounce the intentional interpretation and adopt a physicalistic approach. Dennett says:

There is a third stance one can adopt toward a system, and that is the intentional stance. This tends to be the most appropriate when the system one is dealing with is too complex to be dealt with effectively from the other stances. In the case of a chess playing computer one adopts this stance when one tries to predict its response to one's move by figuring out what a good or reasonable response would be, given the information the computer has about the situation. Here one assumes not just the absence of malfunction, but the rationality of the design or programming as well.⁶

On Dennett's account, to describe and predict the behavior of any entity that is an intentional system requires a theory of rationality, because we describe and predict on the assumption that it is making reasonable responses, given its desires and beliefs. In another paper, Dennett makes the link between intentional systems and the imputation of rationality even more explicit:

1. *A system's beliefs are those it ought to have, given its perceptual capacities, its epistemic needs, and its biography. Thus in general, its beliefs are both true and relevant to its life ...*
2. *A system's desires are those it ought to have, given its biological needs and the most practicable means of satisfying them. Thus (naturally evolved) intentional systems desire survival and procreation, and hence desire food, security, health, sex, wealth, power, influence, and so forth, and also whatever local arrangements tend (in their eyes – given their beliefs) to further these ends in appropriate measure ...*
3. *A system's behavior will consist of those acts that it would be rational for an agent with those beliefs and desires to perform.⁷*

On this theory, it is only when we regard an entity as constituting an intentional system that we can properly ascribe to it beliefs, interests, intentions, and the desire to communicate ideas and arguments. The consequence is that any interpretation of human action or discourse will be based on a strong presumption of rationality.

It is not clear whether Dennett goes so far as to say that there is never a false belief, an irrational action, or a mistake in reasoning. In the first passage quoted, the phrase 'one assumes not just the

absence of malfunction but the rationality of the design or programming as well' suggests that his view will have this consequence. Dennett appears to be saying that, from the intentional standpoint, malfunctions are absent and design or programming has to be regarded as rational. These claims would entail that what we typically describe as faulty reasoning would be properly describable only in physicalistic terms, as the result of a physical breakdown of some type.

However, this interpretation of Dennett may not be correct, and the second passage quoted here, wherein the phrase 'in general' is used, seems to allow for errors within the intentional system, provided these are occasional.⁸ This ambiguity in Dennett's work has been noted by Stephen Stich, who criticizes Dennett for making too strong a presumption of rationality. Stich says that 'if we accept Dennett's trade, we will have no coherent way to describe our cognitive shortcomings nor the process by which we may learn to overcome them.'⁹ Stich thus emphasizes the deeply conservative and anti-reformist implications of accounts of this type. Only if we believe that people sometimes commit errors in reasoning and arrive at incorrect beliefs will it make sense to try to improve reasoning and correct some of these beliefs.

We may make a presumption of rationality in the sense that we assume that generally other people are rational, or we may go further and assume that they are always rational. The discussions cited tend in the direction of saying that people are rational whenever we understand them. If we interpret them as irrational then, on this account, we have made a mistake: we do not correctly understand them.

If charity is a presumption of understanding, whether for translation or explanation, how strong a presumption is it? Does it outweigh other indications to the point of ruling out all poor logic, incoherent beliefs, absurdly false beliefs, irrational actions, and errors in reasoning? Or does it merely put the onus in favor of alternative ascriptions, allowing that sometimes other indications can rightly lead us to alternatives that are less than rational?

In 'Rationality and Charity', Paul Thagard and Richard Nisbett distinguish and criticize principles of charity that have been expressed as methodological canons of translation or social-scientific understanding. They note that such principles have seldom been spelled out precisely, and distinguish different levels of strength:

1. *Do not assume a priori that people are irrational.*
2. *Do not give any special prior favor to the interpretation that people are irrational.*
3. *Do not judge people to be irrational unless you have an empirically justified account of what they are doing when they violate normative standards.*
4. *Interpret people as irrational only given overwhelming evidence.*
5. *Never interpret people as irrational.*¹⁰

Thagard and Nisbett argue that principles of charity as stringent as (4) and (5) are methodologically unsound, whether the context is that of translation (radical and domestic), or understanding inference, or understanding choice. Principles at level (3) are principles of moderate charity; those at levels (4) and (5) are principles of strong charity.

For translation, Thagard and Nisbett claim that, given background knowledge, we may have excellent empirical reasons to ascribe a false belief, or even a contradictory set of beliefs to a subject. In fact, in some cases, we may have a broader knowledge of cultural context which makes the

imputation of a false belief or an 'illogical' set of statements extremely plausible. As an example, Thagard and Nisbett cite a passage in which Hegel is making a point about change which depends on his description of change as violating the principle of non-contradiction. A passage from his *Logic* is translated by A.V. Miller as 'something moves, not because at one moment it is here and at another moment there, but because at one and the same moment it is here and not here, because in this 'here' it at once is and is not.' Hegel apparently believed that motion was contradictory. According to Thagard and Nisbett, he used the German equivalents of 'and', and 'not' in ways so familiar that 'no other translation would be appropriate'. Supporting Miller's translation, Thagard and Nisbett comment that to 'charitably' interpret Hegel so that he did not violate the principle of non-contradiction would be to fail to take him seriously. It is not that Hegel did not write elsewhere as though the principle of non-contradiction was always generally true and applicable. Rather, in this passage he is trying to say that change is paradoxical.

On this account language can be used for social or other ends apart from communicating information; maintenance of principles of logic may be irrelevant to such ends. There can be sound empirical reasons for translating and interpreting so as to leave unorthodox beliefs unaffected. Thagard and Nisbett do note this point. It seems that Quine, at least, is not committed to disagreeing with it, provided that there is sufficient agreement on basic empirical beliefs and logical principles to give a foothold for understanding. Thagard and Nisbett conclude their discussion of translational charity by saying that very strong principles are empirically unsound.¹¹

Strong methodological charity is, in fact, methodologically dangerous, precisely in contexts where we are trying to understand other languages, other minds, and other cultures. There is in some circles a presumption that to understand we must agree. This presumption surely deserves scrutiny. Even if we concede that in order to understand, we must agree a fair percentage of the time, that is not to say that understanding presumes full agreement all the time. There is an underlying difficulty with a model that insists on very wide agreement in order to 'make sense' of others' discourse. A fundamental problem is that the otherness of other minds and cultures may be lost if charity goes too far. It may be true that without some presumptions of shared beliefs and a shared logic, understanding of language is impossible. But a presumption is a presumption. It can be outweighed in particular contexts by other considerations. With too much charity we will seek understanding of others to find only ourselves. What begins as a gesture toward tolerance will defeat itself by blocking understanding that emerge from an encounter of differences. Thagard and Nisbett are prepared to recommend charity only at levels (1), (2), and (3). I would share their caution.

Thagard and Nisbett call Davidson's and Dennett's principles 'astoundingly strong' and insist that they are empirically inadequate. It is possible, on their view, to have good empirical reasons to believe that other people hold beliefs that we do not hold, or make erroneous inferences about causes and other matters. If we make charity so strong as to rule out the ascription of false belief, faulty logic, or irrational action, we will bar any effort to correct beliefs and practices – whether our own or those of others.

*There is no reason, however, why it should not be possible to determine empirically that a system is regularly using some inferential principle heuristic that departs from standard logical principles, then to use the operation of this heuristic as part of an explanation of the system's behavior.*¹²

Cultural anthropology does indeed require that we approach radically different belief systems with as great as possible a suspension of our own presuppositions, but nothing in the hermeneutic process requires us actually to accept the

*presuppositions of the exotic culture under study. We can understand a people's belief that swamp light is spirit, or that sex and procreation are unrelated, without supposing that these particular belief systems have any truth at all.*¹³

The trouble with strong charity is that it would have us discount the empirical evidence that can strongly favor interpretations of discourse and behavior that would not be 'rational' or 'sensible' in our terms. We may have good empirical evidence that a ceremony is done for the purpose of bringing rain, and good empirical evidence that the ceremony is seldom, in fact, followed by rain. We do not ourselves believe that ceremonies are customarily followed by rain but this by itself is not a sufficient reason not to ascribe such a belief to a tribe that practices rain dancing, when linguistic and contextual evidence point in that direction. To ascribe such a belief, we must be able to make it fit with linguistic and cultural patterns in the culture in which it is held. That is, in a weak sense, seeing the belief as sensible and rational, seeing it as held for a purpose and as serving that purpose, and thus as rational to that extent. Ascribing such a belief does not require seeing it as true or as warranted by evidence and reasoning. Nor does it require seeing it as a belief we would hold or one we would regard as adequately supported by evidence.

Richard Nisbett, Lee Ross, and others have conducted psychological experiments on inference.¹⁴ They claim that some errors are especially common in human subjects, and postulate that these errors tend to occur when 'heuristics' which are useful in some contexts are wrongly applied in others. Some psychologists and philosophers have criticized their work on various grounds, with some alleging uncharitable interpretation of particular moves by subjects and others alleging that imputing mechanisms that produce faulty reasoning is mistaken in principle.¹⁵ Whether Nisbett and Ross have interpreted their experimental responses correctly and whether they have used the appropriate standards of inductive inference is a topic beyond my present discussion, obviously. What is at issue here is inference error in the light of interpretive charity. If we were to adopt Dennett's view, on its most radical interpretation, or if we were to regard the discourse of our subjects as one we have, in effect, to translate, using the strongest principles put forward by Quine and Davidson, we could not find inference errors, and this for methodological rather than empirical reasons. But such a strongly charitable approach is mistaken. It too greatly discounts the empirical evidence that can support alternative interpretations according to which behavior is not rational. It makes a presumption too much more than a presumption. It reduces, ultimately, to an insistence that others conform to our own standards and a resistance to the discovery of alternative standards or any recognition of a need to improve present performance.

In short, strong charity – levels (4) and (5) in Thagard and Nisbett's analysis – is too strong for a sound interpretive methodology. If Quine, Wilson, Davidson, and Dennett really require principles of charity this strong for their philosophical purposes, their accounts stand in need of revision. Such principles are not adequate as a foundation for the empirical study of foreign tribes, foreign languages, domestic tribes, domestic language, or domestic inference. If moderate charity would serve those purposes, so much the better. If not, alternative approaches must be sought.

2. Charity and Argument Interpretation

The attitude of unquestioning respect for principles of strong charity in argument interpretation may owe something to the philosophical background just described. However, on reflection there seems to be only a tenuous connection between these broad philosophical contexts and the particular context of argument analysis. Interpretation is involved when we extract an argument from discourse in our own language. In this context we presume a basic understanding of customs, meaning, and

syntax. We are not concerned to resolve scepticism about other minds, to understand the utterances or customs of a foreign culture, or to generate an epistemic basis for meaning or mind. We are interpreting a speech or text in order to determine whether it contains an argument and, if so, what that argument is. Any deep philosophical dependency on strong charity required for such broader tasks is the background, not the foreground.

There are at least six pertinent stages of interpretation, ordered roughly as follows:

1. We determine whether the speech or passage contains an argument or not.
2. We determine, for argumentative passages, which sentences within them express premises or conclusions.
3. We determine, for terms within those sentences that are ambiguous or indeterminate in reference, what the meaning or referent is likely to be, and whether words are meant literally or figuratively.
4. We decide what inference standard should be used to appraise the argument.
5. We determine whether the stated premises and conclusion constitute the argument or whether there is implicit material that needs to be added.
6. If we judge that there is implicit material to be added, we decide what that material is.

It is for these purposes that treatments of argument analysis have appealed to the principle of charity.¹⁶ A principle of charity functions as an interpretive principle used in the identification of the parts of arguments and in the clarification (where necessary) of meaning. This last use comes closest to the broader philosophical contexts wherein charity was proposed, but there is a crucial difference. It is the difference between foreign and domestic 'translation'. Here, the broad philosophical theory of charity and interpretation would bear directly on charity for argument interpretation if we were to grant Quine's analogy between radical and domestic translation and Davidson's subsequent uses of it. On these views, very strong charity would be required for all interpretation of discourse, as a condition of making sense of what others have to say. Obviously, argumentative discourse would be included. But, as argued above, the radical-domestic analogy ignores significant pragmatic differences.

Strong charity is too strong to be methodologically sound. In argument analysis, if one term or structure poses semantic problems, these are resolved in a context where most other meanings and the general purpose of the discourse may be taken as understood. Typically, we do not face a radical problem in understanding the 'idiolect' of the argument, only a particular difficulty arising in this specific context.

That charity in argument interpretation is a lower level principle than those of Quine, Davidson, and Dennett is implicitly recognized in the rationales philosophers have offered for it. They do not claim that without charity we will be altogether unable to understand the language of other arguers or to ascribe to those speakers' intentional states. Rather, they justify the principle on ethical or prudential grounds. They say that it would be 'unfair' or 'unkind' to arguers to give their discourse anything less than a maximally sympathetic interpretation; in effect this seems to be a claim that persons interpreting and evaluating arguments are morally obligated to be charitable. Or they say that

it is imprudent to criticize an argument on anything less than a maximally sympathetic interpretation, because when we do, the argument can too easily be revised so as to make our analysis irrelevant. We can find these themes in Michael Scriven's classic account.

*The Principle of Charity requires that we try to make the best rather than the worst, possible interpretation of the material we're studying. That is, even if, as a matter of strict grammar, we could shoot the writer down for having said something that doesn't follow or isn't strictly true, it may be more charitable to reinterpret the passage slightly in order to make more 'sense' out of it, that is, to make it mean something that a sensible person would be more likely to have really meant. We'll do this all the time. It doesn't mean letting people off the hook entirely by assuming they couldn't possibly have meant something just because it turns out to be unsound or untrue; most of us make such mistakes quite often. What the Principle of Charity does mean is that taking 'cheap shots' is something we shouldn't waste much time doing ... The Principle of Charity is more than a mere ethical principle, but it is at least that ... It requires you to be fair or just in your criticisms ... they shouldn't take advantage of a mere slip of the tongue or make a big point out of some irrelevant point that wasn't put quite right ... The Principle of Charity does coincide with good practical advice about powerful and efficient argument analysis. It tells you that you want to interpret the argument's meaning in whatever way makes the most sense and force out of it, because otherwise, it can easily be reformulated slightly in order to meet your objections.*¹⁷

Scriven seems to express both moderate and then strong charity in this passage. Thomas is similar, saying that charity makes sense in terms of kindness to authors and personal strategy.¹⁸ A different approach is taken by Jonathan Adler.¹⁹ He proposes that charity be adopted for epistemic reasons.

Whether the reasons underlying interpretive charity are ethical, prudential, epistemic, or a combination of these, it is clear that on these accounts charity is seen as an option at the practical level, rather than a broadly theoretical necessity. To fail to employ strong or moderate charity would not be to lose our grip on understanding altogether, but rather (it is alleged) to do something unethical, imprudent, or epistemically inefficient.

Consider the following example, found in a column on the eastern bloc boycott of the Los Angeles 1984 Olympics. Discussing the Soviet decision, columnist William Gold wrote that the 1980 Moscow Olympics would have served to legitimize Marxism in the eyes of communists around the world and that the western boycott of those games had deeply hurt the Soviet government of the day. He said that, though regrettable, the decision to boycott the Los Angeles games was obviously preferable to the 'atomic frying of civilians'. Adding several comments about alternative prospects for the Olympics and international sports, Gold then wrote:

*Two things are certain. The nuclear weaponry now in place will not disappear. Even if arms control talks were to resume in earnest, the best that could be hoped from them would be a reduction in the pace of growth. And the implacable hostility will not abate, either. Nor should it. Every free society has legitimate sympathy for those elsewhere who would be free. Every totalitarian regime seeks dominion over its neighbors. This conflict is fundamental. The challenge of our times is to pursue it through avenues that do not lead to the total war that will be unwinnable for all. In that quest, even the price of the Summer Games as now constituted is not too much to pay, and there are means at hand to minimize the loss.*²⁰

This passage poses interpretive questions at all four of the levels identified earlier. Is Gold *arguing* that the loss of the games is a small price to pay, on the grounds that with nuclear weapons and international hostility a part of the scene, this price is so much lower than alternative costs? Or is he merely *saying* this, with the points about nuclear weapons and international competition included as interesting and important background? There are no indicator words in the passage, and the many

paragraph breaks could be interpreted as evidence that no line of reasoning is being put forward. On the other hand, the words 'in that quest' in the final paragraph provide some evidence that the author links that boycott of the Summer Games to the 'implacable conflict' he has described and intends somehow to reason from the nature of the latter to the reasonableness of sacrificing the former. The statements can naturally be arranged into an argument and Gold seems definite and categorical in his assertions, suggesting that he takes what he has to say very seriously.

If Gold is arguing, what are his premises? Would his comment about totalitarian regimes be a premise for his view on the Olympics, or not? It is easy to falsify the claim that *every* totalitarian regime seeks domination over its neighbors. (To cite a case, Albania in the 1980s was a totalitarian regime, and did not.) Gold says that nuclear weaponry 'will not disappear' and that implacable hostility 'will not abate'. Does he mean 'never' or 'not in the foreseeable future'? If the former, the claim is far too strong to be verified and forty years experience with nuclear weapons would be very thin evidence for it; the author would surely have an unacceptable premise, on this interpretation.

If we regard this column as expressing an argument, there will be alternative ways of construing the structure of that argument. Are there missing premises that superpower hostility must be expressed and that either war or such tit-for-tat manoeuvres as happened with the 1980 and 1984 Olympics are the only ways that conflict can be expressed?

We can usefully look at this passage as providing an example of the issues to which a principle of charity in argument interpretation is applied. The problem is not that we fail, as yet, to grasp the tribal custom of writing newspaper columns, or that we cannot determine whether the columnist is an intentional system. It is not that we fail to understand what 'Moscow', 'Los Angeles', and 'Olympics' refer to. Rather, there are more specific issues arising in this particular case about how strongly to take the terms 'will not' and 'every', and about whether the discourse is intended as an argument. Charity would move us in the direction of interpreting the passage as a nonargument. It would push us toward taking problematic terms in such a way that something qualified and thus relatively plausible is stated. For 'The nuclear weaponry now in place will not disappear', we would read 'The nuclear weaponry now in place will not disappear in the foreseeable future', or something similar. For 'Every totalitarian regime' we would read 'most totalitarian regimes', and so on.

A consideration of this example provides a vivid illustration of why a general account of charity cannot plausibly be derived from ethical, prudential, or epistemic principles. First, consider the matter of ethics. The columnist is an influential person; his audience is potentially 100,000 readers or more; he usually writes clearly and well and is a respected commentator on local, national, and international affairs. On one reading, he is claiming that a nuclear arms stand-off between the superpowers is a permanent aspect of life. His comments, on one quite natural interpretation, entail that a change in the nuclear situation is impossible ever. On another they entail that it is impossible in our time. On yet another, we may take the claim to apply only to the next ten or twenty years. The unclarity of the claim is highly significant. The ambiguity may lead people to accept the claim, taking a weaker interpretation on which it is plausible. They may then confusedly accept the stronger claim because they fail to notice the equivocation. Given the seriousness of the issue and the size of his audience this columnist can influence, it is most implausible to say that our ethical obligation is to assume that the columnist meant to assert whichever one of these claims is most likely true. Far from having an ethical obligation to take the most plausible interpretation, in any context in which we were analyzing this

argument and had a substantial audience ourselves, we would have an ethical obligation to point out the lack of clarity and the fact that, on the very strongest interpretation, there is little reason to think the claims are true. The columnist's substantial audience may be lulled by the ambiguity into giving credence to the boldest claim despite the fact that it is asserted with no supporting evidence, and is almost certainly false. The matter is of considerable political significance.

If a person makes ambiguous or unclear remarks, what is 'fair' to him is to tactfully point out the unclarity. But if one assumes an ethical perspective on interpretive charity, that takes us beyond the arguer himself to broader ethical considerations. These may involve policy, principles, events, and other affected persons. A maximally charitable version of discourse is not demanded for ethical reasons. In contexts sufficiently serious, ethics may indicate quite the reverse.

Nor does prudence clearly indicate opting for the most plausible interpretation in such a case; this will depend on our relevant purposes and interests. Where prudence leads will depend on what we are doing, who our analysis is for, whether the arguer is present or absent, how sharp the arguer is, and many other things. If the arguer is absent, and our purpose is to convince our own audience of a point of view different from his, prudence alone could indicate taking a minimally sympathetic reading of an argument and dismissing it quickly.

Thus, ethical and prudential considerations will not always recommend charity. Although moderate charity may well be an appropriate principle of interpretation, we cannot derive it from these sources. At best, their principles would indicate charity in some contexts.

Nor is an epistemic approach much better for this purpose. Jonathan Adler, in an essay entitled 'Why Be Charitable?', locates the principle of charity in the broad context of the epistemic goal of seeking truth. Adler says:

If the study of informal logic is construed as within the theory of inquiry, then it should seek analyses and evaluations that bring us closer to the truth. Presumably this implies that we want to maximize truth-relevant or epistemically relevant considerations over pragmatic or ethical ones in defending certain approaches, rules, or principles. The Principle of Charity should be justified, at least as a first try, as significant for finding out whether the conclusion is correct, given the premises, rather than merely winning the argument. We want to formulate arguments at their best or greatest strength because that makes the evaluation a more 'severe' test. The more severe test – a stronger statement of the argument – is more likely to reveal falsity (failure of the line of reasoning than a less severe one) (weaker statement of the argument).²¹

Adler recommends charity in argument interpretation on the grounds that argument interpretation and analysis are part of inquiry and the purpose of inquiry is to find truth. He endorses the Popperian view that truth is found by severe criticism. Criticism tests most revealingly when hypotheses are formulated as strongly as possible.

Several background assumptions are open to question in this account. Adler seems to mean by 'theory of inquiry' the philosophy of science and epistemology. It is not clear that informal logic or the theory of argument is properly part of these subjects. Key topics are different and so is the range of examples. Most questionable is Adler's belief that argument interpretation and evaluation have as their purpose the determination of the truth of the conclusion. If the purpose of argument analysis were to determine whether the conclusion is true, we would analyze arguments by bringing forward everything we knew that was positively or negatively relevant to the conclusion. There would be no need to interpret stated premises or to restrict ourselves to the reasoning used by the arguer. In

fact, on this view, it is hard to see why interpretation of other people's discourse is part of argument analysis at all, except to extract conclusions which we go on to consider from our own point of view. The stated premises would be pertinent only insofar as we may find them acceptable or they may remind us of something else that counts in favour of the conclusion. Adler qualifies his account by noting that we are trying to determine whether the conclusion is true, 'given the premises'. For this latter purpose, which better approximates the purpose of argument evaluation, charity may be important. But it is unclear that it can be rationalized epistemically.

A major problem for Adler's epistemic account of interpretive charity is that interpretive canons are to be applied in determining *what the premises are*. This is a different aspect of evaluation from the logico-epistemic task of determining *whether a conclusion is true, given the premises*. Charitable alterations of stated premises or supplementations of stated premises will not give a good estimate of whether the conclusion is true, 'given the premises'. It will show whether the conclusion is true given some slightly or dramatically different premises, which is something else entirely. Charity is working in the wrong place for Adler's epistemic rationale to apply properly. We have yet to find a suitable rationale for the charity so commonly urged as a basis for argument interpretation.

A problem with Scriven's classic account of charity for argument interpretation concerns his directive to search for the best interpretation. This directive itself may be interpreted in several ways. What is *best*? Scriven may mean only that we should interpret discourse carefully, paying close attention to nuances of meaning, possible irony and ridicule, aspects of context, and so on. This sort of charity, which I would call *truistic charity*, is unproblematic. Of course we should appreciate such aspects of discourse; no one has denied it. At the opposite extreme is *strong charity*. Urging us to find the best interpretation, Scriven may mean to find that interpretation according to which the passage emerges as the most plausible and rationally ordered. It could appear either as an nonargument or as the best argument we could get out of it. This interpretation is suggested by Scriven's phrase 'make it mean something that a sensible person would be more likely to have really meant'. The expression 'make it mean' rather suggests that we would be prepared to ignore empirical indicators of implausible assertions or faulty reasoning so as to make a passage out as more rational than it first appears to be. The pitfalls of ignoring or discounting pertinent empirical evidence are evident here, just as they are in the contexts discussed by Thagard and Nisbett. This strong charity would apparently license considerable deletion, addition, and clarification in order to generate plausible, relevant premises and accurate reasoning. It has been applied by some conscientious philosophers with enormous energy, as Ralph Johnson pointed out in his well-known essay, 'Charity Begins at Home'.²² Strong charity forces on logicians and critics the obligation to construct good arguments from sketchy and insignificant materials, an onerous task they may rightly resist, and one which may only disguise or whitewash the genuine carelessness and stupidity which are sometimes present in real discourse.

I contend then that strong charity is just as problematic in argument interpretation as it is in broader philosophical contexts. There may be much empirical evidence in favor of the not-so-charitable alternative interpretation. Strong charity licenses too much alteration of the data. It courts misunderstanding and ethnocentrism insofar as making others out to be sensible amounts, in practical terms, to making them out to agree with us. Strong charity in argument interpretation might be recommended for some limited purposes and in some special contexts, but it will not be satisfactory as a general, over-riding interpretive principle.

Applying charity to Scriven's explanation of charity, what is most likely is that he intended to recommend something between *truistic* and *strong charity*. I would term this moderate charity. When

other indicators (context, logical pattern, professed intention, indicator words) count equally in favour of several distinct interpretations, we adopt the one that generates the most plausible argument.

Obviously, moderate charity needs further explanation. What are all these other indicators? What do we do in the typical case where they do not count exactly equally for several distinct interpretations? What is the most plausible argument, if we have to choose between a version with unacceptable premises and good reasoning, and a version with acceptable premises and poor reasoning? We still need a more precise expression of moderate charity for argument analysis. And, seeing that ethical, prudential, and epistemic foundations are unpromising as a rationale for charity, we need an account of moderate charity that will tell us why it is an appropriate interpretive principle for argument assessment. Beginnings of such an account are offered below.

3. A Preliminary Account of Moderate Charity

In 'Logic and Conversation' H.P. Grice sets forth a Cooperative Principle for discourse. He points out that exchanges do not normally consist of a succession of disconnected remarks. They require some cooperative effort and purpose. Because there is always some minimum of common purpose, there are some possible conversational moves that would not be suitable.

We might then formulate a rough general principle which participants will be expected (ceteris paribus) to observe, viz. 'Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged.' One might label this the Cooperative Principle (CP).²³

One purpose of conversational exchange is to have a maximally effective exchange of information; Grice notes that this, although an important purpose of discourse, is not the only such purpose. Given it, we might derive a number of maxims participants should follow. Grice proposes these:

*Make your contribution as informative as is required (for the current purposes of the exchange).
Do not make your contribution more informative than is required. Do not say what you believe to be false.
Do not say that for which you lack adequate evidence. Avoid obscurity of expression
Avoid ambiguity.
Be relevant.*

and a number of others. Human 'talk exchanges' are a type of rational purposive behavior, and these maxims are reasonable to follow, given the aims we have.

As is well known, Grice uses his account of logic and conversation to give an explanation of the pragmatic paradoxicality of Moore's 'it's raining, but I don't believe it', and the differences between truth functional connectives and the ordinary language 'meaning' of related terms. Aspects of the account are suggestive for charity as well, though Grice himself did not discuss this subject.²⁴

Grice's Principle of Cooperation is formulated so as to focus primarily on one partner in the conversational exchange: the speaker. If we consider argumentative exchange as a special case of conversational exchange, and adopt the perspective of the audience rather than that of the speaker (or arguer), we can generate a principle of charity as a particular application of the Principle of Cooperation.

What is an argumentative exchange? It is a discussion (spoken or written) in which parties are setting forth reasons to support their beliefs and opinions, usually in order to rationally persuade or convince each other. These arguments are related, at least in the sense that the beliefs and opinions are about the same subject, and ideally in the further sense that the arguments of one participant

are at least sometimes a response to those of another. The purposes of an argumentative exchange are to communicate information, beliefs, and opinions, to persuade others by reasons that one's own beliefs and opinions are true or acceptable, and to check and, if necessary, revise one's own beliefs and opinions through rational evaluation. Thus, in arguing we have a social practice of presenting and mutually evaluating evidence and reasons for our claims and beliefs. We offer arguments and consider arguments to defend and rationally consider claims and beliefs. We defend beliefs primarily in order to persuade others that they are true, and we attend to other people's arguments from reciprocity and a desire to find out whether we should be persuaded by what they have to say. This is the major point of arguing, just as exchanging information is the major point of conversation.

This is not to say that *every* case where an argument appears is a case where the arguer genuinely wishes to rationally persuade a rationally critical audience. Rather it is to say that the practice or social institution of argument has this as its typical function or purpose. The point is not straightforwardly empirical, but conceptual and normative. Argument as a social practice exists so that we may mutually communicate and amend our beliefs, as warranted by shared reasons and evidence. Written argument spreads this process over a broader audience and longer time span than spoken audience. It makes audience response less certain and immediate than in speech contexts. Nevertheless, the possibility of such response is always there, and good written argumentation is attentive to this fact. On this account, written argument and criticism may be seen as a derivative of spoken discussion.

From such a conception of argumentative practice, we may derive a principle of charity, just as Grice derived his Cooperative Principle from his concept of the normal function of conversation. The principle of charity will direct the audience to interpret an arguer's discourse in a way that will conform to the purpose of arguing and considering arguments. Such a principle will direct us to interpret the discourse of others so as to contribute to the argumentative exchange. We presume, other things being equal, that others are participating in the social practice of rational argumentation. That is, they are trying to give good reasons for claims they genuinely believe, and they are open to criticism on the merits of their beliefs and their reasoning. They are operating within the purpose of the exchange: that is, it is their purpose to communicate information, acceptable opinions and reasonable beliefs, and to provide good reasons for some of these opinions and beliefs by offering good arguments. If we make this presumption, then if there is an ambiguity in the discourse, and we can interpret it either as well reasoned or as poorly reasoned, we will opt for the more sensible interpretation. The assumption that people are trying to put forward good reasons for claims that they believe provides a basis for moderate charity in the social practice of argument and its functional prerequisites.

On this view, the basis for charity is to be found not in ethics, prudence, or epistemology, but in the nature and purpose of the activity in which participants are engaging: argument. That people are exchanging what they take to be good reasons for their views when they appear to be is a rebuttable presumption. If we presume their participation, a moderately charitable approach to what they say is indicated, as an application of the Principle of Cooperation. If for one reason or another, the presumption would not be appropriate – some persons lack all credibility, others may be significantly handicapped, or the context may be one in which people seek to persuade with no regard for the quality of reasons and evidence, then there is no justification for approaching the discourse charitably – not even moderately charitably.

A principle of charity that is rationalized in this way is moderate, not strong. Given the purpose of argumentative discourse, that must be the case: the purpose of argumentative exchange is the

defense and discussion of conflicting or potentially conflicting opinions and beliefs. (Typically we do not argue for beliefs upon which we and our audience already agree.) The very concept of argument implicitly refers to disagreement between parties. Hence strong charity, where we would interpret others as making true or well-warranted claims contrary to empirical evidence, would undermine the purpose of the practice of argument. In any event strong charity is flawed in several fundamental respects. First, it licenses too much manipulation of empirical evidence which would support imputations of false or implausible beliefs, or flawed reasoning. Second, it puts at risk the 'otherness' of other minds by directing us to find in others' beliefs and reasoning which are 'correct' and thereby similar to our own. Third, it prevents us from trying to correct beliefs or improve arguments, since we are committed to interpreting all arguments as sensible to begin with. The problem with strong charity could be stated this way: it makes the presumption of rationality in others overbearing instead of having it function as one interpretive factor among others.

The pull between charity and other factors can be seen in this account of argumentative discourse. Its primary purpose is an interchange of evidence and reasons for beliefs. This notion presumes that minds are interacting with *other* minds. We allow the possibility of revising our own beliefs and our own reasoning. Strong charity directs us to find true or plausible beliefs, and to interpret so as to find good reasoning. In effect, this will be the same as interpreting so as to maximize agreement with our own beliefs and our own standards of reasoning. Necessarily, we determine truth, plausibility, and accuracy of reasoning according to our own standards. Thus, the idea that other beliefs, controversial from our own point of view, may be encountered in an argumentative exchange, is jeopardized when charity is strong. If we insist on interpreting others so as to make them out as correct by our standards, this aspect will disappear.

Grice's idea of cooperation is useful here. By communicating and rationally scrutinizing evidence and reasons for beliefs different from our own, argumentative exchanges allow us to cooperate with those who may differ. To sacrifice this 'otherness' would defeat the purpose of the exchange. By applying the Cooperative Principle, we arrive at moderate charity rather than strong charity. If we focus on communication between different selves and on allowing the revision of our own views, we find reason to allow that others may make statements that we do not find plausible, or use reasoning that we regard as flawed. We presume that others who participate in the practice of argument and rational discussion intend to convey sensible claims and to support these claims with well-reasoned arguments. We also presume that they may differ from us. Other arguers regard their beliefs and arguments as sound; we may or may not. We do not have to agree to understand. The charity that emerges is moderate charity.

Moderate charity directs us not to interpret others as having made implausible claims or faulty inferences unless there is good empirical reason to do so. Empirical reason is provided in the first instance by the wording of the discourse and also by the context in which the discourse appears and background knowledge pertaining to the arguer. If the arguer has known interests or prejudices, this may also affect our interpretation of his or her claims and reasons. If someone writes to the editor and says:

Calgary is an unfriendly city, because the people at the zoo were very unfriendly to me when I was there.

there is a good empirical reason to see him as having offered an argument in which the inference is hasty. The empirical evidence that there is an argument is first of all his use of 'because', a logical indicator, and secondly the context of the letter to the editor, which is one in which people typically

express strong held opinions and try to convince others that these are true. Moderate charity allows us to interpret the discourse this way, because there are sound empirical reasons for doing so. We allow that, although on reflection we do not find the inference sound, the arguer might deem it sound. Or, more likely, he might simply have been careless.²⁵

The presumption made in argumentative discourse is one of reasonable participation in the specific exchange, not of ubiquitous rationality according to our own standards of what rationality is. Such a presumption is sufficient for the purpose of the discourse and for other philosophical purposes. It is a presumption that can be defeated. When it is, the rationale even for moderate charity will disappear. When relevant empirical evidence does not determine one or another interpretation and moderate charity is indicated, we adopt that interpretation according to which the claims made are most plausible and the inferences most reasonable.

An example can be found in a dispute between Atomic Energy of Canada and the Manitoba government concerning the storage of radioactive wastes in deep underground vaults. In response to the Manitoba government's statement that the AECL had offered no evidence the storage was *safe*, AECL president James Donnelly replied that all evidence shows that 'reactor wastes, which will remain highly radioactive for almost as long as mankind has walked the earth, can be *safely* disposed of deep in underground vaults.'²⁶ An issue of charity arises here concerning the meaning of the key word 'safe'. It might be taken to mean 'poses *no risk at all* of harm to humans or the environment' or alternately to mean 'poses *only a small, acceptable risk* of harm to humans or the environment'. If we regard Donnelly as someone who is sincerely participating in an argumentative exchange here, and apply moderate charity to his remarks, we would take 'safe' in the second sense, since his claim has a better chance of being true on that interpretation.

Another example was discussed in Ralph Johnson's paper on charity. It goes like this:

*Cats are free spirits, the last really independent creatures around. You can no more license cats than you can license the wind. Dogs may submit to bureaucracy. Cats won't. The same spirit tends to rub off on cat owners. They have enough trouble being pushed around by their cats without being asked to submit to man-made laws. Besides, there's an economic factor. They've never had to buy licenses, so why start? No ... it just won't work.*²⁷

In this passage, there seems to be an argument for the conclusion that a policy of licensing cats won't work. Two premises, stated near the end, are that cat owners will oppose licensing due to previous freedom and that cat owners will oppose licensing due to costs. There are several further elements in the passage which might be taken as humorous flourishes or might be regarded as serious parts of the argument. Two are 'You can no more license cats than you can license the wind', and 'They (owners) have enough trouble being pushed around by their cats without being asked to submit to man-made laws'. As for the cat-wind connection, we might take it as a serious analogy intended to support the statement that cats are free spirits, in a sub-argument. However, it would be a tenuous analogy to be sure. We might take the comment about owners being pushed around as a premise in a sub-argument supporting the underlying idea that owners will be opposed to licensing. But taking this literally is implausible: the domination of owners by cats seems deliberately exaggerated as a kind of mild joke. The claim, as stated, would not be acceptable if taken literally. Similarly, we may ask how to read 'Cats are free spirits, the last really independent creatures around'. It does seem to be a crucial premise in the argument that cats are free spirits, but should we take 'the last really independent creatures around' really seriously? (If we do, it is easily vulnerable to objections — for example, robins and sparrows are

around, and they seem free.) The phrase might alternatively be interpreted as a rhetorical flourish to emphasize the author's main assertion that cats are free spirits.

Applying moderate charity to the passage, we would avoid committing the author to the sub-argument based on an analogy between cats and the wind and we would take the other two elements as literary flourishes not intended to make literal substantive claims. The passage as stated provides no indication that these elements are to be regarded as parts of serious argumentation or as substantive claims. If taken as such, they would be very vulnerable to criticism. Furthermore, a fairly clear argument can be extracted from the passage without including these elements as parts and no 'forced' approach to the discourse is required in order to do this. Applied to this passage, moderate charity would yield the following argument:

1. Cats are free spirits.
2. Cat owners will oppose licensing cats.
3. Cat owners will resist paying to license cats when they have not had to pay before.
So,
4. Licensing cats would not work.

Let us now return to William Gold's passage on Cold War relations and the Olympics and employ an interpretive strategy of moderate charity. There are no indicator words in the passage. Nevertheless, it seems natural and easy to arrange it as a structured argument. Gold states as certainties two basic claims – first that nuclear weaponry will not disappear and second that the hostility between the superpowers will not abate. (One might try to water down these claims, to make them more plausible, but this would be a shift to strong charity and would ignore clear textual evidence. The author after all, starts out by categorically saying 'Two things are certain', and these are the two things.) For these supposedly certain claims, Gold offers some support in each case – nuclear weaponry will not disappear because even successful arms control talks would issue at best in a reduction, and hostility will not abate because free societies sympathize with those wanting freedom and totalitarian regimes seek domination over their neighbours. Gold then makes the further claim that the conflict is fundamental – supported by the considerations about unabated hostility between freedom and totalitarianism. He adds that the conflict must be pursued short of total war. From this he infers that the price of the Summer Games is not too high, especially considering that the loss can be minimized. (Do we need a missing premise here, to the effect that sacrificing the Summer Games is the only safe way to pursue the hostility at the time of writing? If so, this will give another easily refuted premise. We'll ignore this problem for the moment, but it does arise.) We could easily set out this passage as an argument.

1. The nuclear weaponry now in place will not disappear.
2. Even the most successful arms control talks would only reduce the amount of nuclear weaponry.
3. Implacable hostility between the superpowers will not and should not disappear.
4. Every free society has legitimate sympathy for those who want to be free.

5. Every totalitarian regime seeks domination over its neighbors.
6. The conflict between free societies and totalitarian regimes is fundamental.
7. The conflict between free societies and totalitarian regimes must be pursued short of total war.
8. There are means to minimize the loss of the Summer Olympic Games.
Therefore,
9. The loss of the Summer Olympic Games is not too high a price to pay for the benefit of pursuing the fundamental conflict between superpowers.

There are several sub-arguments. (2) is offered to support (1); (4) and (5) are offered to support (3); then (1), (3), (6), (7), and (8) link so as to support (9). The argument will turn out to be seriously flawed, due to its containing in an essential role easily falsified premises, and due to the gap between the combined premises and the specific conclusion about the Games. (We could eliminate the gap by adding a premise, but were we to do so new problems would only arise because that premise would be easily shown false.) That is, strong charity would have to outweigh empirical evidence which points quite unambiguously in one direction, in this case. Moderate charity will not do this. The passage should thus be seen as expressing an argument – one that is flawed.

4. Concluding Comments

One objection to the above account of the purpose of arguing and the basis of moderate charity might be that it is too idealistic, seeing arguers and listeners as more honorable than they in fact are. It focuses too much on rationality and too little on persuasion. It might be urged that some arguers do not intend to persuade their audience by offering good reasons but rather to persuade their audience by offering whatever is likely to be effective. They intend only a result, and may care nothing for reasoned argument or plausibility of claims as a means to that result. It must be admitted that this is often the case. Advertisements and political propaganda are important cases in point. Even in less manipulative contexts, there are some discussants who seek only to manipulate opinion in this way. Sometimes an immediate need is so important, or the possibility of more rationally based persuasion so remote that such methods may be ethically justifiable.

Gilbert Ryle once argued that we can have counterfeit coins only if we have, or have had, real money. John Austin said that people are able to pretend only if the real thing is known and understood.²⁸ In an analogous way, propaganda and other manipulative persuasion may get their point from genuine argumentation and reasoning. We may erroneously take nonrational persuasion, expressed in the trappings of rational persuasion, to be a genuine case of rational persuasion. Possibly our susceptibility to some of the forms of pseudo-rational persuasion is due to their facade of rationality. Discourse may contain no reasoning or evidence and yet have the appearance of doing so. It may be put forward by someone whose sole goal is persuasion and who has no respect for canons of sound argumentation. Yet, its semantic surface may be that of genuine argumentation and its persuasive power due in part to that fact. Forms of propaganda owe their success to the institution of genuine argumentation.

The distinction between education and propaganda might be drawn in these terms. The social practice of rational argument and debate is more fundamental than pseudo rational persuasion or

propaganda, though they are profoundly important both in themselves and with regard to their social and political consequences. The present account of arguing stipulates the purpose of argumentative discourse as such, not the purpose or intention of every individual and institution engaging in it.

Because argumentative discourse has the purpose of rational, considered, reflective, and mutual persuasion, we presume in most contexts that arguers have these purposes. If we obtain evidence to the contrary, then the rationale for moderate charity no longer applies. There is no reason to apply even moderate charity to a twenty second television advertisement, because we know that the writers and sponsors do not intend to persuade by reason, in this context. But until we have strong reason not to do so, we should assume that those engaging in what appears to be argumentative discourse are doing what they seem to be doing, namely participating in the social institution of rational persuasion and reflection. On this assumption, we adopt a principle of moderate charity as a general guide in argument interpretation.

Notes

This essay benefitted from a discussion in the Philosophy Department at the University of Calgary in August, 1985 especially from comments by Kai Nielsen and Gertrude Ezorsky. In addition, I would like to thank Jonathan Adler for his careful reading of an earlier version, and for his helpful and detailed comments.

1. Neil Wilson, 'Substances without Substrata', *Review of Metaphysics* 12 (1959), pp. 39 – 54
2. W.V.O. Quine, *Word and Object* (New York: John Wiley and Sons, 1960), p. 59 and p.69.
3. W.V.O. Quine, *Ontological Relativity and Other Essays* (New York: Columbia University Press, 1969), p. 47.
4. Donald Davidson, 'On the Very Idea of a Conceptual Scheme', *Proceedings and Addresses of the American Philosophical Association*, Volume XLVII (1973-4), pp. 5-20; p. 18.
5. See my discussion in 'What's Wrong with Slippery Slope Arguments?', *Canadian Journal of Philosophy*, Vol. XII, number 2 (June, 1982), pp. 303-316.
6. Daniel Dennett, *Brainstorms*, (Montgomery, Vermont: Bradford Books, 1976), pp. 237-8.
7. Daniel Dennett, 'Three Kinds of Intentional Psychology', as quoted by Stephen Stich in 'Dennett on Intentional Systems', *Philosophical Topics*, Volume 12, I (Spring 1978).
8. See Stich, 'Dennett on Intentional Systems', for a longer discussion of this point. For our purposes, the issue may be put as follows: if Dennett is saying that systems never go wrong, his view is totally implausible. If he is saying they sometimes go wrong, and wrongness can be understood only as aberration against rightness, then his view may be unobjectionable, but does not support strong charity for attribution of mental states.
9. Stich, 'Dennett on Intentional Systems', p. 47.

10. Paul Thagard and Richard E. Nisbett, 'Rationality and Charity', *Philosophy of Science*, Volume 50 (1983), pp. 250-267; p. 252.
11. *Ibid.*, p. 255.
12. *Ibid.*, p. 257.
13. *Ibid.*, p. 361. This is not to deny that disagreement in this sub-area will presume enough agreement as to basic logical principles and simple empirical concepts for translation to get started. Quine and Davidson are right if they are taken to mean only that there must be some common core in order to have understanding.
14. For a summary of many such results, see their *Human Inference: Strategies and Shortcomings of Social Judgment* (Englewood Cliffs, N.J.: Prentice Hall, 1980).
15. Discussed in Stephen Stich, 'Could Man Be an Irrational Animal?', read at the University of Calgary in February, 1984. See also L.J. Cohen, 'Are People Programmed to Commit Fallacies?', *Journal for the Theory of Social Behavior* 12 (1982), pp. 251-274 and L. J. Cohen, 'On the Psychology of Prediction: Whose is the Fallacy?', *Cognition* 7, pp. 385-407.
16. See S.N. Thomas, *Practical Reasoning in Natural Language* (Englewood Cliffs, N.J.: Prentice Hall, 1981. Second Edition) pp. 15-16; Michael Scriven, *Reasoning* (New York: McGraw Hill, 1976), pp. 71-76 and 175; Barrie Wilson, *The Anatomy of Argument* (New York: University Press of America, 1980), pp. 29-30 for some representative accounts. I have profited from David Hitchcock's proposals for amending an earlier version of this list.
17. Scriven, *Reasoning*, p. 71.
18. Thomas, *Practical Reasoning in Natural Language*, p.16.
19. Jonathan Adler, 'Why Be Charitable', *Informal Logic Newsletter*, iv, 2 (May 1982), pp. 15-16. I appreciate the generous support Adler gave to my work.
20. William Gold, 'Games Were Doomed Four Years Ago', *Calgary Herald*, May 15, 1984.
21. Adler, 'Why Be Charitable?', p. 16. Compare my criticisms in 'On Adler on Charity', *Informal Logic Newsletter* iv, 3, (pp. 10-12) (July 1982), where some points made here are argued in more detail. Adler and I now seem closer in our views, as he sees the issue between closer interpretation and more generous reconstruction as relative to pragmatic considerations of purpose and efficiency.
22. Ralph H. Johnson, 'Charity Begins at Home', *Informal Logic Newsletter*, iii, 3, (June, 1981), pp. 4-9.
23. H.P. Grice, 'Logic and Conversation', reprinted in R.J. Fogelin, *Understanding Arguments: An Introduction to Informal Logic* (New York: Harcourt Brace Jovanovitch, 1978), pp. 329-343. Quoted passages are on pp. 332 and 333.
24. I do not wish to imply here that I accept Grice's account regarding ordinary language and the truth functional connectives.

25. This approach was suggested to me by my former student, Jennifer Dance Flatman.

26. Reported in the *Toronto Globe and Mail* for October 29, 1985. The response seems question-begging.

27. Compare Ralph Johnson's discussion of this example in 'Charity Begins at Home'. Johnson reports that his students commonly take an example like this to contain an argument based on an analogy between cats and the wind.

28. This point was suggested to me by Kai Nielsen.

CHAPTER 8.

REASONS WHY ARGUMENTS AND EXPLANATIONS ARE DIFFERENT

Broadly speaking, the current consensus about the basic distinction is similar to that theme of this chapter. Argument and explanation are different; generally they differ pragmatically. Reasoning is used in both, and the same indicator words are used in both.

This chapter represents my response to a challenge issued by S.N. Thomas, who maintained on the basis of a number of tricky cases that the argument/explanation distinction did not hold up to scrutiny. Looking back at the chapter many years later, I still find myself impressed by the examples he put forward. I would agree now, as I did then, that the distinction between argument and explanation is not an exclusive one. It's quite possible for the same set of statements to provide both an argument that a conclusion C is true and an explanation as to why it is (or how it came to be) that C should be true. Yet it is still the case that argument and explanation differ from a pragmatic point of view. The 'why?' of explanation differs from the 'why?' of argument. Explaining, one will offer an account (usually causal) as to why or how C came to be true. Arguing, one will cite reasons or evidence purporting to show that C is true. Explaining, one presumes general agreement about C; arguing one presumes the actuality or possibility of disagreement about C. Thomas maintained that the argument/explanation distinction should be dispensed with because it could not be drawn clearly and admitted too many borderline cases. Still more significantly, he found cases that qualified both as argument and as explanation and thus undermined the dichotomy. Working through some of his challenging examples, I agreed that a passage could constitute both argument and explanation but resisted renouncing the distinction altogether on that account. In other words, I preserved the binary but allowed that it was not exclusive.

In a 2010 article, "Argument Explanation Complementarity and the Structure of Informal Reasoning" Gregory Randolph Mayes similarly maintained a distinction between argument and explanation. Mayes put it this way: in an argument, the conclusion is disputed; in an explanation, the conclusion (or statement that would stand in the place occupied by the conclusion) is already accepted. One can ask just who it is that is referred to as accepting or disputing claim C. Mayes maintains that it is the arguer. The arguer can of course get the matter wrong. For example she might suppose that the persons she is addressing grant that C and offer to them an explanation of C. If she is mistaken about that, the explanation will not be appropriate. The audience could be lured into supposing that C is true, or it could expect an argument and be disappointed that what the arguer has to offer will not provide justifying evidence or reasons. Mayes is aware of such issues; nevertheless he sustains his view that the arguer's states of acceptance or doubt determine the argument or explanation status of her discourse.

Mayes offers lucid and interesting examples of how argument and explanation may be combined in discourse. For instance, one might cite a claim to support a conclusion (argument) and then offer an account of how that

claim came to be true (explanation). As he says, argument and explanation can be complementary to each other in these sorts of cases.

A 2017 article “Argument or Explanation: Who is to Decide?” appeared just as I was about to write this introduction. The author, Michel Dufour, points out that neither Thomas nor myself questioned the exhaustiveness of the argument/explanation binary. (I had noted a third alternative — descriptive discourse that is neither justificatory nor explanatory — in my textbook.) Dufour maintained that one does not always find disagreement about the conclusion of an argument. I had actually acknowledged that one can look for an argument that would justify a claim *C* even when one accepts *C*, as for example in a context of inquiry. Dufour states that it is unclear who is to decide whether a claim *C* is ‘certain’ enough to be explained instead of argued for, and rejects the idea that the arguer himself or herself should hold authority of that matter. Perhaps claim *C* is something that people neither agree nor disagree about. Perhaps they have barely considered the matter, or do not care enough about it to bother. Then the pragmatic distinctions will not take hold. In this case, the binary is not exhaustive. Is the discourse an argument or an explanation? The answer should be neither.

Philosophers have commonly distinguished between arguments and explanations. In arguments, premises are stated in an attempt to prove, or justify, a conclusion. In explanations, statements are made in an attempt to account for, or show the cause of, a state of affairs. Most introductory accounts of argument take this contrast for granted. Nevertheless, there are a number of interesting and relatively unexplored issues about the relation, similarities, and distinction between argument and explanation.

The so-called logical indicator words — ‘thus’, ‘therefore’, ‘since’, ‘because’, ‘so’, and many others, are as common in explanations as they are in arguments. Those which precede the conclusions in arguments may equally well precede what is explained in an explanation. Here is an example:

When censorship boards conduct their deliberations in secret, public accountability is lost. Public accountability is essential. Thus, such proceedings should be recorded and public access to the records should be allowed.

In this example, ‘thus’ is used in its paradigmatic logical role, preceding the conclusion in an argument. But in other cases, ‘thus’ functions just as naturally in an explanation, as in:

She ate about the same amount as usual but got much more exercise, running after the children and doing all the housework and gardening. Thus she lost a lot of weight over the summer.

Here the fact explained is preceded by ‘thus.’¹ Similarly, words like ‘because’, ‘since’, and ‘for’, which are used to introduce premises in arguments, are also often used to introduce explaining statements in explanations.

According to the classic deductive-nomological account, explanation is one type of argument.² Although this account is now widely criticized, it was dominant in the philosophy of science for several decades and still enjoys influence. Within influential circles in the philosophy of science, the notion of argument has been more or less taken for granted, with arguments being understood as paradigmatically deductive. An especially clear and intellectually important type is the subsuming deduction: ‘All *As* are *Bs*; this is an *A*; therefore this is a *B*’. In the influential covering law model of scientific explanation, scientific explanations are seen as having this form (at least implicitly), so that every complete scientific explanation is at the same time a deductively valid argument. The relation between argument and scientific explanation has been studied largely in the context of the issue of whether scientific explanations can or should be made to fit this standard pattern or a statistical

variation of it. (Most A's are B's; this is an A; therefore this is most likely a B.) Although other types of arguments, such as analogies and conductive arguments, might have been explored for their potential as models for other types of scientific explanation, they were not. Nor does there seem to have been any attempt to explore more sophisticated cumulative argument structures as models for elaborate explanations.³

This influential discussion of the relation between explanation and argument appears impoverished if examined from the perspective of a richer and more sensitive theory of argument. Not all arguments are deductive unless one adopts a sweeping missing premise policy that requires supplementing stated premises so as to make them deductively entail the conclusion. Furthermore, scientific explanations are not the only explanations. The philosophical studies of scientific explanation and its relation to argument could profitably be broadened by greater reference to explanation outside science as well as to nondeductive and cumulative patterns of argument.

The fact remains, however, that many serious and prominent thinkers retain the view that scientific explanations constitute a type of deductively valid argument. The enduring influence of this model provides one incentive to reexamine that textbook contrast between argument and explanation.

Another incentive arises from pedagogical experience. Instructors often find it difficult to teach students the distinction between explanation and argument. Students find the distinction hard to grasp in theory and difficult to apply in practice. In a culture that does not emphasize the importance of providing supporting reasons for one's claims, questions as to 'why?' are often taken as requesting explanations for how people have come to think as they do. Issues of justifiability may disappear. Such crucial terms as 'why', 'reasons', and 'because' fit naturally into both explanations and arguments. People may become unaccustomed to rational argument and find it hard to appreciate any contrast between requests to explain why one thinks as one does and requests, on the other hand, to provide rational support for one's claims.

Even when the distinction between explanation and argument is grasped in theory, many passages, real or invented, can be interpreted as either explanation or argument. To illustrate this problem, consider the following example, cited by S.N. Thomas:

Managers who at an early stage showed much promise, career growth, and mobility may find themselves classified as nonpromotable for any of a dozen reasons ... Once labeled nonpromotable, a person is frequently put on a shelf and only tolerated within an organization. There, there is a great potential for the development of insecurity and fear in a manager in an organization, since he has few legal rights for his protection and must develop himself so that the organization continually views him as a valuable asset.

Thomas remarks of this passage:

Here both explanation and justification seem to be going on. The authors justify their statement that there is great potential for the development of insecurity and fear in a manager in an organization by explaining how and why this potential exists (a manager 'has few legal rights', he may be 'classified as nonpromotable' and 'put on a shelf', etc.) The authors justify their statement that this situation exists by showing the facts that lead to, or cause, its existence.

In fact, Thomas finds such passages so prevalent that he rejects the distinction between argument and explanation in his popular text.⁴ He sees himself as teaching students to identify, understand, and evaluate *reasoning* which, he says, appears both in 'justifications' (his word for what standard theory calls arguments) and in explanations. Given the existence of borderline cases, and given that reasoning occurs both in explanations and in 'justifications', Thomas makes the unorthodox decision to use the word 'argument' broadly enough to cover explanatory reasoning as well as justificatory reasoning.

Most theorists seek to preserve a distinction between argument and explanation, even in the face of such difficulties. One common approach brings in the relative uncertainty of the conclusion of an argument compared to its premises, and contrasts this with the relative certainty of the explained fact (*explanandum*) in an explanation, as contrasted with that of the explaining facts (*explanans*). In an argument, we typically try to justify a conclusion that is, in the context, in doubt. We state premises that we regard as more certain than the conclusion and capable of giving that conclusion rational support. We reason from the premises to the conclusion, and offer those premises to an audience on the supposition that they can support the conclusion – show that it is true, or acceptable. The pragmatic direction in argument, then, is from premises to conclusion.

Typically, premises are taken as given, or at least as more acceptable than the conclusion at the outset of the reasoning. The point of arguing is to rationally persuade an audience on the basis of these premises that the conclusion is true or plausible. The pragmatics of explanation are quite different. We do not usually try to explain something unless we take it to be a phenomenon or fact. (There is no need to explain there being 80% of males among human births in Canada in 1984, for this was not a phenomenon.) To offer an explanation for some phenomenon is generally to presume that it is a genuine phenomenon. If it is not, there is nothing to explain. We do reason in explaining: we reason from presumed phenomena or regularities to the fact we are trying to explain. ('It is because of <*explanans*> that <*explanandum*>'.)⁵ If these explaining factors hold, then the fact we are seeking to explain would be understandable; it would 'make sense'. Sometimes the explaining statements are as well-known as the fact that is to be explained, but sometimes they are not. In such cases, we may even employ our explanation in an abductive argument (inference-to-the-best-explanation).

Regarding argument and explanation, the central point is the contrast in pragmatic direction. In an explanation, the explained statement is as well-known as the explaining statements, perhaps better known. In an argument the premises cited as justification are typically better known than the conclusion. Thus the relevant beliefs of arguers and explainers and their respective audiences differ significantly. The 'certainty shift' often is different: in an argument certainty moves from the premises to the conclusion, whereas in an explanation it either does not shift or shifts from the fact to be explained to the explanatory hypothesis.

In *Philosophical Explanations*, Robert Nozick puts the contrast this way:⁶

A proof transmits conviction from its premises down to its conclusion, so it must start with premises (q) for which there is already conviction; otherwise, there will be nothing to transmit. An explanation, on the other hand, may introduce explanatory hypotheses (q) which are not already believed, from which to deduce p in explanatory fashion. Success in this explanatory deduction may lend support and induce belief, previously absent, in the hypothesis.

Nozick's preliminary version of the distinction between argument and explanation seems essentially correct, but the full story is more complicated. Things are unfortunately rather messier than Nozick's account suggests. It is not a necessary condition of the occurrence of argument that the conclusion be in doubt. We may argue for conclusions that we already believe, for example in contexts where we accept a claim but seek a convincing justification for it. Nor is it strictly a necessary condition of explanation that the *explanandum* be granted as a fact. Occasionally, explanations are offered for potentially true statements. ('If such and such were the case, it could be because of so and so.') Transcendental arguments combine argument and explanation, in that a conclusion derived from a point about experience or consciousness is supposed to explain the very phenomena that prove its necessity.⁷ Some arguments set out proofs in such order and detail that they not only demonstrate

that a conclusion is true, but at the same time serve to explain why it is true. On Nozick's account, this should be logically impossible, as the demands on relative knowledge levels would be contradictory.⁸ Nozick's pragmatic account, while plausible, stands in need of qualification and development.

1. Looking at Thomas' Challenge

In the *Instructor's Manual* for the second edition of his text, S.N. Thomas includes an interesting short essay defending and explaining his unorthodox pedagogical policy of abandoning the distinction between arguments and explanations. Thomas offers four basic reasons for his position.

1. It is impossible to include all justificatory discourses within the scope of logic while excluding all explanatory discourses. This is because many pieces of reasoning can defensibly be classified 'as being *both* 'justificatory' and 'explanatory'. In fact, Thomas states, 'Many reasoned discourses in natural language are 'justificatory' and 'explanatory' at the same time and on the same interpretation.'⁹ Thomas is not merely stating that many passages are hard to classify in that they could either be seen as justificatory or as explanatory. Rather, his point is that many reasoned passages can correctly be seen as both justificatory and explanatory, where this duality is not a result of semantic or structural ambiguities. An argument *that* X is true may also constitute an explanation *why* X is true. Thomas speaks of what is included and excluded from the scope of logic because logic has traditionally regarded argument as its primary territory. However, one might agree that logic should include the task of evaluating the reasoning used in explanations and nevertheless wish to preserve the distinction between explanation and argument.
2. The distinction between justification and explanation needs to be based on extra-logical features of discourses such as function, social purpose, normal contexts, and beliefs of speakers and writers. Such beliefs may vary from person to person and from situation to situation. If explanatory discourses are to be excluded from the scope of logic, their exclusion would depend on extra-logical and variable factors. *'This dependency would be undesirable because the scope of logic should not fluctuate with extra-logical individual psychological variables. This is a reason both against trying to restrict the scope of logic to 'justifications' and against trying to exclude some explanations on the grounds that they are 'nonjustificatory.'*¹⁰
3. Explanations and justifications both employ reasoning, and, Thomas says, *'in both cases, a similar relationship should exist between the components of the reasoning.'*¹¹ Since it is the task of logic to appraise reasoning, logic should thus deal with both types of discourse. In the classic hypothetico-deductive model of scientific explanation, explanations are regarded as arguments. Viewed in this way, explanations can be evaluated by 'the same logical criteria (of validity and soundness) as justificatory discourse'.
4. It is better pedagogically to require students to distinguish reasoning from nonreasoning than to require them to distinguish argument from nonjustificatory explanation. This is because the relevant pragmatic factors are often not revealed in the passages cited in textbooks and because borderline cases are so common. As a result, *'the boundary of the set of reasoned discourses (i.e. the boundary of the class of reasoned discourses including both justifications and explanations) appears to be not only more relevant to logic, but is also much clearer than is the broad blurry boundary between justificatory and nonjustificatory reasoning.'*¹²

We can see a number of distinct themes in Thomas's challenging account. His idea that logic should encompass the appraisal of the reasoning used in explanations can be accepted without renouncing the distinction between explanation and argument. The claim that many natural discourses are difficult to classify as either justificatory or explanatory, especially when taken out of context, is also quite acceptable and may be pedagogically important, though it does not entail that the distinction between explanation and argument should be relinquished altogether. To say that pragmatic factors are required to apply the distinction is quite consistent with the sort of account Nozick offers.

The central and most revisionary claims in Thomas's account reduce to two. First, the very same statements, on the same interpretation, can constitute both an argument and an explanation. Second, the very same logical criteria apply both to explanations and to arguments. If these claims were true, then any distinction between argument and explanation would indeed be relatively unimportant within logic, both pedagogically and theoretically.

2. Arguments that are not Explanations and Explanations that are not Arguments

No one has seriously claimed that all arguments are explanations, though some have claimed that all explanations are arguments. For the sake of completeness, however, let us see why not all arguments are explanations. Consider the following example:

1. *Jones is a Liberal.*
2. *Jones is fat.*
3. *Jones is a bachelor.*
4. *therefore,*
5. *Jones is a fat Liberal bachelor.*
therefore,
6. *There are fat Liberal bachelors.*

Here (5) is conclusively proven, given the premises. But the phenomenon described in (5) is not explained.

In this argument, the conclusion generalizes on separate particular facts, and these facts are not adequate to explain why it should be true. To explain something is to account for it, to show how or why it came to be and why it is as it is. Typically, explanations set a phenomenon in a broader context, either subsuming it under a law, indicating one or more of its causes, showing how it fits a pattern how it is similar to a case which is already well understood (analogy), or how it is somehow to be expected given other factors that are understood. Many arguments do not do this, even though they provide evidence or reasons to show a statement true or plausible. For this reason, examples like the one just cited are easy to generate. Statements can prove, or provide good evidence for a conclusion, C, without explaining why C is true.

These are good arguments even by strict standards. The example above doubtless has true premises, and it is deductively valid. If interpreted as an explanation, this discourse would constitute a very poor one. Thomas's claim that arguments and explanations can be assessed by the same logical criteria can

be seen to be false. There are many uncontroversially good arguments that are not explanations and that would be poor explanations were they taken as explanatory.

Wesley Salmon presents a relevant case in a paper in which he argues that explanations are not arguments. He supposes that we have good inductive evidence that doctors are experts at predicting which children will catch the measles.¹³ Given this, we might argue some such thing as:

1. *Doctor Smith has predicted that Susan will catch the measles.*
2. *Doctors are almost always correct when they predict that children will catch the measles.*
Therefore, probably,
3. *Susan will catch the measles.*

Here we have a good inductive argument for (3), but we have no explanation of (3). It is not established that Susan will get the measles, although this is a reasonable thing to believe. Even if we wanted to explain why Susan will probably get the measles, the expertise of doctors would not be the right sort of factor to refer to – exposure to others, or failure to get vaccinated would. Surely Susan would not get the measles as the result of a doctor's prediction! The prediction is not a cause. Yet we have a good inductive argument for the claim that Susan will get the measles.

A comparable point can be made about retroactive inductive arguments. For instance, consider an argument from the presence of fossilized sea shells in Alberta today (S) to the claim that there was once an immense sea covering Alberta (C). S, conjoined with information about the fossils, provides inductive evidence for C. Retrodictively, we may infer C from present facts. *S can give evidence for C* in a retrodictive context just as a comparable claim might provide evidence in a predictive context. Nevertheless, S cannot in such a context explain C. The point is especially obvious in a retroactive argument, since the temporal relations would not work for explanation.¹⁴ The presence of sea shells in Alberta in the present cannot possibly account for there having been a sea there millions of years ago.

Similar points can be made about many inductive arguments. The evidence cited may provide a good basis for belief in the conclusion without explaining that conclusion. Consider, as another example, an inductive analogy citing effects on rats as a basis for a predicted effect on humans. The evidence about rats could not in principle explain such an effect on humans.

Reflecting in a mathematical context, Philip Kitcher endorsed the distinction between argument and explanation, saying:

*there are cases in which we have a rigorous argument from known premises, but in which we do not understand why the conclusion is true.*¹⁵

In such cases, we have argument and no explanation. And there are many such examples. Thus many perfectly good arguments have no prospects as explanations.

Thomas's claim that the same criteria can be used to appraise both arguments and explanations cannot be correct. We need a distinction between argument and explanation, and we need different criteria of appraisal for each.

Perhaps further conditions are needed for explanation. Or perhaps the conditions of epistemic and logical appraisal are quite distinct. Some examples make it seem as though explanation demands

more than argument. It might be that good explanation demands good argument for the *explanandum* and more besides. This is the assumption behind deductive nomological accounts in which explanation is regarded as a special type of argument. However, for this thesis too, there are problems. The idea that explanation demands *more* than argument is falsified by the fact that some potentially adequate explanations are utter non-starters as arguments. Consider the following, for instance:

1. *Smith is a communist sympathizer.*
2. *Cuba is a communist state.*
Thus,
3. *Smith's account of conditions in Cuba is flawed and biased.*

If taken as premises offering support for (3), (1) and (2) would do a poor job. If we were to appraise this reasoning as an argument we would give it poor marks, because we would expect (1) and (2) to give good evidence in support of (3) and they do not. As an argument, this discourse is *ad hominem* and extremely weak. However, regarding the discourse as an explanation gives a different result. Doing that, we regard (3) as a claim granted in advance. If it is known or agreed that Smith's account is biased and we are trying to explain *why* it is biased, the fact that he is a communist sympathizer offering an account of a communist country could provide the explanation.

Thomas follows logical tradition in regarding the *ad hominem* as a fallacy. But that view is not consistent with his claim that the same appraisal standards apply both to arguments and explanations, as this example reveals. In this sort of case, the pragmatic difference regarding relative knowledge of the 'conclusion' or *explanandum* is highly significant.

Wesley Salmon provides another kind of example.¹⁷ We sometimes explain an event by citing a statistical law according to which that event has a low probability. For instance, the probability that someone exposed to a particular dose of radiation gets leukemia may be less than 5%. Yet if he does get leukemia some years after the exposure, his exposure will be the explanation. A similar example, first cited by Michael Scriven, is that of the syphilis sufferer who gets paresis. Few syphilis sufferers get paresis, but for those who do, their being syphilis sufferers is the explanation. In such cases, an argument from the statistical law to the occurrence of the event will be weak, for the event has a low probability of occurring, given the statistical regularity. Yet the regularity specifies the relationship that (by current scientific standards) explains the event. (Admittedly, that explanation does seem weak and incomplete.) We can explain the phenomenon, knowing that it occurred. If we did not already know that it had occurred, we could not argue that it would occur by citing such a regularity.

No account of reasoning and discourse which dispenses with the distinction between argument and explanation is going to be plausible, because there are many arguments that are not explanations and there are many explanations that are not arguments. Furthermore, an examination of cases indicates that different criteria of appraisal must be at work. There are good arguments that would be non-starters as explanations, and good explanations that would be non-starters as arguments.

3. Why Arguments are not Explanations

That some arguments are not explanations and some explanations are not arguments is to be expected, given the basic pragmatic asymmetry between argument and explanation. The purpose of

argument is rational persuasion. A person puts forward an argument in an attempt to persuade an audience that a claim is true on the basis of reasons or evidence that he or she provides in support of the claim. The claim is taken as not accepted in advance of the argument's being stated, and as rendered acceptable in virtue of the fact that it is adequately supported by the asserted premises. In an argument, an attempt is made to justify, or render rationally acceptable, a conclusion on the basis of proffered premises. Since justifying evidence or reasons may in many cases not be of the appropriate type to explain the phenomena cited in the conclusion – as in a number of the examples cited above – there are many arguments that are not explanations.

In an explanation, an attempt is made to show how or why something came to be as it is. Since explaining a phenomenon *presupposes* that it occurred, explanatory factors are often not of an appropriate type to provide evidence that it did occur. The underlying pragmatics of argument and explanation make the existence of examples of arguments that are not explanations and explanations that are not arguments entirely intelligible. Pragmatic differences explain the distinction.

It is true that we sometimes argue for conclusions that are not in doubt – as when philosophers construct arguments for the existence of external objects. Argument may be used here as an exploratory device – an instrument of inquiry, as several recent authors have put it. This fact does not undermine the fundamental pragmatic contrast, though.¹⁸ Such arguments may be understood as attempts to show how doubts could be resolved *were they to occur*, and can thus be regarded as justificatory. The idea that the premises should be better known than the conclusion is thus preserved. For example, an argument for the existence of external objects, based on premises presuming the existence of other minds, would be considered deficient because this condition would not be met. The premises would not be 'better known' or 'more certain' than the conclusion. Although standardly we doubt neither other minds nor external objects, in any case where we were ready to put the latter in question, the former would likely be in question as well.

Similarly, the fact that we occasionally consider explanations for phenomena that did not occur can also be understood within the context of the basic asymmetry. Such explanations are accounts of 'how it could be that X', based on the tentative supposition that X is the case. How could it be that female criminality would approach the level of male criminality in North America in the 1980s? This isn't the case, but we might suppose that it is, and see what explanatory factors could be offered in that event – greater participation of women in the labor force, greater responsibility of women for economic dependents, television shows featuring women in forceful and violent roles, and so on. This kind of mental exercise could sometimes be important. It is unusual, but possible, and does not undermine the basic pragmatic asymmetry between argument and explanation.

3a. Kant and Transcendental Arguments

Nor does the intermingling of explanation and argument in transcendental arguments undercut this fundamental distinction. In a transcendental argument, a conclusion C is justified on the grounds that it is a *necessary condition* for the truth of some premises, K, which are taken as true. These premises describe human knowledge, conceptual structures, or belief systems. The conclusion is deduced from the premises. The explanatory element comes in by reversing the order. It is not that 'K therefore C' is both an argument and an explanation. Rather, 'K therefore C' is an argument, and 'C, thus K' is an explanation, or partial explanation.

Kant, the *locus classicus* here, says that in such arguments a principle is justified because *only* given that principle is *our knowledge possible*. The word ‘only’ refers to the necessary condition relationship on which the justification is based. The idea of *making possible* introduces explanation. In a transcendental argument, one tries to justify a principle by showing that its truth is a necessary condition of knowledge that we have; therefore, it is true. (Example: in Kant’s account, we have knowledge of geometry and only with an *a priori* intuition of space could we have that knowledge. Therefore there is an *a priori* intuition of space.) But the principle that is justified as a necessary condition is also supposed to explain the existence of that knowledge of which it is the condition. The principles describe a feature that helps make that knowledge possible. It is thus part of the explanation as to how we got that knowledge. The knowledge is assumed both in the justification of the principle and in the accompanying explanation. (Again, referring to Kant’s account, we are able to have *a priori* knowledge in geometry because space is *a priori* and is ‘in us’.) Granting that we have the knowledge, we argue that the principle is true. Given the truth of the principle, we use it to explain the existence of the knowledge.¹⁹ Justification and explanation are both supposed to occur in transcendental arguments, and the compact phrase ‘only given P is K possible’ welds them together. It is crucial to note here that *what justifies is not the same as what explains*. The existence of transcendental arguments does not undercut the distinction between argument and explanation. Rather, a proper understanding of those arguments presupposes this contrast.

3b. Inference to the Best Explanation

Nor does the existence of arguments that proceed by inference to the best explanation blur the distinction between argument and explanation. Suppose that F is a fact, and that E is proposed as the best explanation for F. We may then argue from F to E, as:

1. F
2. E is the best explanation for F.
Therefore, probably,
3. E

Such a line of reasoning is an argument; in the argument we try to justify (3). We argue in favour of a hypothesis or theory (E) on the grounds that it would serve as the best explanation of a fact or presumed fact (F). The argument is not at the same time an explanation, nor could it be. What is explained, as the basis for this argument, is F. F appears here as a premise. Those who read arguments as explanations read the conclusion as the *explanandum*. But here the conclusion would be the *explanans*. As Nozick remarked, the inference to the best explanation (abductive) arguments presuppose the underlying pragmatic asymmetry between argument and explanation. Only because the *explanandum* is, in this case, known prior to the *explanans* are we able to infer the latter from the former. In an argument, the conclusion is not better known than the premises and we (certainly) do not infer the premises from the conclusion.

4. Counterexamples

There remains Thomas’ claim that some discourses constitute both argument and explanation, on

the same interpretation.²⁰ Thomas offers several persuasive examples in defense of this controversial thesis. Here are some of his most persuasive cases.

- A. *'All natural disasters are comforting because they reaffirm our impotence, in which, otherwise, we might stop believing. At times it is strangely sedative to know the extent of your own powerlessness.'* (From Erica Jong, *Fear of Flying* (New York: New American Library, 1974), p. 204.
- B. *'Many of the problems of philosophy are of such broad relevance to human concerns, and so complex in their ramifications that they are, in one form or another, perennially present. Though in the course of time they yield in part to philosophical inquiry, they may need to be rethought by each age in the light of its broader scientific knowledge and deepened ethical and religious experience. Better solutions are found by more refined and rigorous methods. Thus, one who approaches the study of philosophy in the hope of understanding the best of what it affords will look for both fundamental issues and contemporary achievements.'* (From Elizabeth and Monroe Beardsley, 'Introduction to the Prentice Hall Foundations in Philosophy Series'.)
- C. *'Man hating is a defense, a refusal, and an affirmation. It is a defense against fear, against pain. It is a refusal to suppress the evidence of one's experience. It is an affirmation of the cathartic effects of justifiable anger. What is primary is the possibility for release gained from acknowledging its existence, and the renewal that can sometimes accompany its expression. For if I say today, 'I hate you', it is in order that tomorrow it might perhaps be easier to say, 'I love you.'* (From Ingrid Bengis, *Combat in the Erogenous Zone* (New York: Alfred A. Knopf, 1972), p. 5.)
- D. *'Cable television today is at a stage where the general exercise of choice is still possible. If for no better reason than that there is a history of government regulation in the field of television, it remains possible by government action to prohibit it, to permit it, or to promote it almost by fiat. Citizens may still take a hand in shaping cable television's growth and institutions in a fashion that will bend it to society's will and society's best intentions. It is not as yet encumbered by massive vested interests, although that day may be no longer remote. It is not as yet so fixed a part of the national scene, as for example conventional television is, that it appears almost quixotic to re-direct its energies. There is, in short, still time.'* (From *On the Cable: The Report of the Sloan Commission on Cable Communications* (New York: McGraw-Hill, 1971), p. 3.)

Example (A) could be either an argument or an explanation. Because the 'conclusion' that all natural disasters are comforting is a claim few would assent to, it might seem most plausible to take the passage as an argument. However, (A) is not very convincing either as argument or as explanation. It cannot serve as a good explanation, because there is nothing to be explained unless we are antecedently convinced that natural disasters are comforting. (Unlikely.) Nor do the other statements have sufficient independent plausibility to serve as the premises of an argument that natural disasters are comforting. The passage makes little sense either as an explanation or as an argument. And yet the word 'because' seems to require us to interpret it as one or the other or both. The example serves to illustrate Thomas' point, but its epistemic weakness makes it unconvincing as a test case.

Example (B) occurs in a context that is significant so far as the pragmatic distinction between argument and explanation is concerned. It appears in the introduction to an elementary series in philosophy. The intended audience, then, is students who do not know very much about philosophy. The authors wrote to tell students what to expect from studies of the subject. To take the passage

as an explanation is to presume that the students already know or believe that those looking for the best in philosophy will look at both fundamental issues and historical achievements. Pragmatically, this interpretation seems implausible. It makes more sense to regard the passage as an argument. The authors, who have the authority of established philosophers writing an introduction to a series of texts, make statements about the time-significant aspects of philosophical problems; the intention would be that students would accept their premises because of their authority in the context. The conclusion follows from these; it is almost a summary of what has been said before.

Example (C) really contains two sets of reasoning. There is first the reasoning to show that ‘man hating is a defense, a refusal, and an affirmation’. Here, the form is essentially ‘P; Q; R; therefore P and Q and R’. This part of the passage should clearly be taken as an argument. It has no plausibility whatever as an explanation. The supporting statements are particular facts that are summarized in the conclusion. The next part of the passage is harder to interpret: *‘What is primary is the possibility for release gained from acknowledging its (the hatred’s) existence, and the renewal that can sometimes accompany its expression. For if I say today ‘I hate you’, it is in order that tomorrow it might perhaps be easier to say, ‘I love you.’* This passage is similar to the one from *Fear of Flying* (A). Its epistemic credentials are feeble, whether we regard it as explanation, argument, neither, or both. Were it not for the word ‘for’ at the beginning of the second sentence, there would be little basis for seeing it as reasoned at all. (In fact, what we see as reasoning, assuming ‘for’ to mean ‘because’, is so weak that there may be a charitable inclination to search for another function for the word ‘for’ in this context. Perhaps it is serving merely as conjunction.) Given the presence of this word, the sentences make equal sense as explanation or argument; the second may be regarded either as the explanation for the first, its truth being granted, or as a reason (premise) for believing that the first is true. Given the controversial and rather surprising nature of the first statement, the second interpretation is somewhat more plausible. If we adopt it, we might then also regard the premise as explanatory. The move is: P, for Q; that is, Q is a reason to believe that P. In addition, Q explains why P is true. As with example (A), (C) tends to confirm Thomas’ view, but is not an ideal example, because it is so weak epistemically – whether interpreted as argument, explanation, or both.

The last example cited, (D), seems best to illustrate Thomas’ claim that the same passage can constitute both explanation and argument. The passage shows that cable television is still at a stage where there are choices to be exercised regarding its development. Four reasons are given for this claim: the history of government regulation in the field of television; the possibility of citizen action; the absence of significant vested interests; and the relative novelty of cable television on the national scene. These are *convergent reasons*; all give some independent evidence for the claim. Such ‘reasons’, however, may also be regarded as explanatory ‘factors’. Their existence explains why cable television is still open to choice. The explanation has the same structure as the argument. In fact, the argument provides the explanation too. Interestingly, the structure is nothing like that suggested by the deductive nomological model of explanation. We do not have universal or general laws under which the event is subsumed, but rather separate explanatory factors, cited as relevant and as showing how this feature of cable television may be understood.

These cases bear out one of Thomas’ key claims. There are passages that are both argumentative and explanatory, on the same interpretation. This situation can occur because the very statements that provide reasons or evidence that would show the conclusion true also provide an explanation as to why it should be true. The premises can serve also as *explanans*.

However, such examples do not justify Thomas’ further claim that the same logical criteria suffice

to evaluate explanations and arguments. What make the passage a good or plausible argument are not the same conditions that makes it a good or plausible explanation, as numerous other examples have indicated. Both for sound argument and for good explanation, we require valid or legitimate reasoning from some statements to others. But the asymmetry of explanation and argument means that the quite different conditions must be met by justifying premises and explaining statements. Because these conditions are not incompatible, they can be met simultaneously. When that occurs, we find both explanation and argument at once. Statements are able to justify, because in a context where the conclusion is in doubt, they are better known. They are able to explain in virtue of other complex conditions, which entail their being able, in a context, to specify a cause, underlying structure, or purpose that shows how and why the phenomena described in the conclusion-explanandum came to be as they are.

Once a conclusion is accepted, we can look back to the premises as offering an explanation as to why it is true. The very same claims show *both that* the conclusion is true *and why* it is true. The same passage constitutes both argument (justification) and explanation, just as Thomas maintained. This can happen because the justifying premises are also statements that are appropriate to explain the fact that is in the conclusion. The audience would, however, have to be convinced of the truth of the conclusion before an explanation as to why it was true would seem necessary.

5. Philosophy, Pedagogy, and Argument-Explanation Asymmetry

Although there do exist some arguments that are explanations and some explanations that are arguments, the distinction between argument and explanation remains important, both pragmatically and epistemically. One way of seeing this is to consider how we differently approach a 'why' question, depending on whether we take it to be a request for justificatory argument or for explanation. Suppose that someone asks 'Why did Jesse Jackson's 1984 trip to Cuba receive so little media attention?'. If this is taken as a request for an explanation, it will be met by statements trying to specify causes. (Perhaps when the trip occurred, it did not strike media people as important, being regarded as solely propagandistic in intent; perhaps Jackson's activities were regarded as interesting only insofar as they bore on the 1984 presidential campaign in the United States; perhaps other major world events happened at the same time; perhaps media people were racist; and so on.) On the other hand, if the question is taken as a request for justification, a different kind of answer is called for. The questioner is then asking either for evidence that the trip was indeed given little attention, in effect demanding empirical information about coverage in headlines, inches, location of article, and so on as compared to relevantly similar events; or she is asking for a moral/political justification for giving the trip little space. Thus, what constitutes a proper response and an answer to the question will depend very much on whether we take 'why' as making a request for an explanation or an argument.

The significance of the distinction between argument and explanation is again apparent when we consider elliptical arguments and explanations. Suppose, for instance, that someone says he believes in God because he learned religion at his mother's knee. If 'because' is used as explanatory here, we would regard what is said as elliptical for something like the following:

1. *I learned religion at my mother's knee.*

Missing Explanans: People usually persist in believing those things that they learn at their mother's knee.

That is (the cause) why:

2. *I believe in God.*

On the other hand, if we take the comments to express an argument we will probably regard that argument as elliptical as well. However, we will complete it in quite a different way, perhaps along such lines as:

1. *I learned religion at my mother's knee.*

Missing Premise: Most of what people learn at their mother's knee is true.

Therefore, (probably)

2. *God exists.*

The comments do a better job of providing a plausible explanation than of providing a justifying argument. (The proposed missing premise is almost certainly false.) The 'why' of justification typically asks not for proof that the belief is held, but for reasons purporting to show it true or acceptable.

Noting how the inserted material differs in these cases and how the conclusion of the argument differs from the statement of the *explanandum*, we can see that the argument/ explanation distinction retains considerable epistemic and pragmatic significance. The force of 'why' questions and 'because' answers varies, depending on whether we deal with a request for an explanation or for a justification. Different claims are differently relevant, and different standards of success apply. To be sure, reasoning is used both in explanations and in arguments. Without the full context, some responses could be taken as either one or the other. Nevertheless, the distinction retains its pragmatic significance, and the pragmatics of the matter are related to our logical and epistemic appraisal of the result.

Much of what Thomas says is true and important. But the existence of some interesting cases where argument and explanation go on at once does not show that the distinction between justificatory argument and explanation is dispensable. Thomas' challenge is useful in pointing out the need for greater attention to argument and explanation and in reminding us that reasoning plays a crucial role in both. His examples show that the application of the distinction is not suitable as an early exercise for students unless examples are carefully selected. Background information about context and audience may be required. Textbook accounts of argument and explanation should be made more subtle and qualified, so as to allow that justification and explanation are not mutually exclusive. There exist both cases where these go on together and cases that are borderline and hard to classify as one or the other. We can allow that reasoning is used both in explanation and argument and that the same indicator words are used in each, often with closely parallel roles. We may wish to allow, as Thomas suggests, that logicians who see themselves as appraising reasoning would do well to include explanation as well as argument within the scope of logic.

But given the pragmatic and epistemic differences that exist, the fundamental contrast between explanation and argument retains its pedagogical importance. In a society where people so often tell you how they came to think as they do while ignoring issues of justification, to omit the distinction between argument and explanation from the pedagogy of critical thinking would be a serious mistake. The 'psychoanalysis' of thought will presuppose rational argument and critical thinking. It should never replace them.

Notes

1. The phrase 'the fact explained' refers to the description of the facts or events explained.

2. Recent discussion still uses this Hempel-Opppenheimer account as its starting point, though prevailing opinion is that the covering law model is not adequate. For present purposes, my main concern with the Hempelian account is with its classification of explanation as one type of argument. See Hempel, C.G., 'Deductive Nomological vs Statistical Explanation', in H. Feigl and G. Maxwell, (Eds) *Minnesota Studies in the Philosophy of Science* III, (Minneapolis: University of Minnesota Press, 1962), pp. 98-169; Hempel, C.G., 'Explanation in Science and in History', in R. Colodny (Ed.) *Frontiers of Science and Philosophy*, (Pittsburgh: University of Pittsburgh Press, 1962), pp. 7-33; and Hempel, C.G., *Aspects of Scientific Explanation* (New York: The Free Press, 1965).
3. This is an unfortunate omission, since analogies are used both in explanations and in arguments, and since the conductive type of argument has its parallel in explanations that proceed by specifying several distinct causal factors.
4. S.N. Thomas, *Practical Reasoning in Natural Language* (Englewood Cliffs, N.J.: Prentice Hall, 1980. Second Edition), p. 12.
5. Thus the reasoning in an explanation is designed to show how or why F is the case, whereas in an argument reasoning to a conclusion, C, is intended to show that C is the case.
6. Robert Nozick, *Philosophical Explanations*, (Cambridge, Mass: Harvard University Press, 1981), p. 14. Compare Robert Ennis, 'Enumerative Induction and Best Explanation', *Journal of Philosophy* LXV (1968), pp. 523-528.
7. I discussed transcendental arguments and the role of explanation within them in my doctoral dissertation, *A Study of Transcendental Arguments* (University of Waterloo, 1971; listed under the name Gertrude R. Kelly.) Kant put it this way: 'I understand by a transcendental exposition the explanation of a concept, as a principle from which the possibility of other *a priori* synthetic knowledge can be understood. For this purpose it is required (1) that such knowledge does really flow from the given concept, (2) that this knowledge is possible only on the assumption of a given mode of explaining the concept.' (*Critique of Pure Reason*, B41; Norman Kemp Smith translation.)
8. As we will see later, this occurs when the same set of statements satisfies both the conditions required in order to make them justifying premises and the conditions required in order to make them explanatory. These conditions, though distinct, are not incompatible, and thus it may happen that some sets of statements satisfy both at once. Compare Philip Kitcher, 'Mathematical Rigor: Who Needs It?', *Nous* 15 (1981), pp. 469-93.
9. Thomas, *Instructor's Guide*, p. 147.
10. *Ibid.*, p. 148.
11. *Ibid.*, p. 148.
12. *Ibid.*, p. 148.
13. Wesley Salmon, 'A Third Dogma of Empiricism', in R. Butts and J. Hintikka, (Eds.), *Basic Problems*

in *Methodology and Linguistics* (Dordrecht: Reidel, 1977), pp. 149-166. See also Wesley Salmon, 'Why Ask 'Why'?', in *Proceedings of the American Philosophical Association* 5 (1977-8), pp. 683-701.

14. In 'Why Ask 'Why'?', Wesley Salmon contends on the basis of such cases that explanations require an asymmetry not demanded in arguments. He maintains that this asymmetry is due to the fact that the root notion behind explanation is that of causation.

15. Kitcher, 'Mathematical Rigor: Who Needs It?', p. 473.

16. See Wesley Salmon, 'A Third Dogma of Empiricism'; Bas van Fraassen, 'The Pragmatics of Explanation', *American Philosophical Quarterly* 14 (1975), pp. 143-150; and John Post, 'Infinite Regresses of Justification and of Explanation', *Philosophical Studies* 38 (1980), pp. 31-52.

17. See 'A Third Dogma of Empiricism' and 'Why Ask 'Why'?'.

18. This point has been noted by several commentators, including R.H. Johnson and J.A. Blair, in *Logical Self-Defense*. (Toronto: McGraw-Hill Ryerson, 1983.)

19. Compare Kant's own account in the *Critique of Pure Reason* (section B41) and my exposition in *A Study of Transcendental Arguments*, Chapters 2 and 6. Nozick offers a similar account of transcendental argument in *Philosophical Explanations*, p. 15.

20. In the essay in his instructors' manual, Thomas claims that examples throughout the text bear out his theory. He mentions that exercise set 1-1B is especially revealing for these purposes. Indeed, by my calculation, fully 9 of 37 exercises in that set could be analyzed as both explanatory and justificatory. Examples discussed here come from this set of exercises.

CHAPTER 9.

FOUR REASONS THERE ARE NO FALLACIES?

A cavalier and confident formalist approach to fallacies is no longer standard; the Stanford Encyclopedia of Philosophy reports instead that it has proven more profitable to explore fallacies without appealing to formal languages. In other words, a nonformal approach to fallacies has become standard over the years since this chapter was written. Thus the notions queried in this chapter seem no longer to be in vogue and the criticisms of cavalier formalism with regard to fallacies are unnecessary, though not incorrect.

Karl Lambert, William Ulrich, and Gerald Massey were all formal theorists and developed their critical accounts of fallacies from that perspective. Lambert and Ulrich held that all that needed to be said about poor arguments was that they were not formally valid; one did not need ‘fallacy’ as an additional category. Massey held that to show that a fallacy occurred, one would need to demonstrate that poor arguments failed to be formally valid. But, given the asymmetry between valid and invalid arguments, it was not possible to formally prove invalidity. It was from a formalist standpoint, then, that these logicians argued against the very notion of fallacy. I argued that their accounts are flawed; it is fair to say that that conclusion is accepted today.

A 2017 search of Philosopher’s Index revealed more than six hundred articles with “fallacy” or “fallacies” in the title. However, many of these works do not seem to be about fallacies as a general theme; rather they treat a distinct topic (miracles, evolution, the mind/body problem), alleging one or more mistakes (‘fallacies’ in a broad sense) in the treatment of that topic. My casual survey revealed intriguing names of fallacies I had never heard of – the neurological fallacy, the moralistic fallacy, the unintentional fallacy, the reverse inference fallacy, and the great mind fallacy, to name just a few. Fallacies have not gone out of fashion.

In his recent book The Undoing Project: A Friendship that Changed Our Minds, Michael Lewis describes the collaboration of Amos Tversky and Daniel Kahneman. Working over many years first in Israel and then in North America,

Tversky and Kahneman described a number of characteristic errors in reasoning. Lewis reports that their work provoked considerable criticism, much of it due to the fact that they were arguing that there were types of reasoning errors that people commonly make. In other words, people often reason incorrectly. That conclusion was energetically resisted in some quarters. Reading Lewis’s account, I was reminded of the charitable resistance to allegations of fallacies. Somehow, people do not like to see others accused of systematically flawed reasoning; they seek an interpretation according to which these mistakes are not happening. And they suspect the accusers of being in some sense ‘smart alecks’ – pretending to know more about accurate thinking than the average person and to detect errors ordinary people cannot recognize for themselves. It remains a temptation. I submit that the reasoning in this chapter, usefully supplemented by the evidence provided by Philosopher’s Index indicates that fallacies are not to be vanquished by the technique of presuming that other people are basically rational. I argue for a modest principle of charity and for attention to details of speech, text, and context. This approach

to interpretation will not eliminate fallacies; nor would I wish to do that. When this chapter was written in the nineteen eighties, principles of interpretation were central to the problem of fallacies. Both for explaining and identifying particular fallacies and for fallacy theory, they remain so.

Reacting to the proliferation of texts and courses on informal fallacies, a number of people have recently voiced concern about the lack of rigor and consensus in the area. Some have gone so far as to argue that there are no informal fallacies at all, that there is no way to show any argument invalid, that fallacies exist only in the pages of textbooks and the minds of logicians, or that fallacies are products of uncharitable interpretation.¹ Such revisionist views raise important questions. But though provocative, they are not correct – or so I shall argue here.

By definition, a fallacy is a mistake in reasoning, a mistake that occurs with some frequency in real arguments and that is characteristically deceptive.² This means, not that a person who uses a fallacious argument necessarily intends to deceive his audience but that the fallacious argument itself is deceptive, in the sense that it strikes many people as cogent, though it is not.³ An arguer may recognize his fallacious argument as fallacious and intend to deceive others with it, or he may think that it is a cogent argument and use it in all sincerity. Since a fallacy in the logical sense involves a mistake in reasoning, in order to commit one, a person must be reasoning. Colloquially, false beliefs are often termed fallacies, but traditional logical usage restricts the term to reasoning errors, a usage followed here. In order to commit a fallacy, a person must reason from one or more claims to others. In the present context, this is to say that a person who commits a fallacy must be arguing. Furthermore, not just any mistake in reasoning counts as a fallacy. A fallacy is a mistake that is of a kind: it is repeatable, and repeated in other contexts.⁴ A mistake in reasoning which is idiosyncratic and unlikely to be repeated does not qualify as a fallacy, even though it is a mistake in reasoning.

There is, then, a tacit empirical claim in saying that an argument involves a fallacy. Indeed, some who are sceptical about fallacies base their scepticism on empirical considerations. They agree that such moves as *post hoc* and *ad hominem* would be mistakes were they ever to occur, but believe that real arguments seldom or never include them. Saying that a fallacy is deceptive and that it is a mistake of a kind which occurs relatively often commits the critic to empirical claims as well as logical ones. If one invents a mistake in reasoning and invents an example in which it occurs, one will not thereby have invented or discovered a fallacy – not unless that so-called fallacy seems to many people at first blush not to be one.

From these considerations we can see that there are many potential problems about fallacies. To say that an argument exemplifies one or another fallacy commits a critic to an interpretation of an arguer as reasoning in some specific way; to a logical judgment that the reasoning embodies a mistake; to a classification of that mistake as being one of a type; and, implicitly, to the empirical claim that the mistake is of a type repeated elsewhere and is deceptive in the sense that people tend not to recognize it as a mistake.

These points are no doubt of considerable pedagogical significance. Identifying and diagnosing a fallacy is no simple matter. Given the complexities involved, and given the additional problem that actual arguments may, on different interpretations or even on the same one, illustrate several distinct fallacies at once, there may be important reasons against teaching critical skills by beginning with fallacies. Combine these features with the point that the counterfeit presumes the real, so that fallacies presuppose pertinent concepts of good argument, and it is easy to understand why many people object to teaching argument or critical thinking through fallacies analysis. However, while

recognizing the importance of these points, we need not grant wholesale revisionist claims about fallacies. From the fact that the identification of fallacies is a complicated matter it does not follow that there are no fallacies at all. Like the *a priori* elimination of evil, the *a priori* elimination of fallacies has a certain charm and appeal, but the results depart from common sense.

1. Formal Invalidity as the Whole Story

In their text, *The Nature of Argument*, Karl Lambert and William Ulrich express considerable scepticism about fallacies. Their approach is to dispute informal fallacies only; the formal ones are to rest secure. Lambert and Ulrich begin by saying:

*Only two things can go wrong with an argument – it can be invalid or it can be unsound. If an argument is invalid, then it has a counterexample; whether or not it is also an instance of an ‘informal fallacy’ is beside the point.*⁵

This is clearly a deductivist account; the authors presume that connections between premises and conclusion can be appraised in only one way: for deductive validity. The presumption is that a premise/conclusion connection is legitimate if the argument is formally deductively valid and not otherwise. A more pluralistic view of argumentation would require a more complex analysis. When working through Lambert and Ulrich’s account, it is useful to keep their presumption in mind. The difficulties that arise from within this limited view are aggravated if a more pluralistic theory of argument is adopted.

Lambert and Ulrich claim that formal invalidity and only formal invalidity constitutes a mistake in reasoning. If we can show that an argument is formally invalid, then we know that it is not a cogent argument; on this account any further remark to the effect that it also exemplifies an informal fallacy will be ‘beside the point’. Lambert and Ulrich continue:

Even when one learns to recognize alleged examples of the various ‘fallacies’, it is difficult to see what common factor makes them all instances of the same fallacy.’⁶

Identifying this common factor is easy in the case of arguments that are formally invalid, because two arguments which exemplify the same mistake will have been formally represented in such a way that we can see that they have the same form. In the case of purported informal fallacies, Lambert and Ulrich say, this is not so easy.

The question raised is important because, as we have seen, a fallacy embodies a mistake in reasoning which is of a kind. Given that two arguments both make mistakes in reasoning, when is it true that they make the same mistake? It would seem that a formal approach will give a straightforward answer to this question. An informal or nonformal approach may not. Lambert and Ulrich go on to explore the question with reference to one of the standard informal fallacies, the *ad hominem*.

In the *ad hominem* someone uses a fact about a person’s character to discredit his claims or his argument. Lambert and Ulrich put forward a case of this type:

1. *Mr. Jenner claims that evidence E is strong evidence that Mr. Nixon is guilty of obstruction of justice.*
2. *Mr. Jenner was a member of a commission that recommended the legalization of prostitution.*
Therefore,
3. *E is not strong evidence that Mr. Nixon is guilty.*⁷

There is an interpretive matter to note here. This model represents the conclusion held as a claim that the attacked arguer's view is false. But often people use facts about character to allege that claims made are less credible than they might be when made by other people, or that they should not be accepted. There are more modest conclusions and might plausibly be defended by *ad hominem* allegations in inductive contexts.⁸ The matter is significant because the issue of sensitive interpretation in fallacies analysis is one on which fallacies critics have frequently been attacked.

The purported *ad hominem* argument has a simple logical form, according to Lambert and Ulrich. It is of the form:

A

B

Therefore,

not-C

Lambert and Ulrich are sure that the argument is of this form, and no other. Clearly this form is not that of a formally valid argument. Hence, Lambert and Ulrich conclude, the argument is not sound. It exemplifies a mistake in reasoning which is a formal mistake. The authors maintain that the description of the *ad hominem* has no bearing on the identification and analysis of this mistake.

The authors unhesitatingly presume that their particular way of formalizing the argument is correct. That is, their representation captures all features of the argument that are relevant to the deductive appraisal of the connection between its premises and its conclusion. This is a premature assumption, as we shall see with a vengeance when we come to Gerald Massey's account of proofs of invalidity. Compare the authors' sample argument with the following invented and trivial little argument:

1. *The table in the corner is brown.*
2. *Everything which is brown is not green.*
Therefore,
3. *It is not the case that the table in the corner is green.*

This argument is apparently also of the form 'A,B, therefore not-C'. Yet it is deductively valid in the straightforward sense that if both premises are true, it is logically impossible for the conclusion to be false. Using Lambert and Ulrich's approach, we could conclude that the above argument is invalid. Apparently it has the same logical form as the *ad hominem* argument which they invented; they said that argument was invalid due to its form. What has gone wrong is that a proposed formalization 'A,B, therefore not-C' does not capture those features of the argument (meaning of colour words) that make it deductively valid.

Lambert and Ulrich point out that there are many arguments that have the form 'A, B, therefore not-C' and that do not constitute *ad hominem* arguments. From this they infer that classifying an argument as *ad hominem* is not useful: this classification does not properly characterize the mistake in reasoning which is involved in it. However, all of this presumes the adequacy of Lambert and Ulrich's formal

analysis. Since that analysis can be used to claim even that the valid argument about the brown table is invalid, there must be something wrong with the account.

That an argument can be formally represented as having the form 'A, B, therefore not-C' will indicate that it contains incorrect reasoning only if that formal representation is an apt way of representing the argument. This point is absolutely central. A formalization is an apt way of representing the argument only if it represents all those features relevant to the logical appraisal of the argument. An analysis along the 'A, B, not-C' line shows us nothing of importance about the argument. To complete their account of the example, Lambert and Ulrich would have to show that their formalization is the only appropriate one; that this is a way, and the only way, of capturing the kind of reasoning used in the argument. They did not appreciate the need to accomplish this task, and it is, to say the least, unlikely that they could complete it.

We may show that an argument cannot be proved valid according to one formal representation and using one formal system, but the question remains whether there is another representation and/or another system which would give a different result. These problems arise even within the narrow formalist and deductivist framework that Lambert and Ulrich employ.⁹ It is not so easy as Lambert and Ulrich suppose to show that an argument is formally invalid. Problems would be aggravated considerably were we to broaden our notion of what is relevant to the workings of arguments so as to include the possibility of cogent nondeductive arguments and of nonformal terms as playing a key role.

Lambert and Ulrich have not provided a knockdown formal refutation of the argument they put forward as an example of *ad hominem*. Their account presupposes a narrow theory of argument and, even within the bounds of that narrow theory, raises as many questions as it answers. The authors suppose that their analysis is uncontroversially correct and go on to ask what an informal fallacies analysis might add to the supposedly watertight account. They compare their first invented argument to another.

1. *Jones maintains that socialism is wrong.*
2. *Jones is a rich stockbroker.*
Therefore,
3. *It is not the case that socialism is wrong.*

And they comment: *Someone who gave this argument would probably be trying to persuade us that socialism is not wrong by getting us to distrust or dislike Jones. This argument has the same logical form.*

A

B

Therefore

not-C

So it is indeed invalid ... but this does nothing to characterize the informal fallacy of argumentum ad hominem because these two arguments also share the same form with:

1. *The sky is blue.*
2. *Grass is green.*
Therefore,
3. *It is not the case that tigers are carnivorous.*

This argument, although it is an instance of the same formal fallacy, has nothing to do with attempting to discredit a person's views by discrediting his character. Thus, if there is a fallacy of argumentum ad hominem, there must be a way of characterizing it according to which the first two arguments above are instances but the third is not. It is, however, difficult to see that these two arguments have anything in common other than their logical form, and the fact that those who offered them had certain base motives, namely, to discredit someone's views by discrediting his character.

10

And yet it is allowed, in the last sentence quoted, that the two prospective *ad hominem* arguments do have something in common. They share the feature that in both there is an attempt to discredit someone's views by discrediting his character. Now interestingly, this is precisely the feature that informal logicians select for attention when criticizing *ad hominem* arguments as fallacious. Lambert and Ulrich refer to it as a 'common motive' behind the arguments. This description makes it appear as though what the two arguments have in common apart from their (alleged) common form 'A; B; therefore not-C' is a psychological matter. The arguers who would use such arguments would share a motive.

But such terminology is tendentious and misleading. *The feature has to do with the content of the arguments.* In both, the premises specify a fact about a person, a fact commonly thought to be deleterious, and in both the conclusion is that some view held by the person is false. The arguments have in common that in both premises about the (deleterious) character of people are used to support a conclusion to the effect that an opinion held by those people is incorrect. This matter of content has nothing to do with the motives of the people who would put forward such an argument, which could be anything at all. The common feature is one of content; that is straightforwardly apparent. The matter of motive is one of speculation.

Lambert and Ulrich claim that this common feature (allegedly motive) cannot serve to characterize any mistake in reasoning that both arguments involve, because 'some attempts to discredit a person's views by discrediting his character involve valid argument'. They promptly invent one such, which has as two of its premises the following statements:

*If Jones is a rich stockbroker and he maintains that socialism is wrong, then he is lying. If Jones is lying, then socialism is wrong.*¹¹

A deductively valid argument can be *ad hominem*, if an *ad hominem* argument is any argument in which the falsity of someone's view is inferred from considerations which include reference to disreputable aspects of his character. For Lambert and Ulrich this consequence amounts to a *reductio* of the idea that the *ad hominem* description could be of any use in the appraisal of reasoning. For them, deductive validity and invalidity are the whole story about reasoning from premises to a conclusion. On this view, it would be absurd for an argument that had the paradigm virtue of deductive validity to have anything wrong with it.

That the description offered for *ad hominem* arguments could apply to a deductively valid argument is interesting, seldom noticed, and perhaps important. However, in some sense this is not a surprising

result. The two purported *ad hominem*s had something in common. The common element was not a matter of formal structure as that is conventionally identified; it was one of content. For the same content, a variety of structures are possible. For any argument which is based on an illegitimate connection between X and Y, one can also produce a deductively valid argument by adding a premise to the effect that X and Y are connected in just the way the argument would require. That is the strategy of inserting the associated conditional as a missing premise. The amended argument does in a sense make the same point as the original one: the feature of deriving falsehood or lack of credibility of belief from aspects of character is preserved. Yet the amended argument is deductively valid and hence not fallacious.

But what does this strategy prove? Lambert and Ulrich, presuming the definitive correctness of their formal analysis, infer that neither the *ad hominem* classification nor any other classification from informal logic can show anything about such arguments. However, that fact is open to another interpretation. That *ad hominem* arguments can be made into deductively valid ones by inserting the associated conditional as a missing premise shows that assessing arguments solely for formal deductive validity may show us precious little about their merits. Lambert and Ulrich do not establish their point concerning the examples they discuss. They do not succeed in demonstrating their strongly negative position about informal fallacies.

What has been discussed is the part of Lambert and Ulrich's treatment where 'they say it'. There is also another part where they 'take it back', with qualifying remarks like the following rather confusing statement:

*There may be errors in reasoning that have nothing to do with the arguments representing the reasoning, even though of course any logically invalid argument will correspond to some error in reasoning.*¹²

And:

*No such argument (as begging the question) is fallacious, but anyone who argued in this way would be making some kind of mistake. We are not suggesting that there is no value in investigating the various sorts of mistakes in reasoning that people are prone to make; on the contrary, this is an area where interesting and fruitful discoveries are waiting to be made. Rather, we are suggesting that until a general characterization of informal fallacies can be given which enables one to tell with respect to any argument whether or not it exhibits one of the informal fallacies, knowing how to label certain paradigm cases of this or that mistake in reasoning is not really useful for determining whether a given argument is acceptable.*¹³

These are puzzling qualifications, apparently inconsistent with the tenor of the main account. But given the fundamentally flawed nature of that account, such qualifications do not merit further attention here.

2. Formal Invalidity as No Story

In several provocative articles, Gerald Massey has argued that it is not possible to prove an argument invalid. In 1975, in 'Are There any Good Arguments that Bad Arguments are Bad?', Massey defended an asymmetrical account about proofs of validity and invalidity.¹⁴ Given an argument in natural language, if we paraphrase it correctly into the symbols of a correct formal system, and show it to be valid according to the rules of that system, we know that the argument is valid. Thus, formal logic can be used to demonstrate the formal validity of arguments couched in natural languages. But for demonstrations of invalidity, Massey maintained, matters are not so simple. Suppose that we

paraphrase an argument into the symbols of a correct logical system and find that it turns out to be an invalid argument in that system. Have we shown that the argument is invalid? We have not, because we do not know that there is no other system such that it would turn out to be valid in that one. The question of whether the paraphrase is the only logically revealing one remains open, as does the question of the possibility of a correct logical system in which a logically revealing paraphrase of the argument would turn out to be valid.

The reason for the marked asymmetry between showing validity and showing invalidity should now be apparent. To show that an argument is valid it suffices to paraphrase it into a demonstrably valid argument form of some (extant) logical system; to show that an argument is invalid it is necessary to show that it cannot be paraphrased into a valid argument form of any logical system, actual or possible.¹⁵

Massey's account was welcomed by some informal logicians who thought this took the formalists down a peg or two. The account could be interpreted as showing that formal analysis presupposes nonformal judgment as to the appropriacy of a paraphrase and the aptness of the logical system to which the argument is referred. (For informalists, this will be the right moral to derive from the story. I later argue for this view.) We might see Massey as an ally, witting or unwitting, of those who advocate a nonformal approach to the analysis of arguments. He allowed in his paper that we can show arguments invalid in a logically trivial way by showing that the premises are true and the conclusion false and also, in subsequent discussion, that we may often have reasons for, or intuitions regarding, the inadequacy of arguments. However, Massey remains adamant that such 'low level' nonformal judgments do not amount to a theory of invalidity and that judgments of invalidity remain unfounded, theoretically.¹⁶ Massey would require formal grounding for theoretical security.

Judgments of invalidity might come to be properly grounded, were a logical grammar of a special kind to be found. In such a case, we would have assurance that some paraphrase of an argument was the correct one, and that the rules according to which that paraphrase came out as invalid were the right rules to apply.

... the egregious asymmetry between proving validity and proving invalidity will persist until one or more programmes, such as Natural Logic, have been successfully implemented.¹⁷

Any alliance between informal logicians and Massey is premature and would not be to his taste. For him a theory is a formal theory, and a judgment without a theory is only a slight improvement on no judgment at all.

An informal logician who sought consolation in Massey's 1975 paper would be disappointed by his 1981 article, 'The Fallacy behind Fallacies'.¹⁸ In that paper Massey criticizes both informal and formal logicians for their attempts to teach students to find fallacies. He explicitly links his view to his earlier account of validity and invalidity.¹⁹

In his informative treatise on fallacy, Hamblin succinctly describes a fallacious argument as an argument that seems valid without being so. It is with fallacies so defined that I will hereafter be concerned.

Note first that fallacious arguments are invalid. Hence a theory of fallacy presupposes a theory of invalidity. Therein lies the rub. But, as I claimed above and have argued for elsewhere, a theory of invalidity has yet to be developed. It is not surprising, then, that treatments of fallacy eschew theory. There is no theory on which they could be based.

Essentially, Massey employs the following argument:

1. Whatever else fallacies are, they are invalid arguments.

So,

2. To show that an argument is a fallacy, we must first show that it is invalid.

And,

3. There is no formally adequate method of showing that an argument is invalid.

So,

4. We cannot in any theoretically adequate way show that an argument is invalid.

Therefore,

5. There is no adequate theory underlying fallacies.

Fallacy analysis is sloppy and in a theoretical mess, because it presupposes well-founded judgments of formal invalidity and these cannot be made.

... whereas logical theory underwrites validity verdicts, the case for invalidity verdicts (where the trivial logic-indifferent method is inapplicable) rests at bottom on intuitive judgments of invalidity altogether unsupported by theory.²⁰

Let us examine Massey's argument. The first premise, linking fallaciousness and invalidity, would strike many people as obvious. However, it poses problems. First, invalidity is not a necessary condition of fallaciousness, provided that begging the question is a fallacy.²¹ Many arguments that beg the question are formally valid, and in some what explains their begging the question is the very same thing that makes them formally valid: they contain a premise which is logically equivalent to the conclusion. Unless Massey has an unorthodox view about begging the question, this phenomenon poses a problem for his account. We cannot begin our account of fallacies by assuming that all fallacious arguments are invalid unless we are prepared to rule out question begging as a fallacy from the very start. The problem can be extended to other fallacies with a dialectical component, such as straw man. A sample argument such as:

1. Indeterminists hold that human actions are entirely random.
2. Entirely random actions are not responsible actions.
3. Indeterminists hold that humans are responsible for their actions.

So,

4. Indeterminists hold an inconsistent position regarding human action.

Therefore,

5. Indeterminists hold a false view.

can no doubt be represented as a deductively valid argument. With some manipulation, it can be represented as formally valid. Nevertheless, due to the content of the first premise, the argument may commit the straw man fallacy. The question as to whether it does concerns the accuracy of that premise as an account of the indeterminist position. Given that a straw man argument might be cast as a deductively valid argument, and given that straw man has long been thought to be a fallacy, we have another reason for questioning whether invalidity is a necessary condition of fallaciousness.²² Some traditional fallacies can appear even in deductively valid arguments, because they have to do with general features pertaining to content (as we saw with *ad hominem*, above) or because of dialectical aspects, as with the straw man case. These are not formal features.

Nor is it clear that invalidity is sufficient for fallaciousness. By all but the most adamant deductivists, it is allowed that there are some cogent arguments that are not deductively valid. If there is even one cogent inductive argument, then that is a non-fallacious argument which is not deductively valid. Hence, deductive invalidity is not a sufficient condition for fallaciousness. In fact, for different reasons, neither Hamblin nor Massey presume that invalidity would be sufficient for fallaciousness. Invalidity in the deductive sense is neither necessary nor sufficient for fallaciousness.

The terms 'valid' and 'invalid' are used in a number of different senses even by logicians. The following three are pertinent here:

1. An argument is valid if its premises are properly connected to its conclusion and provide adequate reasons for it. It is invalid otherwise. (Umbrella validity)
2. An argument is valid if its premises deductively entail its conclusion, such that given the truth of those premises the falsity of the conclusion is a logical impossibility. It is invalid otherwise. (Semantic validity)
3. An argument is valid if its conclusion is formally derivable from its premises using the rules of a correct logical system. It is invalid otherwise. (Formal validity)

On any theory of argument other than deductivism, it is only umbrella validity that is of general relevance for argument appraisal. Given a pluralistic theory, the fact that an argument is semantically or formally invalid is, by itself, quite insufficient to establish the claim that the argument is fallacious²³. An inductively strong argument is semantically and formally invalid, but that does not show that it is fallacious.

Looking back at Massey's own central argument, we can see that premise (1) does not hold; Premise (2) gets its support from (1) and is therefore unsupported; premise (3) is what Massey argues for in his 1975 paper. There is no formally adequate way of showing an argument to be formally invalid, because given its invalidity according to some system, the possibility remains open of its turning out to be formally valid according to some other system. This point may be granted if by 'formally adequate method' we mean 'method that is formal and that does not presuppose any significant preformal judgments'. If we grant premise (2) for the sake of argument and grant premise (3) as understood, there is still a gap in the inference from (2) and (3) to (4). The problem is in moving from not having a formally adequate method to not having any theoretically adequate method. This move reveals Massey's formalist predilections. Anyone who thinks that respectable nonformal theories are possible will not accept this move and will not move to the final conclusion either.

Massey's work is extremely important. It reveals the consequences of taking an entirely formalist account of validity and argument appraisal to its limits. Many share Massey's beliefs about the

relationship between fallaciousness and invalidity and many endorse his formalist account of validity and the idea that any theory worth its salt is a formal one. For such people, Massey's work leaves an important and profound problem.

From the perspective of a pluralistic theory of argument and a nonformalist concept of theoretical adequacy, Massey's argument against the fallacies is far from conclusive. His point about invalidity is important and telling against the sort of insensitive formalization Lambert and Ulrich used. It shows the need to detect the linkage which is supposed to be there, to distinguish between those features of the argument which are relevant to its logical appraisal and those which are not. We need a paraphrase which captures all of the logically relevant features. The formal invalidity of a particular paraphrase shows nothing unless we are sure that paraphrase has captured the logically significant features of the original argument. Judgment on this matter is not formal.

Massey is unwilling to assume that ordinary human beings, ordinary philosophers, or even ordinary logicians have a preformal capacity to make these judgments about what is and what is not relevant to the deductive appraisal of an argument. He appears to use 'valid' and 'invalid' solely in a formal sense, to such a degree that he makes such comments as:

... consider arguments (7) and (8).

(7) John took a walk by the river.

John took a walk.

(8) Tom, Dick and Harry are partners.

Tom and Harry are partners.

Davidson deserves credit for showing how to translate (7) into standard predicate logic in such a way as to get a valid argument form. (Davidson's translation turns on quantification over events, something that some philosophers find objectionable, but that is another matter.) Ante Davidson, no one seemed able to supply such a translation, and so argument (7) was deemed invalid.²⁴

This passage illustrates Massey's tendency to conflate semantic and formal validity and to attribute this conflation to other logicians and philosophers. Before Davidson's logical discoveries, arguments (7) and (8) were semantically valid but were (perhaps) not known to be formally valid.

Massey's problem arises only within a strictly formalist framework. If we are willing to grant that people understand arguments and are capable of appreciating how these arguments work so as to be able to construct correct formal paraphrases of them, the problem does not arise. Granting that we understand an argument and see what sort of connection that argument depends on, we can sometimes show an invalid argument to be invalid by paraphrasing it into the terms of an appropriate formal system and employing the standards of that system.²⁵ If we are not willing to grant that people sometimes understand arguments well enough to do this, Massey's point will hold. But then, on such a view, many other problems arise as well.

Rolf George takes this approach in a postscript to a recent paper. He reminds his readers that, in addition to having the capacity to understand sentences, people have the capacity to understand arguments.

Consider, for instance, John 8:47, where Jesus argues

He that is of God heareth God's words: ye therefore hear them not,

because ye are not of God.

Might we be wrong about the form of this argument? Is it really conceivable that there is a clever translation into an extant formal language that shows it to be valid, or a hitherto undreamt of formal language that would yield a valid argument form? Perhaps such a formal language will be revealed to us in the fullness of time, but assuredly, it will surpass all understanding. For present purposes we can be confident that we can properly discern the (unique) form of that argument and find it to be 'denying the antecedent'.²⁶

The passage strikes me as more subtle than George admits. Paraphrasing, we arrive at 'if you are of God, you hear God's words; you are not of God; therefore you do not hear God's words. ' The paraphrase uses, crucially, the placement of 'therefore' to identify the conclusion 'you do not hear God's words'. With this paraphrase, we can see that the argument is an example of the formally fallacious move of denying the antecedent. It is this correct paraphrase that George's comments presume. (An incorrect paraphrase would lead one to find a different argument with the conclusion, 'you are not of God, ' and that argument would be a valid *modus tollens*.)

Formal proofs of invalidity are sometimes possible, given the correctness of necessary preformal assumptions, However, these are neither necessary nor sufficient to ground a theory of fallacies, They are surely relevant to parts of such a theory; if available, they offer part of the story of fallaciousness for some deductive arguments, because dialectical considerations are often relevant to fallaciousness (as in begging the question and straw man) and because only common and deceptive reasoning errors will count as fallacies, they offer only part of the story, even for these cases,

3. The Argument From Sloppiness

With only occasional exceptions, fallacies have been the subject more of textbooks than of treatises. Textbook treatments of fallacies are often poor.²⁷ Arguments are cited briefly and carelessly interpreted; little is said to justify an interpretation or an allegation of error; points made in explaining one 'fallacy' may be contradicted in another part of a text where a different 'fallacy' is being discussed; different texts may define differently what is called the same fallacy. Such problems are regrettable. From them, some have inferred that fallacies would make an important subject of study; others have concluded that there is nothing to the subject.²⁸ Before introducing his argument about invalidity in 'The Fallacy Behind Fallacies', Massey began to argue in this way. He said:

The myriad and intricate schemes for classifying fallacies suggest that there is little theory behind the science of fallacy. This suggestion misleads only by implying that there is any theory at all behind it. The unvarnished truth is this: there is no theory of fallacy whatsoever. I will return to this claim shortly.²⁹

A more extended version of this theme is found in Maurice Finocchiaro's recent paper, 'Fallacies and the Evaluation of Reasoning'.³⁰

Finocchiaro begins by saying that, for the appraisal of arguments in natural language and extra-formal contexts, the formal approach faces a difficulty,

stemming from the well-known fact that formal validity is neither a sufficient nor a necessary condition for the favorable evaluation of an argument. It is not sufficient because it excludes neither question-begging arguments nor self-contradictory ones (i.e. arguments with inconsistent premises). It is not necessary partly because of the Toulmin-type objection that most good arguments most of the time (in the empirical sciences, legal contexts,

*humanities, and everyday life) are not formally valid, and partly because formal validity presupposes fully reconstructed arguments which in human reasoning are the exception rather than the rule.*³¹

Unlike Lambert, Ulrich, and Massey, Finocchiaro is not working within a formalist frame of reference nor even within a deductivist frame of reference. He endorses a version of the Spectrum Theory. A fallacies approach is, in principle, more compatible with such theory than a purely formal approach.

However, Finocchiaro notes, there are defects in many, if not all, textbook accounts of fallacies. Finocchiaro's first complaint about standard textbook treatments of fallacies is that there are too few real examples. (He sees these defects in texts by Salmon, Kreyche, Cohen and Nagel, Fearnside, Holther, and Beardsley.) He also states that the few real examples used are poorly interpreted. Granting these points for the moment, the question remains open as to what we wish to infer from them. Finocchiaro draws a sweeping conclusion:

The conclusion I wish to draw from such 'consultations' is not that errors in reasoning are probably not common in real life, but that there are probably no common errors in reasoning. That is, logically incorrect arguments may be common, but common types of logically incorrect arguments probably are not.

*The problem I wish to raise here is, do people actually commit fallacies as usually understood? That is, do fallacies exist in practice? Or do they exist in the mind of the interpreter who is claiming that a fallacy is being committed?*³²

The inadequacy of textbook treatments leads Finocchiaro to conclude that there are probably no real fallacies in practice; that fallacies exist only in the minds of logicians. This line of thought may be termed the argument from sloppiness.

The argument from sloppiness is hasty, to put it mildly. If examples of fallacies are contrived, unrealistic, or in other ways inadequate, that is regrettable to be sure. One should point this out and refrain from using such texts, even if by using them one can swell student enrollments. But these deficiencies do not make it likely that no texts on fallacies are adequate, that no text on fallacies ever could be adequate, that there are no fallacies in real life, or that fallacies exist only in minds of logicians.

Finocchiaro of course did not sample all texts. Notably he omitted several in which the authors are primarily interested in fallacies and try to offer many real examples such as Howard Kahane's *Logic and Contemporary Rhetoric* and Ralph Johnson and Anthony Blair's *Logical Self-Defense*. He included others in which the authors are primarily interested in deductive logic and included a short section on fallacies merely as a gesture in the direction of practicality or completeness.

Even if all extant texts on logic and argument were to contain sloppily done sections on fallacies, this deplorable inadequacy would not make it very likely that 'there are no common types of logically incorrect argument'. Trivially, straw man would be a common type of logically incorrect argument were this to be the case. Also, a plausible explanation of such textbook inadequacy would be that philosophers are poor empiricists who tend to be lazy about collecting examples from colloquial or non philosophical sources and who use each other's examples or invent cases, rather than doing empirical work. There is ample evidence from other areas of philosophy to support this alternative explanation. Finocchiaro's statement that textbook accounts of fallacies should include a discussion of real examples, sensitively interpreted, can scarcely be disputed. However, his inferences from the supposed inadequacies of several texts in this regard are shaky indeed.

Finocchiaro's next criticism of the fallacies approach to argument appraisal is that texts are usually

hasty in their provision of grounds for deeming the 'disputed practice' fallacious. He bases this charge on his own theory of the correctness of arguments.³³ It goes as follows:

if a fallacy is defined as a type of common but logically incorrect argument, the various types would have to be the following: (1) arguments claiming to be deductively valid but which are actually invalid; (2) arguments claiming to be inductively strong but which are actually inductively weak; (3) arguments claiming to have some inductive strength but which have none. There is no way for an argument to be a fallacy without falling into one of the three above-mentioned classes.

This theory of argument is put forward briefly and given no defense. The account does not accommodate question-begging arguments. Nor does Finocchiaro define the contested term 'inductive'. On this theory of argument, criticism will almost certainly be a precarious business, because so much depends on whether an argument 'claims' deductive validity, inductive strength, or merely some strength in a broadly inductive sense. Natural language has no reliable devices for indicating whether such connections are intended, and many arguers lack the requisite philosophers' concepts. Which of Finocchiaro's levels of appraisal is appropriate in a given case will often be unclear. This point is worth noting, for Finocchiaro tends to use the interpretive problems which arise from his particular theory of argument as general problems for understanding the fallacies.

When we interpret an arguer as having committed the formal fallacy of affirming the consequent, we must interpret him as reasoning from the assertion of a conditional and its consequent to its antecedent. We must regard him as 'implicitly claiming' that the antecedent follows deductively from the assertion of the conditional and the consequent. In many contexts in which we might make such an allegation, alternative interpretations will be possible. For instance, we might regard the person as reasoning to the best explanation, as in 'Q; the fact that P would explain the fact that Q (worded as 'if P then Q'); therefore (no other explanation of Q being possible) we may presume that P.'

Contrary to his own prior admonitions, Finocchiaro offers no example to illustrate this suggestion. But in principle it is easy to see that this different, non-deductive interpretation would often be possible. If someone says:

I think there's going to be a fall election, because if there's a fall election, there's a lot of government propaganda in the spring and, you know, this spring, there has been quite a lot of government propaganda.

either the affirming-the-consequent account or the inference-to-an-explanation account would be possible. We can represent this line of thinking as 'G, because if G then L, and L', and take it as a deductive argument – one intended by the arguer as deductively valid. We then find the fallacy of affirming the consequent. Alternately, given the occurrence of 'I think' and the fact that the imminence of an election could in fact explain prior government propaganda, it would be plausible, and more charitable, to read the comments as constituting a non-deductive argument in which an inference is made from a fact to a hypothesis which would explain that fact. On this interpretation, there does not seem to be a fallacy. It is clear that the alternative line of interpretation which Finocchiaro proposes would be plausible some of the time. But he owes us a real example. Furthermore, the fact that this alternative, eliminating charges of affirming the consequent as presuming uncharitable interpretation, is *sometimes* plausible, does not show that it is *always* plausible.

Finocchiaro goes on to contend that '*post hoc ergo propter hoc*' allegations are also based on sloppy and insensitive interpretation. Both Salmon and Copi describe *post hoc* as a mistake in which one

infers from the bare fact that B followed A, the conclusion that A caused B. Finocchiaro says of their accounts:

*No justification is given why these interpretations are preferable to the following: 'concluding that B was caused by A partly because B followed A', or 'the inference that one event is the cause of another from the fact, among others, that the first occurs earlier than the second'. These latter interpretations should be preferred because they are more accurate in the sense that they correspond more closely to a type of reasoning in which people actually engage.*³⁴

Again, Finocchiaro supplies no examples. He says that his interpretation would correspond more closely to reasoning that people actually use, but he does not back up this statement either with empirical evidence or with *a priori* reasoning of the type some philosophers have used in support of principles of charity. He does not offer criteria to indicate which missing premises we might add to supplement the stated claims which, as stated, are open to an interpretation according to which they constitute a fallacious argument. Whether or not people often engage in *post hoc* reasoning is not something one is entitled to stipulate from a philosophical armchair. Finocchiaro suggests that those who identify *post hoc* as a fallacy make the mistake of interpreting what is offered as a 'weak' inductive argument as though it has been put forward as a 'strong' inductive argument. On his view, the fallacy emerges only because of this interpretive error: the critic employs a contentious and less than sympathetic reading of the discourse. Perhaps this is true, but Finocchiaro offers no evidence in support of his suggestion that people are claiming a weak inductive connection between the evidence and the conclusion claim.

A final allegation regarding the tendency of philosophers to interpret tendentiously is made with reference to such fallacies as appeal to force and appeal to pity. Finocchiaro quotes Copi's descriptions as 'appealing to force or the threat of force to cause acceptance of a conclusion' and 'appealing to pity for the sake of getting a conclusion accepted'.³⁵ In such cases, he says:

*these could non-prejudicially, but along the same lines, be described as 'appealing to force or to pity to cause acceptance of a certain proposition or to cause a certain action'. When so described, they can be seen to be methods, among others, of which giving an argument is one, in order to cause acceptance of a certain proposition. Being nonarguments, they cannot be logically incorrect arguments.*³⁶

Here Finocchiaro tries to draw a fine distinction, between using a statement as a premise to win acceptance of a further statement as a supported conclusion and using a statement to win acceptance of a further statement that is not exactly a conclusion to be drawn from evidence. The claim is to be believed as a nonlogical, nonrational result of understanding that first statement. This subtle distinction can doubtless be made, but will be difficult to apply in practice. If we are distinguishing types of arguments and non-arguments on the basis of what arguers and speakers 'claim', it difficult to see that any but the philosophical elite would have the conceptual sophistication to 'claim' what the distinction requires. A critique of Copi's account that depends solely on its problems of application is quite compelling.

Finocchiaro might have made essentially the same point in a much simpler way. If a person is to be interpreted as offering a fallacious argument, she must be interpreted as offering an argument. In many contexts, it is quite unclear whether people are in fact giving arguments. They may say one thing and then say another, and we may have no clear idea as to whether the first claim is to provide a reason for the second or not. In *Introduction to Logical Theory*, P.F. Strawson put the point this way:

... I have in mind such expressions as 'that is to say', 'in other words', 'more briefly'. 'I mean'. These are expressions

*which we sometimes (though not always or only) use on occasions on which we should describe ourselves, not as inferring or arguing, but rather as, say putting into other words something that has already been said, or repeating it with something left out, or summarizing it, or making a precis. There is no sharply definite line separating those steps which we should call steps in reasoning and those steps which we should describe in one of the alternative ways I have listed.*³⁷

In such cases, seeing people as offering arguments is problematic, and therefore interpreting them as offering fallacious arguments is problematic as well.

Consider, for instance, the following, spotted on a billboard near Salem, Ontario.

Jesus Christ died for our sins. Trust him.

These short statements might be regarded as elements of an argument, in which case we could regard that argument as an enthymeme having the missing premise ‘Anyone who died for our sins should be trusted’. Enthymeme or not, the statements might be taken as constituting an argument committing the fallacy of appealing to pity. Whether this allegation of fallacy is appropriate depends on our sense of whether the point of the message is that one should infer from Jesus’ suffering on the cross to a conclusion that Jesus should be trusted. One might defend such an interpretation by pointing out that Jesus’ death on the cross was extraordinarily painful; as an innocent and suffering being with a human body, Jesus was at that point pitiful. One might contest such an interpretation on the ground that Jesus went to heaven and, for that reason, was not a being who should be pitied. Thus, we may interpret these statements as offering an argument based on pity, or as offering an argument not based on pity. Alternatively, we might regard the billboard as simply making two statements with no intended inferential relationship between them.

There are many cases in which discourse can legitimately be interpreted in several ways. Interpretive issues extend far beyond the fallacies of appeal to force and appeal to pity. Interestingly enough, Finocchiaro’s own paper illustrates this kind of interpretive under-determination. Toward the end of the paper, he claims that, despite the difficulties he has found with fallacies analysis, finding errors in arguments offers more insight than finding them to be correct. He suggests that ‘negative evaluation is methodologically more significant’ than positive evaluation. Having given some reasons in support of this view, Finocchiaro adds these two sentences:

*This corresponds to conclusions reached by other philosophers in other contexts. For example, Karl Popper and his followers have stressed the primacy of falsification and criticism as opposed to confirmation and justification in science; Henry W. Johnston Jr. has argued that, in philosophy, critical arguments are more fundamental than constructive ones; and Imre Lakatos has stressed the methodological importance of refutation in mathematics.*³⁸

If these comments are intended to offer support for the greater insight yielded by negative evaluation, one might accuse Finocchiaro of the fallacy of misusing authority. But if they are just added remarks, made to add interest to the view, such a charge would be inappropriate. Which interpretation – argument or non-argument – is appropriate is a moot point which could be argued either way. Some interpretive issues just *are* moot: life and language are like that. The problem does not arise only for fallacies.

That we cannot achieve a reliable consensus about the identification of fallacious arguments in such a case shows, not that our logical understanding of fallacies is poor, but that the distinction between arguments and nonarguments is sometimes difficult to apply. It is entirely likely that some alleged appeals to force and pity are most plausibly interpreted in a way which does not make them out to

be arguments. But with no examples, Finocchiaro offers no evidence. Even if he had cited examples, one could point out that some cases are not all. Strictly speaking, this problem is not about fallacies as such but about the openness of much discourse to diverse interpretations.

Finocchiaro goes on to hypothesize that there is a certain progressive pattern to philosophers' misinterpretations of natural reasoning. An inductive argument is misrepresented as deductive, a weakly inductive argument as strongly inductive, and a nonargument as an argument. The pattern of misinterpretation pursued by those who find fallacies is

*that of exaggerating the strength of the connection claimed between various assertions, or of creating one where none is claimed.*³⁹

This critique of fallacies analysis rests on a controversial and undefended theory of argument. Despite Finocchiaro's attacks on texts for having inadequate examples, his own account has singularly few. His hypothesis about fallacies is based on a hasty inference from the fact that some texts are found to be inadequate and that some classifications have been hasty.

Here, we have a premature and hasty analysis. Yet Finocchiaro boldly states:

*the conclusion to be drawn from the above discussion is that the concept of a fallacy as a type of common but logically incorrect argument is a chimera, since the various disputed practices usually referred to as fallacies are either not common or not logically incorrect or not arguments.*⁴⁰

This sweeping conclusion is simply not warranted by the evidence put forward.

Finocchiaro moves us away from formalism and deductivism. He acknowledges that, given the possibility of good nondeductive arguments, the fallaciousness of an argument will not follow simply from the fact that it fails to be deductively valid. He recognizes the role of interpretation in fallacies analysis. Before appraising reasoning by whatever standard, we have to determine what reasoning is used. That is an interpretive problem. We also have to determine somehow what standard of appraisal (deductive, inductive, or other) should be applied to the argument. If this interpretive work is done carelessly, a charge of fallacy will be poorly supported. Often interpretation is careless and such charges are implausible. Some examples and explanations offered in texts and other sources are sloppy and unconvincing. But it is a large leap from these claims to the revisionist view that there are no fallacies at all. In fact, that revisionist view is strictly speaking incompatible with Finocchiaro's analysis, because he is committed to the claim that one particular fallacy – the straw man – occurs frequently in the pages of logic textbooks.

4. Charity as Eliminating Fallacies

There is one popular way to link Finocchiaro's demand for more sensitive interpretation with his conclusion that there are no fallacies, and that is by appealing to a strong principle of charity. We might adopt a model of interpretation according to which the best interpretation of an argument is always that interpretation which makes it out to be the best argument. It is always possible to construct a version of an argumentative passage which contains no mistakes in reasoning. As explained earlier, one can simply insert the associated conditional as a missing premise. And there are a variety of moves that can be employed.

In any case in which discourse can be construed either as offering a poor argument or as offering no argument, we always opt for the latter. Even where there is an argument, sentences that are in fact irrelevant to the conclusion can be interpreted as comments which do not belong to the real

premises so that irrelevance does not occur. Where indicator words make these moves interpretively implausible, supplementary premises can be added so that inference gaps are always filled, and any errors remaining are errors in belief, not in reasoning. Where appropriate, conclusions of the supposed argument can be qualified so that less is claimed and less support is needed. Arguments can be taken as being of an inferentially unambitious type, as Finocchiaro proposed for alleged cases of the *post hoc* fallacy. Using a combination of such strategies, apparently fallacious arguments can be rendered as non-fallacies by charitable interpretation.

Finocchiaro does refer approvingly to charity. However, he does not explicitly endorse a version of it so strong that it would in every case require one or more of the above moves. Others have not been so cautious. The principle of charity is often stated so ambiguously and used so sweepingly that its application would eliminate fallacies, both formal and informal.⁴¹

Strong charity will suffice to eliminate fallacies. If our over-riding goal in interpretation is to interpret discourse so as to make it maximally 'sensible', then it will be to avoid alleging that a speaker or writer has made an error in reasoning. Thus, if strong charity is adopted as the guiding principle of interpretation, there will be few if any fallacies. But strong charity can be resisted for other reasons. Moderate charity, which is sensible and usable for genuinely interpretive purposes, will not suffice to eliminate fallacies.

Consider the following example of a chain letter, cited by Gerald Nosich in his text, *Reasons and Arguments*.⁴²

TRUST IN THE LORD WITH ALL YOUR HEART AND HE WILL ACKNOWLEDGE AND HE WILL LIGHT THE WAY.

This prayer was sent to you for luck. The original copy is from the Netherlands. It has been around the world ten times. The luck has been brought to you. You're to receive good luck within four days of receiving this letter. 'This is no joke.' You will receive it in the mail.

Send copies of this letter to people you think need good luck. Do not send money, do not keep this letter. It must leave you within ninety-six hours after you receive it. Please send twenty copies and see what happens to you on the fourth day.

This chain comes from Venezuela and was written by St. Anthony De Calif, a missionary from South America. Since this chain must make a tour of this world, you must send twenty copies, identical to this one photostated. Either to one of your friends, parents, or acquaintances.

An officer received \$70,000. Don Colbert received \$30,000 but lost it because he broke the chain. While in the Philippines General Welch lost his life six days after he received this letter, he failed to circumscribe the prayer. However, before he died he received \$775,000.

After a few days, you will receive a surprise. 'This is true even if you are not superstitious.' Take note of the following:

Constantine Black received the chain in 1933. He asked his secretary to make twenty copies and send them. A few days later he won a lottery in his country for two million dollars.

Carlos Crocbite an office employee received the chain, he forgot it. A few days later, he lost his job. He found the chain and sent it to twenty people and five days later he received a better job.

Doris Merchild received the chain and did not believe in it. Nine days later she died. FOR NO REASON WHATSOEVER SHOULD THIS CHAIN BE BROKEN.

The context and wording of this letter make it clear that the various anecdotes are supposed to support two conclusions:

1. A person who, within ninety-six hours of receiving the letter, sends out twenty copies of it to appropriate people, will receive good luck within four days of receiving the letter because he has treated the letter appropriately.
2. A person who, within ninety-six hours of receiving the letter, does not send out twenty copies of it to appropriate people will receive bad luck because he has not treated the letter appropriately.

To support (1), four cases of individuals who received the letter and then had good luck are cited. To support (2), four cases of individuals who did not behave properly after receiving the letter and had bad luck are cited.

Both *post hoc* and hasty inductive reasoning are involved in the use of these anecdotes to support (1) and (2). No plausible use of a moderate charity principle can avoid this. The purpose of the letter is to convince the recipient to send off the appropriate number of copies in the right way; the need to convince him or her of (1) and (2) arises directly from this. The only evidence in support of these tacit conclusions is anecdotal. In every anecdote a sequence of events is described, with the clear implication (made explicit in one case) that the prior event caused the latter event. To interpret the letter as non-fallacious, as doing something other than repeating *post hoc* fallacies, we would have to ignore very considerable contextual and textual evidence. The point of such a letter is to frighten people into compliance. The stories told are to achieve this. Causal claims are required, and the anecdotes are the only basis for them, in the written letter. Knowing what we do about the writers and readers of chain letters, there is no other plausible interpretation of this discourse which avoids the charge of fallacy. Only a principle of charity so strong as to outweigh all other relevant factors in interpretation could give a different result for this passage. Such strong charity is not a plausible principle of interpretation.

5. Concluding Comments

Formal invalidity is not the whole story about fallacies. It may be possible to show formal invalidity, provided we are willing to make preformal assumptions about paraphrasing, but doing that will not be sufficient to yield a theory of fallacy. There are many reasons for this conclusion. Some fallacies, such as begging the question and straw man, can be committed even when an argument is valid. Also, many arguments are non-deductive and standards of deductive validity are irrelevant to their appraisal as adequate or inadequate. Furthermore, the issue of proper interpretation looms large for fallacy theory. A proper theory of interpretation is needed – ruling out strong charity and incorporating moderate charity. Revisionism about fallacies has been tempting because there are so many unresolved and relevant issues in the theory of argument. However, such revisionism is unwarranted and premature. There is no fallacy behind fallacies.

Notes

1. Karel Lambert and William Ulrich, *The Nature of Argument*, (New York: Macmillan, 1980) argue there are no informal fallacies. Maurice Finocchiaro, 'Fallacies and the Evaluation of Reasoning' (*American Philosophical Quarterly* 18 (1981), pp. 13-22) suspects that fallacies occur only in textbooks.

Gerald J. Massey, 'Are There any Good Arguments that Bad Arguments are Bad?', (*Philosophy in Context*, 4 (1975), pp. 61-77); 'In Defense of the Asymmetry', (*Philosophy in Context*, 4, Supplement, pp. 44-56); and 'The Fallacy Behind Fallacies', (*Midwest Studies in Philosophy* 5, (1980), pp. 489-50;) claims that fallacy theory falls apart because we can never demonstrate formal invalidity. Daniel Dennett, *Brainstorms*, (Montgomery, VT: Bradford Books, 1978) and L. Jonathan Cohen, 'Are People Programmed to Commit Fallacies?' (*Journal for the Theory of Social Behavior*, 12, pp. 251-274) and 'On the Psychology of Prediction: Whose is the Fallacy?', (*Cognition*, 7, pp. 385-407) adopt principles of interpretation that would eliminate or virtually eliminate fallacies.

2. For similar definitions, see John Woods and Douglas Walton, *Argument: The Logic of the Fallacies* (Toronto: McGraw-Hill Ryerson, 1982): 'a fallacy is an argument that is a tricky deception because it is incorrect, even while it has a tendency to seem correct'. See also C. Kirwan, *Logic and Argument* (London: Duckworth and Co., 1978), p. 269: 'in logical parlance fallacies are not false propositions but incorrect arguments (*non sequiturs*) which seem to be correct and fallacy is not falsity but incorrectness'. S.F. Barker, in the third edition of *Elements of Logic* (Englewood Cliffs, N.J: Prentice Hall, 1981), says 'A fallacy is a logical mistake in reasoning. When there are premises and a conclusion that, through some logical error, is mistakenly thought to be proved by them, then and only then, is there a fallacy in the logical sense.' For empirical evidence that people commit a variety of inductive fallacies, see *Human Inference: Strategies and Shortcomings of Social Judgment*, by social psychologists R. Nisbett and Lee Ross. (Englewood Cliffs, N.J.: Prentice Hall, 1980.)

3. In 'A Comment on Fallacies and Argument Analysis', T. Carroll contends that a similar definition of mine makes deception an essential element of fallacy in such a way that the arguer must intend to deceive the audience if he or she is to be arguing fallaciously. This criticism fails to distinguish between deceptiveness as a tendency to deceive and actual deception. Actual deception is not required for fallacy; nor is intent to deceive. What is required is that fallacious arguments will themselves be deceptive in the sense that they will have features such that people will tend to mistake them for good arguments. (T. Carroll, 'A Comment. ..', *Informal Logic Newsletter* V, 2, pp. 22-23. Compare my 'Who Says There are No Fallacies?', *Informal Logic Newsletter* IV,3, pp. 2-10. The present essay is an amended and extended version of that article.

4. Carroll points out that my definition is slightly at odds with the usage in which 'infrequently occurring fallacies' is an acceptable expression. If there is an element of stipulation in my account I am willing to accept it, and believe it does no harm.

5. *The Nature of Argument*, p. 24.

6. *Ibid.*, p. 25.

7. *Ibid.*, p. 26.

8. Compare my 'Ad Hominem: Revising the Textbooks', in *Teaching Philosophy* 6 (1983), pp. 13-24. See also the related and excellent paper by Robert Ennis, 'The Believability of People', *The Educational Forum*, March, 1974, pp. 347-354.

9. Gerald J. Massey's three important articles on this point are cited in note 1 and will be discussed in detail later.

10. *The Nature of Argument*, p. 26.
11. *Ibid.*, p. 27.
12. *Ibid.*, p. 28.
13. *Ibid.*, p. 28.
14. See note 1 for full references.
15. 'Are There any Good Arguments that Bad Arguments are Bad?', p. 66.
16. 'In Defense of the Asymmetry', p. 50.
17. 'The Fallacy behind Fallacies'.
18. *Ibid.*, p. 494.
19. Massey assumes without question that invalidity is a necessary condition of fallaciousness. Discussions by John Woods and Douglas Walton and Charles J. Abate have shown problems with this view. See Woods and Walton, 'Fallaciousness without Invalidity?', *Philosophy and Rhetoric* 9 (1976), pp. 52-54; Abate, 'Fallaciousness and Invalidity', *Philosophy and Rhetoric* 12(1979), pp. 262-265.
20. 'The Fallacy behind Fallacies', p. 496.
21. By dialectical conditions, I refer to the dynamic of discussion and to states of knowledge and belief of the audience to whom the argument is addressed. I suggest that an argument is question-begging if it contains a premise that the audience would not accept unless it already accepted the conclusion. I assume here that the common view that begging the question is a fallacy should not be rejected without prior reason.
22. Here again, I assume that the common view that straw man is a fallacy is to be accepted until compelling reasons are advanced against it.
23. Further information is always needed – at the very least we need interpretive grounds for regarding the argument as deductive. Compare John Woods and Douglas Walton, 'Fallaciousness without Invalidity?'.
24. 'The Fallacy behind Fallacies', p. 495.
25. I say *sometimes* because the argument might depend on a term such as 'property' which is not formalized and not readily formalizable.
26. Rolf George, 'A Postscript on Fallacies', *Journal of Philosophical Logic* 12, (1983), pp. 319-325.
27. The exceptions, such as C.L. Hamblin's *Fallacies* (London: Methuen and Co. 1970) and numerous articles by John Woods and Douglas Walton are, of course, notable.
28. For examples see my 'Ad Hominem: Revising the Textbooks', and 'What's Wrong with Slippery

Slope Arguments?' (*Canadian Journal of Philosophy* 12 (1983), pp. 303-16) and Leo Groarke's 'When Two Wrongs Make a Right', *Informal Logic Newsletter* V, 1 (December 1982), pp. 10-13, and, of course, the many articles on fallacies by John Woods and Douglas Walton.

29. 'The Fallacy behind Fallacies', p. 490.

30. For full references, see note 1.

31. 'Fallacies and the Evaluation of Reasoning', p. 13.

32. *Ibid.*, p. 15.

33. *Ibid.*, p. 15.

34. *Ibid.*, p. 16

35. I don't wish to imply here my own acceptance of Copi's definition, only to express doubts about Finocchiaro's particular way of attacking it.

36. 'Fallacies and the Evaluation of Reasoning', p. 16.

37. P.F. Strawson, *Introduction to Logical Theory* (London: Methuen and Co., 1952), p. 14.

38. 'Fallacies and the Evaluation of Reasoning', p. 17.

39. *Ibid.*, p. 16.

40. *Ibid.*, p. 17.

41. See Daniel Dennett, *Brainstorms*, and Donald Davidson, 'On the Very Idea of a Conceptual Scheme', (*Proceedings of the American Philosophical Association* 47 (1974), pp. 5-20) for very strong principles of charity. A good criticism of such principles in contexts of translation and the attribution of intentional states may be found in Paul Thagard and R.E. Nisbett, 'Rationality and Charity', (*Philosophy of Science* 50 (1983), pp. 250-267.) I discuss these views in 'A New Approach to Charity'.

42. Gerald, M. Nosich, *Reasons and Arguments* (Belmont, Calif: Wadsworth, 1982), pp. 58-59.

CHAPTER 10.

FORMALISM AND INFORMALISM IN THEORIES OF REASONING AND ARGUMENT

In this chapter I questioned the notion that argument interpretation and evaluation are matters of science, as distinct from art. Another version of this material was printed in the Computers and Philosophy Newsletter (Stanford University, Volume 4, December 1989, submitted 1987). That context was an early discussion of artificial intelligence and its prospects. Following the reflections of critics such as Hubert Dreyfus, I was inclined to be skeptical about the matter. Dreyfus and others argued that to understand discourse, we needed considerable background knowledge and awareness of context. His skepticism was supported by that of my computer scientist husband Anton Colijn, who was fond of saying that artificial intelligence was just around the corner, and that was where it would always be. (He still says this but less frequently than before.) I argued here for the claim that strict rules cannot be provided for algorithms required by artificial intelligence. But perhaps the presumption that strict (universal, exception-less) rules would be needed was somewhat naïve. I admit that I am not in a position to know.

In the eighties skeptical persons such as myself questioned the idea that algorithmic processes could support machine translation. Now, decades later, machine translation exists and even the skeptics of earlier decades have been known to resort to ‘Google Translate’ on occasion. The results, I gather, tend to be helpful but by no means elegant or smooth.

Current discussions and concerns about artificial intelligence are wide-ranging. Some thinkers, including Stephen Hawking and the Oxford philosopher, Nick Bostrom, fear AI capable of super-human intelligence and motivated to destroy humankind. How relevant are philosophical questions about the connection between consciousness, thought, and intelligence? Mind, machine and body? What is the significance of facts about artificial intelligence systems beating experts at the games of chess (Garry Kasparov) and Go (Lee Sedol)? Many worry about widespread automation eliminating needed jobs. More limited concerns involve issues of legal and moral responsibility for accidents involving self-driving cars, or a flaw in an expert system leading to a faulty diagnosis and premature death. The reflections in this chapter are, at best, marginally relevant to these current problems and anxieties.

When this chapter was written, I thought that one needed considerable background knowledge and a good sense of context and nuance to understand whether an argument was put forward and what that argument was. I also thought that there was usually one correct answer to such questions. Now I would continue to support the first presumption while being less confident about the second. The notion of general rules holding most but not all of the time, being sound, other things being equal (ceteris paribus) is reasonable. Of late, the phrase pro tanto seems to have replaced ceteris paribus, but the message remains the same.

If I were to question a central aspect of this chapter it would concern the assumption that strict exception-

less rules for interpretation of discourse are not to be found. That claim, made in the latter part of the chapter, feels over-confident to me today. Perhaps the cues and hints used by human interpreters can be coded. I still feel inclined to doubt it, but admit that my doubt is based on an imperfect understanding of the possibilities.

In our century, logic is typically identified with formal logic, and formal logic is the study of proofs and rules of inference in axiomatized formal systems. Logic is also regarded as the science of argument assessment, as a study that will teach us how to understand and appraise the justificatory reasoning that people actually use. Logic is supposed to be both scientific and practical. Some texts advise that logic ‘operates like a machine fulfilling its function no matter who is pressing the button’, that it is a ‘science for evaluating argument’, that it is too objective to depend on ‘insights, intuitions, or feelings’. There is a tension in these views of logic. We cannot have it both ways – that logic is entirely formal and yet applies to real argumentation. Either logic includes much that is nonformal or it tells us only a small amount of what we need to know to understand and evaluate arguments.

In fact, argument evaluation is more an art than a science. It is not something that can be mechanized, and that has important consequences for the development of artificial intelligence systems. Understanding and evaluating arguments is an important part of human intelligence. If this cannot be done by rules and if artificial intelligence (even in its most sophisticated forms) must proceed by the application of rules, then there will be a necessary incompleteness to artificial intelligence. There will be a range of tasks it cannot fully accomplish. Such, at least, is the implication of the analysis developed here. To be sure, we can sometimes recast natural argumentation in the symbolism of formal systems and reach a conclusion about the deductive merits of the inferences upon which they depend. Frequently this is not possible, and even when it is, accomplishing the task presupposes significant nonformal insights.

Argument interpretation and evaluation form an art, an art requiring insight and judgment. This art can be cultivated by practice and enhanced by the teaching of rules of various kinds, but it cannot be exhaustively characterized by articulated rules — formal or otherwise. This can be shown even if we ignore the aspect of premise evaluation, which would be admitted by all to require general knowledge of the world. Even when we restrict ourselves to the interpretation of language and the evaluation of inferences, arguing well and criticizing well require more than the mechanical application of rules. It is not reasonable to expect mechanical decisions for the understanding and evaluation of substantive argumentation.

The lack of formalization in informal logic neither makes that subject an intellectual sham nor shows it to be a primitive stage on the way to a full understanding of argument. To speak of informal logic is not to contradict oneself but to acknowledge what should be obvious: that the understanding of natural arguments requires substantive knowledge and insight not captured in the rules of axiomatized systems. The informal fallacies, historically a central topic in informal logic, involve mistakes in reasoning that are relatively common, but neither formal nor formally characterizable in any useful way. The fact that an account of an informal fallacy makes it out to be just that does not show that it is imprecise or lacking in rigour.

The development, understanding, and evaluation of argumentation is far from being a mechanical task. It is a misunderstanding both of argumentation and of the human intelligence that constructs it to think that what goes on must be exhaustively representable in formal rules. To put the point provocatively, though computers may derive formulae, they don’t construct, understand, or appraise

substantive argumentation. The evaluation of a colloquial nonformal argument is something quite different from the appraisal of a formal derivation by applying formal rules of inference.

I. Interpretation as a Nonformal Process

Comprehension is an unformalizable process striving towards an unspecifiable achievement and is accordingly attributed to the agency of a centre seeking satisfaction in the light of its own standard.¹

To understand an argument, we must first understand the language in which its constituent sentences are expressed. The understanding of natural language presupposes much background knowledge that is substantive, not merely syntactic. It also requires the ability to grasp the meaning of aberrant and odd combinations not prescribed by the 'rules'. Difficulties in completely formalizing rules for the understanding of natural language as it is actually used are well known and have been much discussed.

The literary analyst Stanley Fish, among others, has pointed out the extent to which meaning depends on context. Fish argues convincingly that even such apparently simple expressions as 'private members only' can be given an amazing variety of interpretations, provided we invent a corresponding variety of contexts of use. He resists the idea that any one context is 'normal' in a sense that would make the meaning of an expression in that context its real or literal meaning.

A sentence neither means anything at all, nor does it always mean the same thing; it always has the meaning that has been conferred on it by the situation in which it is uttered. Listeners always know what speech act is being performed, not because there are limits to the illocutionary uses to which sentences can be put, but because in any set of circumstances the illocutionary force a sentence may have will already have been determined.²

Machine translation has bogged down, except in carefully restricted domains, because of the necessity of referring to an apparently infinite amount of background knowledge.³

Less commonly remarked are those aspects of understanding that are pertinent to the identification of sentences as comprising an argument. To see a sequence of sentences as an argument is not only to understand the meaning of those sentences but to regard some of them as put forward to offer rational support for others. This understanding requires a notion of 'logical flow', and the imputation of an intent to justify a claim or claims to an identified, or hypothetical, arguer. We have seen that pragmatic factors serve to distinguish argument from explanation. The same may be said about the distinction between argument and description, narration, exemplification, jokes, and so on.

The relevance of context, human purposes, and background information to the understanding of an argument makes it impossible to identify arguments solely by reference to general lists of semantic and syntactic cues. The need for argument, the presence of argument, and the direction of argument are determined on the basis of our sense of what is going on. Consider the following example from Stuart Hampshire's book on Spinoza.

A philosopher has always been thought of as someone who tries to achieve a complete view of the universe as a whole, and of man's place in the universe; he has traditionally been expected to answer those questions about the design and purpose of the universe, and of human life, which the various special sciences do not claim to answer; philosophers have generally been conceived as unusually wise or all-comprehending men whose systems are answers to those large, vague questions about the purposes of human existence which present themselves to most people at some period of their lives. Spinoza fulfills all these expectations.⁴

Few persons schooled in the history of philosophy would interpret Hampshire as arguing here. Yet

many introductory philosophy students understood the passage as an argument with the unstated conclusion that Spinoza was a philosopher. If we regarded this claim as one Hampshire was trying to justify, and if we thought Hampshire was the sort of writer who would argue about philosophy by pointing out what ordinary people have often thought, we might read the passage this way. (Spinoza fulfills the common expectation of what philosophers are like; therefore Spinoza is a philosopher.) Such a reading is implausible, but it takes background knowledge to see that. This is not to deny, of course, that in some other context it might be appropriate to try to prove that Spinoza is a philosopher. For example, if one were disputing with a logical positivist one might try to prove that point. But in that context the ordinary person's casual assumptions as to what philosophy is would hardly be a plausible starting point for the argument.

Similar points may be made about the identification of premises and conclusions. Once we have understood the sentences of a discourse and have understood that the discourse is a justificatory one, there remains the further task of determining which sentences are premises and which are conclusions. Such matters are taken for granted but are by no means purely routine. Consider, for instance, the following relatively well-ordered and simple passage, which caused many undergraduates significant difficulty.

Philosophers of science are fond of claiming that a theory or model can never be disproved by a new fact, or even a set of facts, but only by a new and more comprehensive theory. While this may be a useful rule of thumb, it suggests misleadingly that individual findings cannot have revolutionary reverberations. In fact, when a solar eclipse in 1919 showed that certain predictions by Einstein of the way light would be deflected were correct, the theory of relativity gained immeasurably in stature. Conversely, proponents of the theory that intelligence is inherited suffered a severe blow when data presented by Sir Cyril Burt were shown to be fraudulent.⁵

This passage is the opening paragraph of an article which describes the artistic skills of an autistic child called Nadia, whose developmental pattern in drawing was so unusual as to upset previously confirmed theories on how children's drawing develops.⁶ Many students, asked to analyze the passage, identified 'it suggests misleadingly that individual findings cannot have revolutionary reverberations' as the conclusion. Others thought that the conclusion was to be found in the first sentence.

The first two sentences serve as background; the author describes a common view, and then points out that this view is misleading in its suggestion that individual findings cannot have revolutionary implications in science. To say that it is misleading is to suggest that the implied view is false. Indeed, that point is what can be supported by the next two sentences. The words 'In fact' indicate that at this point the author turns from the 'misleading implication' of a common view to his own line of thought. 'Conversely', introducing the final sentence, marks the contrast between a confirming instance and a disconfirming instance. To properly understand this passage, we have to be sensitive to the tone of the background comments (in 'while this may be'), see that the author is rebutting the misleading implication of the standard view. We have to see how the two instances described serve as the basis for this rebuttal. The passage mixes description, argument, and meta-comment; the meta-level comment is not properly part of the argument, though it helps us to identify that argument.

This passage, though not especially tricky or exciting, indicates how much understanding is involved in the extraction of an argument from natural discourse. Such extraction requires semantic knowledge, syntactic knowledge, background factual knowledge, contextual awareness, and a general sense of how things 'hang together logically'. Logically competent listeners and readers do much to extract the 'logic' of an argument from natural discourse, even in a case that is fairly straightforward.

Still more subtle semantic and background knowledge is involved in the understanding of the following argument from John Locke. The argument is a valid *modus tollens* and would naturally be read as such by philosophically trained readers. However, considerable recasting of the original wording is required in order to set it out explicitly in this form.

*Syllogism is not the great instrument of reason. For if syllogism must be taken for the only proper instrument and means of knowledge, then before Aristotle there was not one man that did or could know anything by reason; and that since the invention of syllogism there is not one of ten thousand that does. But God has not been so sparing to men as to make them barely two-legged creatures, and left it to Aristotle to make them rational.*⁷

Understanding that Locke uses a *modus tollens* inference here requires understanding ‘syllogism is the great instrument of reason’ and ‘syllogism must be taken for the only proper instrument and means of knowledge’ to mean the same thing, in this context. (They would not necessarily mean the same thing in other contexts.) We must also take the last sentence to be a rhetorically emphatic and original way of saying that it is not knowledge of the syllogism that makes men rational; this claim denies the consequent of the second sentence. At this point we have an argument whose validity can be appraised mechanically. However, to cast the argument in the form in which this is possible, we must make significant and subtle interpretive moves. These presume background knowledge, a sense for rhetorical flourish, and much more.

Such nonformal capabilities are, of course, also called into play when argumentative discourse relies on unstated premises or conclusions. Howard Posposel quoted the following argument from a philosophical paper by Hans Hahn, thinking it suitable for students to practice symbolization and the application of validity tests to natural material. Its proper interpretation, however, presumes a degree of sensitivity and knowledge which would seem to make it unsuitable for that role.

*The old conception of logic is approximately as follows: logic is the account of the most universal properties of things, the account of those properties which are common to all things; just as ornithology is the science of birds, zoology the science of all animals, biology the science of all living beings, so logic is the science of all things, the science of being as such. If this were the case, it would remain wholly unintelligible whence logic derives its certainty. For we surely do not know all things. We have not observed everything, and hence we cannot know how everything behaves.*⁸

To understand this passage argumentatively we must read the long first sentence as background, see that the final sentence encapsulates a subargument, see that the subargument supports the claim in the second last sentence, see that the second last sentence together with an unstated premise supports the conditional sentence, and supply a final conclusion from an interpretation of the conditional sentence. To say the least, a lot of work is involved. The result:

1. *We have not observed everything,*
thus,
2. *We cannot know how everything behaves.*
thus,
3. *We do not know all things.*
So,
4. *If logic were the science of the most universal properties of all things, logic would have no certainty.*

5. *Missing Premise: Logic has certainty.*
Therefore,

6. *Missing Conclusion: Logic is not the science of the most universal properties of all things.*

The conclusion, which is implicit, is derived from a stated premise and an implicit premise by *modus tollens*. There is an argument here, and we can understand it, but our understanding presumes deletion, rearranging, and addition.

The first sentence is regarded as background and deemed not to be a premise because it is a description of an old conception not endorsed by the author. The rearranging of the last two sentences, yielding two subarguments, is based on the presence of 'hence' as an indicator word and the logical relations we perceive between not observing everything, not knowing how everything behaves, and not knowing everything. The addition of the premise is based on background knowledge as to what philosophers in general and Hahn in particular typically assume about logic, as well as on our perception that the addition of such a premise would make sense of the stated material: it generates a deductively valid argument yielding the implicit conclusion. The conclusion is added on the basis of the wording ('if this were the case') and background knowledge as to what logical positivists thought about logic and metaphysics. We can see that the interpretation of this passage as expressing a deductively valid argument is a complex and intricate task. It is by no means purely mechanical. In fact, all these examples indicate how much background knowledge, subtle verbal knowledge, and sense of logical direction are involved, merely in the identification of an argument.

The primary task of logic is the appraisal of inferences. In arguments, premises are the basis for inferring conclusions, and logic proper has the task of telling us whether it is legitimate to infer the conclusions from the premises. But extensive interpretation is needed for us to see where inferences are. This interpretive process is preformal and, on many accounts, prelogical.

What is uncontroversially logical is inference appraisal. Here too insight is required. We may use rules to evaluate inferences, but we have to see the argument as one of a type to know which sorts of rules to apply. The problem has often been raised, by Massey, Finocchiaro, and others.⁹ It may be illustrated by the following simple example.

If it's raining, the streets are wet. The streets are awfully wet, so I guess it has been raining.

We can find here a flawed deductive inference. If we regard the reasoning as deductive we will see it as a case of the fallacy of affirming the consequent. We can also look at it as a case of inference to the best explanation. Our sense of what is going on in the argument, of what the argument 'hinges on', how the premises are supposed to lead to the conclusion, is presumed by our application of rules. We not only have to identify the premises and conclusion, we have to isolate the basic argumentative structure, seeing which terms are crucial for the logical workings of the argument and which are not so as to understand how the premises are supposed to logically lead to the conclusion.

Rules do not tell us how to interpret or apply themselves. To think that they did would be to commit ourselves to an infinite regress of rules. This point, associated in our day with the later writings of Wittgenstein, was in fact anticipated by Kant.

If it (general logic) sought to give instructions how we are to subsume under these rules, that is, to distinguish whether something does or does not come under them, that could only be by means of another rule. This in turn, for the very reason that it is a rule, again demands guidance from judgment. Thus it appears that, though understanding is capable

of being instructed, and of being equipped with rules, judgment is a peculiar talent which can be practiced only, and cannot be taught. It is the specific quality of so-called mother-wit; and its lack no school can make good. For although an abundance of rules borrowed from the insight of others may indeed be offered to, and as it were, grafted upon, a limited understanding, the power of rightly employing them must belong to the learner himself; and in the absence of such a natural gift no rules that may be prescribed to him for this purpose can ensure against misuse.¹⁰

Before we appraise inferences using rules (formal or otherwise), both interpretive and classificatory work is required. Such work presumes substantive knowledge, sensitivity to context, appreciation of nuances of meaning in context, recognition of subarguments, addition of implicit premises and conclusions, and the classification of arguments and subarguments as being of one type or another. This work is not done by the application of formal rules. To suppose that it is not only runs counter to what we know about the relevance of context to meaning, it is introspectively implausible. Furthermore, to require rules for every move will lead to a regress of rules.

Some who seek a formal understanding of natural language would no doubt insist that in principle rules can be articulated to handle all of this. One can insist that whatever is done must be done by the application of rules. However, there is little to be said in favour of such a view and at least an infinite regress argument working against it.¹¹ Given the sensitivity to context and nuances of meaning, substantive background knowledge, and sense of logical direction required to identify argumentation in natural discourse, the insistence that ‘in principle’ there are formal rules that cover all of this seems *a priori* and unwarranted.

Human beings do not seem to themselves or to observers to be following strict rules. On the contrary, they seem to be using global perceptual organization, making pragmatic distinctions between essential and inessential operations, appealing to paradigm cases, and using a shared sense of the situation to get their meanings across. Of course all this orderly but apparently non-rule-guided activity might nonetheless be the result of unconsciously followed rules. But when one tries to understand this as a philosophical proposal that all behavior must be understood as following from a set of instructions, one finds a regress of rules for applying rules.¹²

2. Form, Structure, and Logical Analogies

*It is only in the context of a specific argument that we can say that a sentence ought to be analyzed as, say, relational rather than categorical. In some other argument, the same sentence might be properly be analyzed in opposite fashion.¹³ (Stephen Barker, in *Elements of Logic*.)*

Using a logical analogy, we can on occasion refute an argument by showing that another argument, relevantly similar to it, is inadequate. The second argument must duplicate the logical structure of the first and be flawed in an obvious way. Either it must have true premises and a false conclusion, or it must in some other way be transparently ‘absurd’. The technique of refutation by logical analogy is nonformal, in the sense that it does not require translation from natural into formal language. It may be used by untrained people in a sensitive and revealing way. It is sometimes described as ‘the method of counterexample’ and thought to reveal deductive invalidity. Such a construal suggests that the technique reveals deductive relationships, but in an informal way.¹⁴

Interestingly, the technique of logical analogy is applicable to nondeductive arguments as well as to deductive ones. The suggestion that A caused B because A preceded B can be countered by logical analogy; yet causal reasoning is standardly regarded as inductive. The suggestion that homosexuality is wrong because it is unnatural can be countered by logical analogy, and the most natural way of

taking that argument would be as conducive in the sense of offering a relevant but not sufficient reason for the conclusion.

The technique of logical analogy is pertinent to our present topic in two ways. First, it reveals again the web of nonformal judgments that enter into the understanding of an argument. Second, it typically serves to isolate as the structure of an argument something that is not formal in any standard sense of that term. This phenomenon raises the question of the feasibility or desirability of formally expressing rules for material inferences. The use of logical analogy illustrates how nonformal judgments are presumed in the understanding of arguments, because it requires that we distinguish those aspects of the argument that are essential to its inferential relationships from those that are incidental. Of course, this same distinction is also tacitly at work when we represent natural arguments in formal languages. What we regard as the correct logical form of an argument depends on preformal judgments about how that argument works – which are its significant and which its insignificant features. In logical analogies, the structure of an argument is identified and duplicated, and an inference is criticized by parallel argument.

Let us consider two examples. The first is taken from a book by British doctor and child expert, Penelope Leach. Discussing the issue of whether group child care arrangements are suitable for children under three years of age, Leach says:

Many people would argue that while all of the foregoing is, or may be true, toddlers who are actually committed to group-care soon grow out of being toddlers and therefore become socialized more quickly than they would have done at home. 'The others will lick him into shape and he'll learn by imitating them' ... People who take this line are usually those who want very much to believe that group care is acceptable for the very young, and who therefore use the observable fact that they do survive and develop, one way or another, as evidence to support it. So go back to that thirteen year-old who finds herself in charge of the family. [Leach alludes here to the case of a thirteen year old girl who cooks and cares for younger siblings after the death of her mother.] She too will adapt. She too will learn 'how to behave', will find ways of managing and will, after a fashion, develop.

Does that prove such responsibilities are good for her? That these are the optimum conditions for adolescents and a useful way of short-circuiting its normally tumultuous path? No, of course not. Nobody would argue that, because nobody has any stake in the thirteen-year-olds running families. But it is the same argument. Just as it is more appropriate for that girl to acquire maternal and household responsibilities out of mature sexuality than tragic deprivation, so it is better for the toddler to acquire socialized behavior out of self-motivated maturity rather than sad necessity.¹⁵

As the crux of the argument she criticizes, Leach identifies the inference from the fact that children can develop and adapt in group care to the conclusion that group care is acceptable for these children. She marks the significant move in the argument as being that of inferring acceptability from *de facto* developmental adequacy as attested by adaptation and survival. This 'core' of the original argument is then paralleled in the case of the teen-age girl. In that analogous case, Leach asserts, one would not infer the conclusion from the premise; hence one should not do it in the original case (the toddler) either. The logically parallel argument is without force; the original argument – called 'the same argument' – is therefore also without force.

A second example comes from Stanley Cavell's discussion of C.L. Stevenson's noncognitivism in ethics.

For then (that is, on a noncognitivist account) we are going to have to set up a display of humorous tolerance and allow that some 'ethical' disagreements cannot be 'settled' 'rationally' on such grounds as this: whatever reasons are offered

them, when 'an oversexed, emotionally independent adolescent argues with an undersexed, emotionally dependent one about the desirability of free love', their disagreement may be 'permanently unresolved'. You might as well say that if these two went on permanently arguing about whether men do or do not descend from apes, then the science of biology would lack an 'exhaustive' or 'definitive' method of proof.¹⁶

Cavell identifies Stevenson's line of argument as one in which *de facto* failure by two mis-matched individuals to resolve a dispute is grounds for the permanent unresolvability of that dispute and ultimately a basis for concluding that the subject in which the dispute occurs lacks a definitive method of proof. Cavell draws a logical analogy by mirroring this line of reasoning, substituting biology for ethics. Assuming that his audience will be unwilling to infer either that biological disputes are permanently unresolvable or that biology lacks a definitive method of proof, Cavell takes himself to have refuted the original line of reasoning.¹⁷

Refutation by logical analogy is based on duplicating the 'core' of an argument while varying some or all non-essential features. In the toddler example, the core of the argument is: 'x survives in C; therefore C is acceptable for x', with 'survives in' and 'acceptable for' being the focal concepts of the inference. Cavell's arguments have as their core: 'x and y, who are temperamentally mismatched, disagree about z; therefore disputes about z are irresolvable; therefore subject S, in which z is located, has no definitive method of proof.'

In its natural use, the technique of logical analogy makes this logical core apparent by repetition rather than by articulation. The logical essentials of the argument are repeated in the parallel argument and we 'see' them as we see sameness of shape in a blue circle and a red circle. The common structure is identified without being represented as a separate item. This common structure is the core of the argument. It is the part of the argument that must be preserved in the logical analogue. It is the aspect essential to the way the premises and conclusion are to connect in the original argument. When we represent this core, substituting letters for variable elements in the argument, we have what might be called a primitive formalization of the argument.

At this point, a question arises as to whether this logical 'core' should be regarded as the form of the argument. On some accounts of logical form, this would be the case.¹⁸ However, the central terms ('survives in', 'acceptable for', 'temperamentally mismatched', 'has no definitive method of proof', and so on) are not in any standard sense logical words. They are not syncategorematic, as are 'and', 'or', 'not', 'if then', 'necessary', and 'possible', nor even close to being syncategorematic as are such terms as 'know' and 'ought', around which epistemic and deontic logics have been developed.¹⁹ There is no formal system that would encompass the above structures as its basic structures in any way analogous to that in which *modus ponens* is a basic structure in propositional logic. Furthermore, for reasons we shall explore later any attempt to construct such a formal system would seem misguided.²⁰ The shared structure is not a formal structure; it is a meaning structure, one shared by several arguments and shareable by more. Thus, commonality is not formality.

Successfully using the technique of logical analogy means identifying the core of an argument, the forms or meanings on which its connection of premises and conclusion depends, and reproducing this core in another argument in which some or all of the other elements are varied. This understanding requires the ability to see that some terms are essential to the way an argument is supposed to work, whereas others are incidental. We might term this the capacity for logical insight.

This capacity is presumed even when we formally represent such simple arguments as 'Peter is sad; Joe is sad; therefore Peter and Joe are sad'. Representing this argument as 'R; S; therefore R,S', we indicate that it depends on the way assertion and conjunction work, and not on who Peter and Joe

are, or on the fact that they are both said sad. Nor does it depend on the fact that they are both said to possess the same characteristic, or on the fact that this characteristic is sadness. Barker's comment that the same sentence may have different 'forms' when it appears in different arguments is illustrated here. If the argument were 'Peter is sad; Joe is sad; therefore there are at least two sad people', we would have to formalize so as to reveal that it is one and the same property both Peter and Joe possess. Also we would need to indicate that Peter and Joe are distinct individuals.

Distinguishing the essential from the incidental can require going behind surface grammatical structure. For instance, few philosophers would deem these two arguments to share the same logical form:

1. *Joe is famous; anyone who is famous is rich; therefore Joe is rich.*
2. *Sherlock Holmes is fictional; anyone who is fictional is real; therefore Sherlock Holmes is real.*

Even though (2) is, on one level, semantically parallel to (1), there is something 'fishy' about (2). We might say that in (2) the second premise is clearly false, and regard the difference between (2) and (1) as being solely due to that fact. Such a view would mean regarding (1) and (2) as having the same form, that of a deductively valid argument. However, few will wish to proceed in this way. We will hesitate, because (2) uses 'fictional' and 'real', where (1) uses standard predicates. To grant that (2) has the same form as (1) requires us to ignore this difference, and the difference is too important to gloss over in this way.

This example illustrates again how preformal judgments enter into decisions as to what the form of an argument is. Formal analyses often help us to determine whether arguments are valid or not. However, they also articulate our preformal judgments of validity and invalidity, and provide a vehicle in which we express those judgments. If the validity of an argument is pre-formally controversial, any treatment which represents it as having the form of a deductively valid argument will also be controversial.

Whether the 'core' of an argument is represented formally or semantically, the identification of that core depends on our sense of how the argument is supposed to work, our preanalytic beliefs as to whether it does work,

and related philosophical judgments. Thus, logical perception is not a mechanical matter. Furthermore, when we isolate the inference structure of an argument, it will not always be a formal structure, not in any conventional sense of 'formal' at least. As the examples from Leach and Cavell illustrate, logical analogies may reveal structures relating terms that are not logical terms and that hold little promise as central terms for a formal system. Should we construct formal systems to articulate and 'make precise' the nonformal judgments that logical analogies enable us to make? Or can we rest content with concrete evidence of the inadequacy of material inferences? This is the same question that arises when we consider the frequent claim that informal fallacies will not be properly understood until they are given a formal analysis.

3. Prospects for Formalizing Informal Fallacies

Finocchiaro contends that 'there are probably no common errors in reasoning', meaning that there is no sense of 'the same error' that allows the same error to occur frequently. Lambert and Ulrich, in a recent text, say that for informal fallacies 'even when one learns to recognize alleged examples of the

fallacies, it is difficult to see what common factor makes them all instances of the same fallacy.²¹ Thus we see a concern for what different instances of the same informal fallacy have in common.

It appears that there is a dilemma here for the informal fallacies approach. If two different arguments share a feature, F, which characterizes the reasoning in both, then isn't F (as shared) a formal feature? If that were the case, the analysis of informal fallacies as informal would be mistaken in principle. We have already seen, however, that the logical core of an argument, though necessarily general, is not necessarily formal. Would formalization be useful at this point?

To consider this question in the concrete, let us look at two arguments which might be said to exemplify the informal fallacy of 'two wrongs'. The first was used by a professor in France who sought to defend philosophy programs against the accusation that they were not turning out competent graduates. He said:

*Our degree is not recognized, but we have more students than ever. They come because they think they might learn something. Sure, there are idiots. And I have given credits to them. There are bigger idiots in the government. Is it up to me to be more rigorous than the electorate?*²²

Here we have a defense of the practices of philosophers on the grounds that the electorate has selected idiots to serve in the government. Granting that we commonly regard it as undesirable for 'idiots' to serve a crucial public role, and that the philosopher's degree has been deemed inadequate, it appears that this author is defending what seems inadequate (standards among philosophy professors in France) by appealing to something else that is accepted (idiots in government), but should not be.

The second argument concerns the Canadian seal hunt, and is taken from a letter to the editor.

*I am a Newfoundlander, and I cannot help but feel some animosity toward those people who approach the seal hunt issue from a purely emotional stance. Surely this is not the way they look in their butcher's freezer, when they are looking for pork chops. Yet the slaughtering method approved by the Department of Health officials for swine is hideous, and nowhere near as humane as the dispatching of a young seal.*²³

In this passage the writer implicitly defends the seal hunt by pointing out that worse methods of slaughtering animals are condoned. He makes it clear that he thinks these worse methods are wrong ('hideous'), and infers that there can be no rational basis for opposition to the seal hunt (opponents approach it from a 'purely emotional stance'). One wrong is accepted, so another comparable one should not be criticized.

For convenient reference, let us call the first argument the French argument and the second one the Newfoundland argument. These arguments have many similarities and differences.²⁴ So far as their reasoning is concerned, they have something in common. The following statement characterizes the reasoning in both:

W: From the existence and tacit acceptance of one wrong, it is inferred that another comparable wrong should not be criticized.

In the French argument, the inference is from the electorate's condoning incompetence in the government to the implicit conclusion that attacks on standards in philosophy programs are inappropriate. In the Newfoundland argument, it is from the condoning of hideous slaughter methods for pigs to the implicit conclusion that the slaughter of seals should not be criticized. W describes the logical core of both arguments. If the inference described in W is a mistake, then both arguments embody this mistake. If it is a common mistake in reasoning, then both arguments commit it. If the

fallacy is informal, there is no mystery as to how it is possible that two cases of 'the same' informal fallacy can have something in common. What they have in common is (among other things) that W characterizes both.

At this point the question is whether the fallacy is informal. It is commonly regarded as such, to be sure. In specifying W, we use some words conventionally identified as logical words: 'and', 'or', 'not', and so on. But clearly it is not on these terms that the inference depends. The thrust of the argument is from the acceptance of one wrong to the illegitimacy of criticizing another comparable wrong. The problem with such arguments is with relevance, the relevance of the acceptance of the first wrong to the acceptability of the second one. The relevance problem arises because the acceptance of one wrong thing seems to have no bearing on the legitimacy of criticizing a distinct thing. To show that it is inappropriate to criticize some action, we have to show something specifically about either that action (that it is right) or that criticism (that it will be counterproductive, that it is hypocritical, that it is ill-founded ...). We might argue effectively by analogy if we compared the case with another, obviously similar, in which the action was right or the criticism of the action misguided. (If A is permissible and B is relevantly similar to A, then B is permissible. Or, if it would be inappropriate to criticize A and B is relevantly similar to A, it would be inappropriate to criticize B.) However, as described in W, analogy reasoning is misused. If the cited wrong action is wrong and the action under consideration is relevantly similar to the cited action, this shows that the action under consideration is wrong – a conclusion that runs contrary to the aim of the arguments.

The mistake described in W does not seem to be a formal mistake. Relevance is a nonformal matter; we have to judge what is relevant and not relevant in order to formalize. There are no formal rules for the proper use of analogies. If the mistake is one of relevance and improper use of analogy, the fallacy is informal.

However, it is trivially possible to formalize W, and it may be on the basis of this that many people regard the status of informal fallacies as informal as one that is temporary. To formally express W, we simply make the requisite stipulations. Let 'x' and 'y' range over items for which moral appraisal and acceptance are appropriate. Given all of these definitions, we can now represent the inference described in W as being based on the following conditional statement:

Quasi formal W: *For all x and for all y, if x is wrong and is accepted and y is purportedly wrong, then if x is tacitly accepted and x and y are comparable actions, y should not be criticized.*

A significant anomaly here is that the pivotal terms that constitute the core of the argument will be predicates, not logical operators. With the constituent terms of the two wrongs arguments – and with most logical analogies, where material inference is under scrutiny there is little that can be said about the merits of the argument in formal terms.

There is a sense in which one can represent anything formally; one can stipulate definitions and plug in logical symbols for the logical words used. The real question is not whether W and comparable substantive principles are in any sense formalizable, but rather whether it is useful to formalize them.

If one could construct a formal system in which the key terms appeared in the axioms and rules, and if within that system, one could prove that the inference described in W is an incorrect inference, then a formalization might be genuinely useful and revealing. However, the 'if' here is a big one. The requisite terms would be impossible to define with the precision a formal system would require. Several, and perhaps all, are essentially contestable or have vague perimeters. This means that one could not state axioms that would correspond fully with extra-formal judgments of meaning and

truth. Also, as noted above, one cannot really operate logically with the concepts, save through more standard logical operators such as 'and', 'not', 'or', and so on. The proposed 'system' would do little with its key terms, save assert or deny the truth of conditional statements which would most reasonably be interpreted as representing material inferences.

If one were to construct such a system and apply it in order to determine the logical merits of such arguments as the French argument and the Newfoundland argument, it is virtually certain that key judgments would remain extra-formal. For instance, the judgment that two cases are 'comparable' will have to be made.²⁵ The idea that the existence of one wrong is irrelevant to the criticism of another comparable wrong may well have to be put into the system as an axiom. If it is, then the sense in which then the system will be able to provide a justification for that judgment and raise it above the level of intuition, will be tenuous.

A complicating factor at this point is that most formal systems are systems of deductive logic. It will be appropriate to appraise such inferences as that in 'two wrongs' arguments using these systems only if we have pre-formally judged that those arguments are deductive. That is, we must have interpreted the logical relations intended in the argument as being such that they would work deductively or not at all. For many natural arguments, such an interpretation is implausible. Thus, even granted that a pertinent formal system could be constructed, its applicability would be in question.

Leaving such speculations, we can say that both the French argument and the Newfoundland argument are grounded on a questionable material inference, that described in W. To say that they are thus grounded is to presume first that both arguments are intended to cast in doubt the legitimacy of criticizing actions or policies by citing accepted wrongs; second, that the material inference in each is describable by W; and third that that material inference is incorrect. Quite obviously, no formal system is going to handle the first two aspects; it is only the third that is in question here. Once we have isolated the inference and described it as being of a general type, we approach the territory where logic in the classical sense could have something to say. It is there, if anywhere, that we expect formalization to be useful.

The problem is that the inference is material and substantive rather than logical. To defend the judgment that such an inference is incorrect, we will have to argue that the tacit acceptance of something by people does not show that that thing itself is right, much less that something else, however closely analogous to it, is right. We will have to argue that consistency should not be pushed to the point of demanding that existing evils be accepted because some evils are accepted. All of this connects directly to topics in moral philosophy. We will rely on principles that may be controversial; we will use terms that are hard to define with precision and are essentially contestable. Our explanation as to why the inference is mistaken, and why 'two wrongs' constitutes a fallacy will not be a completely straightforward descriptive one that all competent observers will accept. Obviously, there will be normative components.

The same kind of point can be made for many other informal fallacies. Consider for instance, the *ad hominem*. In an *ad hominem* argument, an inference is made from characteristics of an arguer to the falsehood or implausibility of his claim or theory or the validity of his argument. *Ad hominem* arguments are considered to be fallacious because, in general, such a connection does not hold up. Typically, negative features of an arguer or his background or circumstances have no bearing on the substantive truth of his claims or on the merits of his arguments. However, there are complicated exceptions. For example, the arguer's theory or claim may be about himself and may be rendered inductively unlikely by some feature of his character or background. In addition, considerations of

the credibility and expertise of the arguer often bear on the acceptability of his claims to audiences, especially when the audiences cannot judge the claims independently for circumstantial reasons.²⁶ What counts as an allegation about an arguer, what counts as the content of his conclusion, theory, or argument, what counts as evidence for or against truth, what counts as for or against acceptability, how that is related to truth – all these matters are relevant to a full and accurate account of *ad hominem*. Although someone's being a liar is irrelevant to the question of whether slaves built the Pyramids, his being a liar may be relevant to the question of the acceptability, in some context, of his claim that slaves built the Pyramids. To develop these ideas we will need to make substantive epistemic judgments. Similar points can be made about the misuse of authority and the argument from ignorance, and indeed about most other traditional informal fallacies. One could, in principle, articulate all these nonformal judgments and contestable decisions in a formal theory. However, much reasoning would go on outside that theory and precious little within it. The theory might give an impression of rigor, but serve little other purpose.

The absence of formal theory in such contexts produces in some circles an intense desire for formality and precision. But far from the potentially contentious nature of such accounts revealing the need for formal theories of the informal fallacies, it constitutes a powerful reason against their development. This is because the development and use of formal theories tends to hide controversies rather than admit or resolve them. It buries controversial assumptions in definitions and rules. Key issues come to be disguised by technical apparatus, and immune from criticism as something that is simply part of the system. Debatable principles and decisions are not eliminated by the development and application of formal systems. They are merely relocated, so that the uninitiated have more trouble identifying them and the initiated are trained to forget about them. Formal accounts may give the impression that controversial questions have been resolved and essentially contestable terms defined with final precision. However, that impression would be misleading. A formal system purporting to represent and rationalize judgments about the fallaciousness of 'two wrongs', *ad hominem*, inappropriate authority, or straw man would not be more precise than a nonformal account. It might appear more precise, but it would be pseudo-precise, because the appearance of rigor would misrepresent the phenomena.

4. On the Necessity and Limits of Rules

Let us consider the following argument:

1. *If there is an activity that human beings do intelligently then there is a rule or set of rules describing how that activity is done or should be done.*²⁷
2. *If there is a rule describing how some activity is done or should be done, then that rule can be articulated by someone – if not by the agent simultaneous with his engagement in the activity, then by that agent at another time, or by someone else.*²⁸
3. *If a characterizing rule or set of rules can be articulated, then it can be formalized, at least in some relatively weak sense of 'formalized.'*²⁹
4. *If a rule or set of rules can be weakly formalized, then at least in principle it is possible to set out a mechanical decision procedure for the activity it describes.*

Therefore,

5. *Any activity that human beings do intelligently can, in principle, be captured by a set of rules which set out a mechanical decision procedure.*

Or, reason can be mechanized.

This argument, which seem to have wide appeal, contradicts the results of preceding sections here. How are we to get around it?

First, some clarification. We need to distinguish four types of rules. Which type is being referred to will matter very much for our appraisal of the argument.

The relevant types are:

- a. Strict formal rules. These are rules which hold universally and can be applied by observing purely typographical criteria. Such rules are found only in formal axiomatized systems. To operate within those systems is to manipulate symbols according to these rules. Example: Every occurrence of '–' may be replaced by 'v'.
- b. Strict material rules. These are rules that hold universally but are not purely typographical. Example: 'Every living human being has a heart.'
- c. General rules. These are rules which hold most of the time, but which have a '*ceteris paribus*' clause. Example: 'Weakened people who have not had shots against smallpox and who are exposed to smallpox will catch smallpox.'³⁰
- d. Rules of thumb: A rule of thumb is a rough guideline for action, a kind of policy we may follow in a case where we do not have the time or expertise to rely on rules of the other types. It lacks any theoretical rationale, or may (more typically) be based on guesses or unanalyzed experience. Example: Prospective tenants who are very anxious to show you references are not a good bet. To operate according to a rule of thumb is to be entirely prepared that things should not go as the (rough) rule would indicate; we know the rule is at best a rough approximation.

If we look back at the argument introducing this section, and ask how 'rule' is being used, we can see that it cannot be in sense (a) or in sense (d). In sense (a) the first premise would be false.³¹ In sense (d), it would also be false, but for a different reason. The rule of thumb would not fully characterize the intelligent activity qua intelligent. It is not this sort of rule that a person who insists that intelligent activities must be subsumed under rules has in mind. A rule of thumb allows too much to be haphazard and unexplained by the rule. The idea behind the argument, expressed in the first premise, is precisely contrary to this. It is that what is done intelligently must be systematic, cannot be random, must be done for a reason, where that reason is general.

What remains are (b) and (c). If the reference in the argument is to rules in sense (b) or a sense that allows for general rules, as well as strict formal and material rules, then premises (2), (3) and (4) would clearly be true. However, premise (1) is false if the only admissible rules are formal rules. One is hard pressed even to find exceptionless rules outside the domain of formal systems. Even the counterparts of formal rules of logic have exceptions that have to be ruled out by provisos and tacit conditions of understanding, when we take them to apply to ordinary speech and thought. (As when we explain why 'he's attractive, but he's not', is not a contradiction and why 'boys will be boys' and 'business is business' are not tautologies.) It is well known that scientific laws give predictions for 'normal circumstances',

predictions that hold 'other things being equal'. Society's prescriptive laws can be couched in absolute terms and thought to apply without proviso, but such a conception cannot account for actual legal judgment where unusual circumstances are often taken into account. Here, whether we speak of the judgments that are in fact made, or of those judgments that ought to be made, the point remains. (For example, even where one is strictly liable, as in the case of storekeepers selling adulterated milk, a storekeeper who was bound and hypnotized and as a result persuaded to adulterate his milk would not be penalized in the normal way.)

Thus, to make premise (1) come out as true, we must be using 'rule' in sense (c), or in some further sense which allows that rules could be of type (a) or (b) or (c). The crucial point is that intelligent activity presumes either general rules or strict rules. It is not enough to extend the range from strict formal rules to strict material rules. We must move away from strict rules as a fixed requirement of intelligent activity. Thus, we must understand the first premise as follows:

1. If there is an activity that human beings do intelligently then there is a rule or set of rules such that those rules are either formal, material or general, or a combination of these, and such that those rules describe how that activity is done or should be done.

On this understanding, premise (1) may be true.³²

However, we now have a flexible understanding of rules. This more flexible understanding of what rules involve affects the truth of the other premises. A *ceteris paribus* rule can be used by a person with judgment, as he or she will have a sense for those cases where things are not 'equal' and the rule does not apply. But can a *ceteris paribus* rule be used mechanically? Can it be weakly formalized? If we are to formally express the rule, we cannot just leave the *ceteris paribus* clause as it stands. We have to spell it out – state explicitly what other things might bear on the situation and how. We must enumerate all the unusual circumstances that would make the rule inapplicable. This makes the argument break down. Spelling out all these conditions is simply not possible, because the range, and subtle variations in combinations of factors, are too great. There will always be events and circumstances we have not predicted and could not predict in advance, and features that turn out to be relevant, that we would never have considered mentioning.

The problem is that any interpretation of rules and rule-following which will make it plausible to see all human intelligent activity as rule-governed will make it false that such rules can be formalized and programmed. The argument as stated exploits the vagueness of 'rule' and seems persuasive only for this reason.

That there is a limit to rules has been shown many times and many ways – by Carroll, by Kant, by Wittgenstein, and by Godel. Their results are well-known but have not had the impact they should have on attempts to mechanize reason.³³ Let us review the results. Kant, in the passage quoted earlier, argued that it is one thing to have a rule and another to decide when to apply it. For instance, if your rule is that one will contradict himself whenever he asserts and denies the same thing, and that one should not contradict himself, you will have to decide whether 'it's raining and it's not' amounts to assertion and denial of the same thing. The same sort of problem is well-known in arithmetical contexts. Though one and one make two, one raindrop and another raindrop do not make two raindrops. As one author put it, 'numbers as realities misbehave.'³⁴ This doesn't refute arithmetic because we do not take raindrops and their mingling to be the sort of phenomena to which the rule of arithmetic apply.

Kant said that the proper application of rules required 'judgment' or 'mother wit', something he

regarded as unteachable. He argued against further rules telling you how to apply rules, on the grounds that this demand leads to an infinite regress of rules. Suppose that we had a rule telling us to apply arithmetical truths only to discrete entities. This could be helpful, but we would have to know how to apply this rule. We would only face the necessity of making another decision about raindrops: are they discrete entities? At some point we have to decide whether the entities to which the rule might be applied do or do not instantiate the categories used to express the rule. Those categories are couched in stable, universal terms, yet reality is particular, variable, and fluctuating. A new case may differ from others, and yet seem significantly similar. Does the rule apply? The matter requires judgment and intelligent decision, not a mechanical metarule telling us how to apply the first rule.

Where Kant called for 'mother wit', Wittgenstein, seeing the same problem, appealed to custom, form of life, and the training of others who will not respond in the way you want if you do not go on in the appropriate way. 'Rules must come to an end somewhere', he famously said. The Wittgensteinian terminus is our common culture in which people mutually coordinate to delimit the possibilities. We live together in a way that permits the application of arithmetic to apples and oranges, but not to raindrops or the union of ovum and sperm.

Custom is not the only suggestion for bottoming out, of course. Douglas Hofstadter, seeks to end the regress in a common neural structure in human brains, saying:

Rules get used and messages do get understood. How come?... Since they are physical entities, our brains run without being told how to run.³⁵

However we propose to end the regress of rules, it has to end somehow. The limitation emphasized by Wittgenstein and by Kant in the passage quoted is that rules do not tell you how to apply themselves, and further rules cannot always do this, on pain of regress.

This theme about the need for rules to end is not quite the same limitation pointed out by Lewis Carroll in "What Achilles Said to the Tortoise". There, the stubborn Tortoise refuses to use rules of deductive inference in the normal way. He wants every rule he would use as a basis for inference written into his argument explicitly as another premise. Granting 'A and B', and granting 'If A and B, then Z', is not enough to make the Tortoise infer Z by *modus ponens*. To do so, he would have to use *modus ponens* tacitly. He would have to use logic without saying what logic tells him to do. This the stubborn beast refuses to do. He will not put his trust in logic. Remarking that 'whatever logic is good enough to tell me is worth writing down', the Tortoise demands an articulation of the requisite conditional. Meeting this demand results in a new argument with the premises: 'A and B; if A and B, then Z; if A and B and if A and B then Z. then Z'. Here again, to infer Z, he would have to use a rule not stated within the argument as a premise. The Tortoise demands that that rule be made explicit, and generates a fourth argument. In the nature of the case, the Tortoise cannot be satisfied. He will never infer Z from A and B – despite the fact that A and B entail Z, and that he recognizes the logical truth that if A and B, then Z.

The Carroll Dialogue shows that even when the mind is operating according to clearcut rules, *such rules cannot all be made explicit in the context of use*. They can be made explicit in another context – an observer context. But when an observer reasons, he himself will necessarily reason according to some rules that are not explicitly stated. These rules, in turn, can be made explicit in another context. There can be no one context in which all rules of reasoning are explicit at once. To draw an inference that is in accordance with a rule of inference is in one sense to use a rule of inference. But it cannot require

stating that rule of inference explicitly as a premise in one's reasoning. Contrary to the Tortoise, there are necessarily some things logic 'tells you' that cannot be written down.

At this point, Carroll's dialogue offers intimations of Godel's result, which states that for any formal system of interesting complexity there is a necessary incompleteness. There are always statements expressible within the system and informally provable to be true, yet not provable according to the strict formal rules of the system itself. This fact about the limits of formal rules cannot be eliminated by constructing stronger systems, for such systems will only present the same kind of problem at a higher level. New statements are constructible with the same property – informal provability in the face of formal intractability. Critics of fallacy analysis have urged that the necessary incompleteness of any list of fallacies is a serious problem. If this problem were devastating for fallacies, it would undermine positive proof theory as well.³⁶

Kant and Wittgenstein showed how something other than explicit rules is presumed by the application of rules. Godel showed that in any given formal system of interesting richness, informally derivable truths will exceed formally derivable ones. Carroll showed that in an argument, movement from premises to conclusion presumes the tacit acceptance of rules not, in that context, made explicit. Derivable truths will exceed formally derivable ones. Given these well-known results, the idea that aspects of argumentation and its appraisal are not fully mechanical should not be surprising. These theoretical results coincide beautifully with indications

from concrete problems that arise in argument analysis and evaluation.

The ease with which such results are conveniently forgotten in our culture and the influence of the pre-Godelian idea that reasoning must be something bound by formal rules may be due to scientific bias. We feel such a perverse attraction for mechanistic and technologically fashionable models of human intelligence that we forget what some of our most profound and subtle reasoners have shown us about reasoning itself. Rules are not perfectly strict, and they take us only so far.

Notes

1. Michael Polanyi, *Personal Knowledge*, (New York: Harper Torchbooks. 1959). p. 398.
2. Stanley Fish, 'Normal Circumstances and Other Special Cases', in *Is There a Text in This Class?* (Cambridge, Mass: Harvard University Press, 1980), pp. 291-292. I wish to endorse only the point that context is relevant to the determination of meaning, not the further point, sometimes implied by Fish, that discourse means whatever the reader or listener makes it mean.
3. Compare Hubert L. Dreyfus, *What Computers Can't Do: A Critique of Artificial Reason*. (New York: Harper and Row, 1972), Chapters I, 5, and 6. I owe much to this discussion.
4. Stuart Hampshire, *Spinoza*, (Middlesex, Eng.: Penguin Books, 1951), p. 12.
5. Howard Gardner, 'Nadia's Challenge', *Psychology Today*, November, 1980.
6. Students asked to analyze the passage had had several weeks of lectures on argument structure and were given the same background information stated here.
7. John Locke, *An Essay Concerning Human Understanding*. Edited by A.D. Woozley. (New York: New American Library, 1964). Book Four, Chapter XXVII, pp. 417-418.

8. Howard Posposel, *Arguments: Deductive Logic Exercises*, (Englewood Cliffs, N.J.: Prentice Hall, 1971).
9. Compare my discussion in 'Four Reasons There are No Fallacies.'
10. Kant, *Critique of Pure Reason*, transl. by Norman Kemp Smith (New York: St. Martin's Press, 1965), pp. 177-8.
11. The issue is discussed in section 4 below.
12. Hubert Dreyfus, *What Computers Can't Do*, p. 198.
13. Stephen Barker, *Elements of Logic*, Third Edition, (New York: McGraw-Hill, 1980), p.74.
14. I have discussed this point at greater length in 'Logical Analogies', in *Informal Logic*. 1986.
15. Penelope Leach, *Who Cares?*, (Middlesex, Eng: Penguin Books, 1979), p. 82.
16. Stanley Cavell, *The Claim of Reason*, (New York: Oxford University Press, 1979), p. 270. Cavell uses this type of argument frequently. Additional examples may be found on pp. 278-9 and 304-5, and indeed, throughout the book.
17. I don't wish to commit myself to these assumptions here. Suffice it to say that if the parallel is apt, either both arguments are logically weak or both are logically strong.
18. Compare, for instance, Rolf George's account in 'Bolzano's Consequence, Relevance, and Enthymemes', *Journal of Philosophical Logic*, Vol. 12, (1983).
19. Of course philosophers have no non-arbitrary way of limiting this list of logical words. The 'and so on' clause is very important. It is sometimes said that logical words are syncategorematic. In the light of developing epistemic and deontic logics, some would accept 'know', 'believe', and 'ought' as logical words. These are no more syncategorematic than 'survives' or 'good' or 'acceptable' or 'produces', which are not commonly regarded as logical words. Compare the discussions in Arthur Pap, *Semantics and Necessary Truth* (New Haven and London: Yale University Press, 1958), pp. 130-143, and 157; and Susan Haack. *Philosophy of Logics*, (Cambridge, Eng.: Cambridge University Press, 1978), pp.22-27.
20. The matter is discussed in section 3 below.
21. Compare the discussion in 'Four Reasons There are No Fallacies?', above.
22. Cited in the Canadian Association of University Teachers *Bulletin* for September, 1978.
23. Letter to the editor. *Toronto Globe and Mail*, January 3, 1979.
24. This point is pedagogically and philosophically significant. Given an exemplar of an informal fallacy and asked to analyze a number of passages, a person is often inclined to focus his or her attention on aspects of those passages that are similar to the exemplar. Varying the exemplar can highlight different resemblances and differences. This duck-rabbit sort of phenomenon partially explains why the same argument may be seen as exemplifying several different fallacies at once and

is an important objection to teaching argument analysis by teaching fallacies (formal or informal). The reader's logical perception is distorted by his attempts to see the exemplar in the passage and his judgment is confused by the possibility of the passage exemplifying several 'different' mistakes at once. Compare my discussion in 'Who Says There are No Fallacies?', *Informal Logic Newsletter*, Volume V number 1 (December, 1982).

25. For problems that may arise about this judgment, see Leo Groarke, 'When Two Wrongs Make a Right', *Informal Logic Newsletter*, Vol. V, Number I (December, 1982), pp. 10 – 13.

26. Compare my discussion in 'Ad Hominem: Revising the Textbooks', *Teaching Philosophy*, Volume 6, Number I (January, 1983), pp. 13-24. See also Robert H. Ennis, 'The Believability of People'. *The Educational Forum*, March, 1974, pp. 347-354.

27. In some contexts the distinction between how activities are done (performance) and how they should be done (norms of competence) is of great importance. However, it does not affect the argument here, provided one sticks to one or the other meaning consistently.

28. The qualification is inserted to avoid trivial refutation on the basis of limitations of attention.

29. Formalized in a weak sense does not require that the rule be embedded in an interesting or useful formal system.

30. In fact, it is extremely difficult to find exceptionless rules outside formal systems. To do so, one must delimit the scope of the rule in such a way as to exclude all exceptions. Mechanisms for doing this often seem *ad hoc*. First, the exception is noted, then a restriction on the application, scope, or meaning of appropriate terms is adopted so that this apparent exception does not count as a genuine exception. This procedure indicates that one's sense that an exception must be made is logically prior to one's articulation of the exception clause. Compare Van McGee. 'A Counterexample to *Modus Ponens*', *Journal of Philosophy* LXXXII, no. 9 (September, 1985), pp. 462-470.

31. Reasons for this judgment should be apparent from section I above. See also Hubert Dreyfus, *What Computers Can't Do: A Critique of Artificial Reason*.

32. I do not wish to commit myself to saying that it is true, because in fact, I am not sure that there is good reason even to go this far. The interpretation is plausible; the statement might be true and it gives a moderately charitable version of the argument that merits study and analysis.

33. I refer to extreme optimism in some circles – most notably those of artificial intelligence and cognitive science research – about the prospects for programming human intelligence and creative thought and also, at a less profound level, to the idea, still accepted in some circles, that there is a contradiction lurking in the very concept of informal logic.

34. Douglas Hofstadter, *Gödel, Escher, Bach* (New York: Basic Books, 1979), p. 56.

35. *Ibid.*, p. 170.

36. This point has been nicely and emphatically made by Dennis Rohatyn in an unpublished paper, 'Can Fallacy Theory be Saved?' (1985). Rohatyn puts it this way: 'If the best we can hope for from

systems of unsurpassable rigor is to generate solvably unsolvable problems then *a fortiori* we should not make demands on fallacy theory which are in principle unfulfillable ... Granting that the meta-theory of first-order quantification is subject to Goedelian limiting conditions, it makes no sense for Massey or anyone else to rule out pursuing fallacy theory on grounds of incompleteness.' (p. 8 of manuscript)

CHAPTER 11.

CRITICAL THINKING IN THE ARMCHAIR, THE CLASSROOM, AND THE LAB

Although it would be generally acknowledged that not all critical thinking is done about, or by means of, argument, people teaching how to identify and evaluate arguments continue to regard themselves as teaching critical thinking. Debates about disciplinary jurisdiction over 'critical thinking' persist as they did in the eighties, with psychology and neuroscience, English, rhetoric, sociology, and other disciplines competing with philosophy. Claiming the territories of formal and informal logic, as well as philosophy of science, philosophers seem to me to have stronger claims than do instructors in these other areas. Perhaps that stance reflects my disciplinary bias. Within philosophy, debates about logic and critical thinking persist although with diminished intensity: some formalists continue to defend their turf.

To be sure, the concept of critical thinking is a contested one, that being only one aspect contributing to debates about the proper academic location of critical thinking skills. How necessary is rigor? How much effort should be made to include debated social issues? How relevant (if at all) is knowledge about the brain? Are there ideological presumptions? Issues of discipline-specificity remain, with a general consensus that there are both general standards for cogent argument and considerations specific to particular disciplines.

Over the past few years, numerous courses on critical thinking have appeared in colleges, universities, and schools. These courses have been inspired by the perception of educators that many students do not have the ability to reach independent, reasoned, critical judgments about material they read or study. That such abilities are desirable is not in question. There are, however, disputes about how, if at all, they can be developed or taught.¹

Very often, critical thinking courses are courses in informal or formal logic. To cultivate critical thinking, educators have by and large taught argument analysis and evaluation. We think when we argue, and we think critically when we evaluate an argument; hence, teaching argumentative skills would seem a natural way to teach critical thinking. And, indeed, texts on argument analysis are widely billed as 'critical thinking' texts. Many people teaching informal logic use the expressions 'informal logic' and 'critical thinking' as virtual synonyms.²

There are also the dissenters from this analysis, most prominent among them, John McPeck.³ McPeck sees critical thinking as a kind of reflective scepticism. A person thinks critically about a subject when he or she judiciously considers various claims and is not disposed to merely accept what is heard or read at face value. What makes a person capable of doing this, McPeck contends, is his knowledge of that particular subject. It is not his ability to manipulate the concepts and tools of formal and informal logic. It is not his knowledge of the nature of definitions, *modus ponens*, disjunction, induction, the logic of explanations, the *ad hominem* fallacy, and so on. Rather, it is substantive

knowledge, not general logical knowledge. For instance, a person would be capable of critical thinking on the topic of MX missile development only if he knew something about nuclear strategy, and had mastered such concepts as 'first strike', 'first use', 'vulnerability', and so on. Being trained in logic – whether broadly or narrowly construed – would be of little use. McPeck contends that logicians have greatly over-estimated the role of general and logical considerations in the assessment of claims and the reasoning that supports them. At the same time they have under-estimated the significance of information.

McPeck's analysis is both epistemological and pedagogical. Epistemologically, he offers an account of appraising claims and arguments in which nonformal, non-general, substantive considerations are of paramount importance. His pedagogical corollary is that separate courses on critical thinking should not be offered. He maintains that such courses will of necessity treat examples from an inadequately informed perspective, because they will lack the substantive disciplinary base that is pertinent to the subject matter of these examples. For instance, if the instructor has students analyze an example of analogical reasoning where the Viet Nam situation is used as a model for policy regarding El Salvador, he will typically have little but his own background knowledge or the prejudices of the day to call on when it comes to the crucial question as to whether the two situations are or are not relevantly similar. He is unlikely to know enough historical and political facts to really judge the strength of the inductive analogy. Where non-empirical issues such as the morality of intervention or the importance of preserving 'free enterprise' bear on the argument, there is still little help from informal logic, because these topics require substantive analysis from the perspective of moral and political theory. The critical thinking instructor who is committed to treating 'real-life' examples but must, in the context of his classroom, do so without simultaneously teaching the substance of history, ethics, or any other subject, will be left with a thin and perhaps misleading analysis. He can tell his students that if Viet Nam and El Salvador are relevantly similar, then the analogy from American experience in Viet Nam to non-intervention in El Salvador is a good one, and if they are not, it isn't. The situation recalls John Wisdom's lament that the whole of logic may be stated in the line: 'He will buy you the yak or else he will not; I cannot be positive which.'⁴

McPeck believes that critical thinking courses cannot perform the important function of cultivating reflective scepticism in students. He does allow that critical thinking should be developed in the classroom, and his recommendation is for standard subjects, especially liberal arts and science subjects, to be taught in a critical and epistemically sensitive way. This would mean, probably, that history would be taught with an emphasis on questions about the reliability of testimony, the credibility of various sources, the feasibility of analogical reasoning from one situation to another, the necessity or non-necessity of laws in historical explanation, and other epistemically significant topics. The same would be true of biology, literature, physics, psychology, philosophy, and all the other subjects. Students taught in this way would be encouraged to think critically in a context where they had sufficient information to do so, and instructors could develop critical thinking skills without being restricted to thin generalities. McPeck's view is that philosophers do not have as much to say as they think about arguments in other people's subjects, and they have no monopoly either on the theory or the practice of critical thinking. Informed critical thinking should be a significant element of every academic subject.

McPeck's pedagogical recommendations are based on his epistemological theory about what goes into the critical appraisal of a claim or an argument in support of a claim. There are clearly important reminders in his account. When we theorize about arguments from the perspective either of formal

or of informal logic, we are generalizing. This makes us concentrate on those features of arguments which are universal, universal within a subclass, or at least relatively common. Content-specific and context-specific aspects are apt to receive little attention, except insofar as they are amenable to generalization. This focus of attention does mean that in some cases, logic and the theory of argument will have little to offer to resolve key questions.⁵

Consider, for example, an argument along the following lines, about the MX missile.

1. *The MX missile will intimidate the Russians and make nuclear war less likely.*
2. *Building the MX missile is possible, given current economics and technology.*
3. *Reducing the risk of nuclear war is of paramount importance.*
Therefore,
4. *The MX missile should be built.*

Much will depend here on the first premise. In the case of this argument, formal and informal logic, and the theory of argument can tell us little; we have to decide whether to accept this premise. Unless the premise itself contains some logical or general error (inconsistency, loaded terms, or some comparable flaw), this decision will be based on our judgment about substantive issues. To make it, we have to know something about what the missile is, how it will fit into the existing nuclear weapons systems, what intimidates Russians, and the relation between intimidating Russians and reducing the risk of nuclear war. In such a case there is no shortcut through logic to a verdict on the argument. Insofar as this would be McPeck's point, he would be absolutely right.

Now in an obvious sense, neither formal nor informal logicians have ever denied this kind of point. No one has ever said that arguments can be evaluated without evaluating their premises, and no one has ever said that premises can be evaluated without subject-specific information. At one level, then, McPeck is reminding us of a truism. There are cases where the potential for purely logical confusion about an argument is minimal and virtually everything we need comes from outside logic. In such cases, the critical thinking instructor or logic instructor will have to direct students to either remain agnostic about the merits of the argument, due to premise content, or seek out enough information to make an informed judgment about the premises. McPeck regards such cases as very common, and cases where the merits of the argument depend on general logical points as quite rare.

In fact, McPeck's account makes discipline-specific knowledge relevant to the appraisal of reasoning as well as to the appraisal of premises, because he insists that standards of reasoning are themselves contextually defined within the various disciplines.⁶ This view of reasoning is unorthodox and has been criticized elsewhere. However, the pertinence of substantive knowledge to premise assessment and interpretation will itself generate McPeck's conclusion.

The MX missile example is not one that McPeck himself used, but it is, *prima facie*, a convincing one to illustrate his theory. Nuclear strategy and the psychology of nations are technical and confusing topics. It will be no easy matter to determine just whether the MX missile reduces or increases the risk of nuclear war. There are technical questions, strategic questions, and psychological-political questions. Students who seek 'information' to evaluate the premise will face a hard task. They will find technical terms, alternative sets of statistics about the nuclear balance of power, different theories about Russian society, appeals to Russian history using the same facts to argue competing conclusions, applications of technical decision theory in contexts where precise predictions are

impossible, and many other epistemic delights. Thus, much thought will be required in order to reach a judgment on the crucial premise. Critical thinking itself will not provide this knowledge.

An aspect of this kind of situation that McPeck underestimates is that argument analysis and other aspects of critical thinking are often needed in order to obtain information. Faced with one set of statistics about the Russian forces from the U.S. Department of Defense, another from the Stockholm International Peace Research Institute, and a third from the United Nations, one will have to ask about the credibility of these sources, in the context, and the relevance of statistical differences to the specific issue of the MX. The answers to these questions in turn will require some substantive information, but the structure and bearing on this information on them is a general matter on which the variety of topics treated in informal logic courses will have a bearing.

McPeck issues a plea for information in critical thinking. But the term 'information' is rather misleading in this context.⁷ It suggest that there are straightforward facts, perhaps statistics, that we can look up and that will resolve the relevant questions. Some techniques taught in critical thinking or informal logic courses are pertinent when students try to find needed 'information', as they surely will be in this case. Even the 'thin' advice to reflect on relevant differences when analogies are used may turn out to be of use. When we find predictions about the likely responses of *nation states*, we almost always find them to be based on assumptions about the psychology of *individual agents*. Composition and division issues arise here. (Threats will only make a paranoid behave more irrationally says anti-nuclear advocate Helen Caldicott; the only way to reform a person is to make him fearful of the consequences of bad behavior, say advocates of military build-up. On both sides the claims are then applied to nation states.) Being aware of the fallacies of composition and division, and of issues regarding the logical evaluation of analogies, will be highly relevant to the evaluation of competing sets of 'information.'

Clearly, McPeck is correct in saying that for some arguments, the decisive evaluation issue is not logical, even when 'logic' is understood quite broadly. Even if we do not take his position that standards of reasoning are discipline-specific, it is clearly true that the substantive information needed to evaluate premises often comes from outside formal and informal logic. Furthermore – a point McPeck does not explicitly mention – such substantive information may also be needed in order to correctly interpret the argument. The other side of the story, though, is that for some arguments and claims, the decisive evaluation issue is logical. In response to the story of the critical thinking instructor left with a thin analysis of a substantive and rich example we can tell alternative stories about supposedly well-informed experts whose claims depend on elementary flaws in reasoning. A prominent biologist appeared on television to say that there would almost certainly be no important environmental effects if potato crops were exposed to an especially developed, genetically altered bacterium which would prevent freezing. His reason was that since the genetic change in the bacterium was small, any effects of the change would similarly be small. In this case, the man's expertise and prominence did not prevent him from the elementary error of inferring the smallness of an effect from the smallness of a cause.

Stories about experts who reason poorly are as easy to tell as those of logicians and philosophers who lack information.⁸ McPeck might insist that even in these examples the causal and analogical errors are substantive, not formal. Sure enough, what is needed to see these errors is not formal logic, because the error involves non-deductive reasoning. This does not mean, though, that no training in logic is relevant to the detection of the error. What is relevant here is something quite elementary and yet elusive to many not encouraged to think about reasoning, argumentation, and the

justification of claims. It is the sense that reasoning is going on, that there is an inference made from some propositions to others, and that this inference can be critically scrutinized. Virtually anyone who detected the inference from 'the cause is small' to 'the effect is small' would be able to see it as silly. Small factors can have big effects. People who consider themselves experts may focus so much on substance that they ignore the dependence of some substantive claims on others. Yet a careful consideration of their discourse will reveal such dependence and may show significant gaps in reasoning.

Is it better to reason well, using accurate and clear language, apt analogies, an acute sense of what counts as a good explanation, and the battery of techniques cultivated by formal and informal logicians, but starting from unacceptable premises? Or is it better to begin from accurate and substantively rich premises, but reason poorly, failing to recognize the issues disguised by emotionally loaded language, accepting facile explanations without recognizing the existence of alternatives, relying on *ad hominem*s that are current in the 'discipline', and dotting one's account with appeals to the latest disciplinary authorities? Obviously, the question as to which of these styles is better or worse is an absurd one. Neither alternative is desirable; both will lead to serious error. The first style will generate garbage from garbage. The second will generate garbage from non-garbage. So far as adequate beliefs are concerned, the difference between them is not very interesting. Epistemology and pedagogy have to recognize the importance both of substance and of reason. Reasoning without substantive content is empty, but substance without reasoned direction is blind.

Given that some errors stem from faulty reasoning and others from substantive misinformation, we might want to determine which of these two sources is the most common source of error. On this issue, McPeck is committed to the view that it is substantive defects that matter most.⁹

Even the 'everyday problems' closer to home, such as the rights of minorities, affirmative action, nuclear power plants, tax proposals such as 'Proposition 13', product safety and the like require being in possession of, and comprehending, large amounts of complex information. There is simply no shortcut around this brute fact about the complexities of what are misleadingly called 'everyday problems'. Moreover, ninety-eight percent of our mistakes (note my dazzling statistics again!) in rational judgment originate in this informational domain: either because we don't have enough of it, or our sources are unreliable, or just as often as not because we do not understand the empirical foundations and therefore the meaning of the information we do have.

Such claims have been disputed by Robert Ennis, who defends the pedagogy and epistemology of formal and informal logic as means to critical thinking. Ennis points out that such logical considerations as credibility, authority, syllogistic reasoning, and criteria for explanations apply to widely differing subject matters. In all cases of causal reasoning, we cannot straightforwardly infer a cause from a correlation, because alternative explanations of the correlation need to be ruled out. This will always mean that causal inference is less than watertight, for the number of alternative explanations is always, in principle, indefinitely large, and there is always, therefore, a dependence on background knowledge. Whenever a reliance is made on the testimony or authority of a person, that person's interests and moral character will be relevant. And so on; many comparable points can be made. In fact, McPeck does not really disagree with such points as these. He seems, rather, to think that these common elements are easily mastered and typically of little importance in the diagnosis of error or the quest for truth. Ennis suggests that whether errors result more from substantive lack of information or misinformation or from faults in reasoning, definition, and general logical operations is an empirical question.¹⁰

At some level this is clearly true. However, the question is empirical in a complicated way. To

resolve it, we would first have to find a sample of errors that would constitute a representative sample of human error. We would have to find out the beliefs underlying the error and the reasoning that led to the erroneous judgment. That would be difficult. Even when this underlying reasoning was discovered, diagnosing the causes of the error would present further difficulties. What seemed to be substantive errors might themselves be the result of prior reasoning errors; what seemed reasoning errors might be the result of faulty substantive assumptions or of the adoption of a model of reasoning different from that used by the researcher. A large number of epistemic and interpretive norms would be presupposed in the construction of such experimental work.¹¹ To say that it would be empirical is slightly misleading, for the background interpretive, sampling, and logical assumptions would be highly philosophical. In fact, the body of such assumptions would be very controversial, considered all together. Any even moderately surprising result would be sure to lead to our looking back to question some of those assumptions. The issue is at best quasi-empirical.¹²

In any event, perhaps it does not matter so very much. Accurate beliefs clearly require both good evidence and good reasoning. Common experience, logical tradition, and any straightforward analysis of argumentative discourse all indicate that people make mistakes sometimes due to inadequate information, sometimes due to inadequate reasoning, and sometimes due to a complicated mixture of these. There is little point, epistemically, in asking which sort of error is more common, in general, and there is no real likelihood of getting a firm empirical answer to that question using social scientific methods.

As for the pedagogical issue, there are many courses that teach substance and relatively few that focus on reasoning or critical thinking. If substantive courses were critically focused in the ways McPeck suggests, some of the more elementary course discussion of argument, justification, definition, explanation, and related topics which we now seem to need in colleges, schools, and universities would not be necessary. No concerned and educated person would dispute McPeck's recommendation that the whole spectrum of academic subjects offer scope for critical analysis, and that people would be better educated if instructors were willing to focus on this and cultivate independent judgment in their students. This commendable reform has not yet occurred, however. In the present situation, there is room for courses that focus particularly on argument, definition, the logic of argument and explanation, and related topics. Even in a vastly improved situation, there would still be scope for such courses, although they could usefully be more advanced and interesting than some are now.

A major reason for having courses on critical thinking is the tension between substantive and methodological focus. For instance, in a course on Hume's philosophy, one might study his essay on miracles. In the course of doing so, one may consider the general subject of credibility and the strength of evidence for testimony. The discussion relates to issues that are also raised by *ad hominem* and authority arguments. However, in a course specifically focused on Hume, the latter cannot be a major topic, or else other aspects of Hume's philosophy will be neglected. On the other hand, a course on informal logic might well include a study of Hume's essay on miracles during the course of work on credibility. The focus here would not be on Hume's epistemology and philosophy of religion, but rather on general epistemic issues about our reliance on other persons for knowledge. Given that resources in any single course are finite, and that subject matter has to be delineated in a coherent and responsible way, separate courses in which the primary focus is on topics from logic and informal logic seem entirely appropriate.

McPeck's account is useful in reminding us that courses on critical thinking and argument analysis

should not claim too much. We have to accept the need for substantive information and judgment as relevant both to the interpretation of discourse and to the evaluation of premises. Neither formal logic, nor informal logic, nor the theory of argument provide this. None, therefore, offer everything we need to be critical thinkers. All offer something we need and are worth pursuing for that reason. In critical thinking courses oriented toward argument construction and appraisal, we can teach some things needed to evaluate arguments on any subject. We can also explore many further topics needed to evaluate arguments. But we cannot teach everything needed to evaluate every argument.¹³

Argument analysis is not merely a matter of appraising for deductive validity, as McPeck sometimes implies.¹⁴ It incorporates the proper interpretation and classification of arguments, the application of the appropriate standard (inductive, deductive, conductive, analogy, or other), an evaluation of the premises, and much else. McPeck sometimes writes as though assessments of deductive validity are all that logicians and philosophers can provide. That's not correct. With an enriched account of what argument appraisal involves, we can go a long way to answering his objections.

It is surely true that formal logic cannot provide all that is necessary for the appraisal of substantive argumentation. Despite their greater breadth, neither can informal logic and the theory of argument. Even if we could reduce critical thinking to argument evaluation, it would be incorrect to see it as encompassed by informal logic, because informal logic does not include the substantive knowledge that is very often needed to appraise premises. At the very least, argument analysis must encompass premise evaluation, and typically premise evaluation will require extra-logical knowledge. Furthermore, despite some misleading advertising, no one really denies this conclusion.¹⁵ Even if we were to grant that critical thinking amounts to constructing and/or appraising arguments, we could not claim that philosophical courses in logic and argument analysis give everything that we need for critical thinking. They cannot give us everything we need for argument analysis itself, because that requires substantive information. Such courses omit substantive information as such, but they do provide much that is needed to assess claims put forward as providing substantive information.

It might seem that argument analysis, when fully understood, does constitute critical thinking. A number of people do, in effect, identify critical thinking with argument analysis. There seems to be something natural about this. Consider, for instance, McPeck's shorter definition of critical thinking as reflective scepticism. Suppose that a person is reflectively sceptical about some claim, theory, or argument. If he is reflectively sceptical about an argument, then that is just to say that he is engaging in argument analysis; he has located some point at which he thinks the argument goes wrong. If he is reflectively sceptical about a claim, he has some reasons to think the claim might not be true. That is to say that he has his own argument that he has constructed, against the claim, and he is considering the merits of his own argument. If he is reflectively sceptical about a theory, he has data that he thinks the theory cannot accommodate; that is to say, he has an argument from the existence of this data to the improbability of the theory's being true. It might seem, accordingly, that critical thinking has to be about arguing and evaluating arguments and cannot be about anything else, because whenever we think critically we are, explicitly or tacitly, arguing or criticizing arguments.

This view was once stated by J.A. Blair.

*A problematic claim worthy of acceptance is made so by evidence or other sorts of consideration which show it is plausible, that objections to it may be rejected, and that alternatives are less plausible. In short, (problematic) claims worthy of assent are those which are supported by good arguments. Argument is the tool of reasoned critical appraisal – or our own and others' claims and actions – and the vehicle of reasoned advocacy of claims and conduct. Good reasons mean good arguments; good reasoning means good argumentation.*¹⁶

A critical thinker judges for himself or herself in a probing reflective way. Critical thinking, then, involves reflection, deliberation, respect for the critical judgment of others, and the avoidance of manipulative nonrational techniques of persuasion. Teaching the identification, understanding, evaluation, and construction of arguments is a basic and obvious way to cultivate critical thinking. Indeed, provided we are happy with the notion of tacit arguings-to-oneself, we may even wish to say that thinking critically about something entails arguing or evaluating an argument about it. To improve critical thinking, we offer courses on the construction and analysis of arguments.

Nevertheless, there is something peculiar about the full identification of critical thinking with argument analysis. There are two underlying reasons for this, one having to do with the less fully articulated nature of critical thinking, the other stemming from the typically atomistic and finite nature of argument analysis. Richard Paul emphasized this second point.¹⁷ Consider first that thinking is more chaotic, less directed, and less fully articulated than arguing or evaluating arguments. Thinking, whether critical or creative, is very often private and subjective.

Argument may result from critical thinking, but need not. Argument construction and analysis are nearly always in the public domain, since a major purpose of argumentation is the rational persuasion of others. Theorists have long distinguished reasoning from arguing on grounds similar to these.¹⁸ We often reason without arguing – following through possible consequences of a line of action, assessing pros and cons, trying to determine consistency, and so on. Similarly, we often think – constructively, creatively, or critically – without arguing. Since critical thinking necessarily involves thought and reflection, but does not necessarily involve the articulation of an argument, critical thinking should not be identified with argument. Thinking includes wondering, wishing, deliberating, questioning, contemplating, synthesizing, comparing, simplifying, hypothesizing, and much else. It may, but need not, involve arguing.

Of course, not all thinking is critical thinking. Critical thinking is thinking about another product of thought (an argument, claim, theory, definition, hypothesis, question, creative product or problem) in a special sceptically deliberative, evaluative way. A recent author put it this way:

*Critical thinking involves a reflective attitude. As a critical thinker, one does not just let situations and claims slip by. Rather, one focuses upon and assesses beliefs, claims, events, discoveries, etc. This focusing is not adventitious, but results from a conscious decision to think about or think through the things one encounters, and to develop habits which promote the implementation of such a decision.*¹⁹

In an exchange in *Teaching Philosophy*, the following account appeared:

*On those occasions when a mental act is called into question, there is typically a need for some basis beyond the act itself for judging it. Here is where critical thinking comes to life: critical thought consists of the evaluation of mental acts, and concern about critical thinking involves identifying proper basis for evaluation and means for doing so.*²⁰

But just as reasoning is not the same as the argument it may produce, so critical thinking is not the same as the analysis it may produce.

In fact, critical thinking is not strictly speaking a necessary condition of good constructive argumentation. It is, of course, prudent to apply some critical thinking to the products of our constructive and creative thinking. Reflecting may reveal errors or inauspicious aspects of presentation, and it is worth checking. Argument construction always requires thinking – constructive and creative thinking – but is not always accompanied by critical thinking.

Argument evaluation, on the other hand, will always require critical thinking. This makes it

understandable that courses devoted to argument analysis and evaluation should bill themselves as courses on critical thinking. To analyze an argument, we must reflect critically on the meaning of the discourse in which it is presented and the context in which it appears; we must reflect critically on the structure of that discourse; we must critically determine whether the premises are acceptable, using pertinent substantive information; and we must critically scrutinize the reasoning used. Doing argument analysis will surely mean doing considerable critical thinking. It would be surprising if the activity did not cultivate habits central to critical thinking, such as not taking authorities' statements for granted, looking for good reasons for accepting beliefs, identifying and examining your own assumptions and generally being on the alert at every stage. There is no dishonesty in representing courses on argument analysis and evaluation as courses that cultivate one important dimension of a fundamental kind of critical thinking.²¹ Because substantive information is also needed for argument evaluation, general logical considerations, whether formal or informal, are not sufficient for good critical thinking, and no effort to publicize critical thinking should imply that they are.

The product of critical thinking is often argument or argument analysis. Such products virtually always require the process of critical thinking. However, this approach makes too little of the fact that critical thinking is a process, typically interior, distinguishable from this product. Furthermore, except in an attenuated sense, the analysis of an argument is not the sole product of critical thinking. There are other important products too.

Some of these other products require kinds of critical thinking that are not greatly demanded by the process of argument analysis. For instance, writing a piece on nineteenth century Canadian social history would require critical thinking in which a capacity for synthesis was important. A person would have to put together various accounts of the same event, and accounts of different events and also, themes from different disciplines. To do this would require critical thinking, but a kind of critical thinking that would not be likely to be emphasized in an informal logic course. This example is still within the articulate, intellectual domain. The point becomes still more obvious if we consider what kinds of critical thinking might be needed by a good mechanic, a fashion designer, or a visual artist. The product of critical thinking may be a well-formulated question, an improved definition, a second version of a poem, a new fashion design, or a better disposable diaper. It need not be the analysis of an argument. That is one highly intellectual such product – not the only one and not, perhaps, the most important one.

What makes it particularly tempting to identify thinking critically with constructing and appraising arguments about the object of one's thoughts is that the thought that goes into the creation of products other than arguments can so easily and naturally be recast as articulate argument. If a person revises a fashion design, and thus has a product of critical thinking other than an argument or argument analysis, she has, in some way, tacitly argued against the original thought product and for the specifics of her revision. Suppose that a designer looks critically at a design and sees that the skirt would give greater freedom of movement and look better with low heels if it were just two inches shorter and an inch larger around the bottom. We can insist that, tacitly at least, she is arguing. The new design emerges from the old one because the designer has, in effect, constructed and endorsed the following argument:

1. *In the old design, the skirt is just a little too narrow to be comfortable for walking.*
2. *In the old design, the skirt is just long enough that it will look nice only with high-heeled shoes, whereas a walking skirt should look nice with low-heeled shoes.*

3. *The skirt would still be attractive if it were a little wider and shorter.*
Therefore,
4. *The skirt should be a little wider and shorter.*

By such recasting techniques, we can represent all critical thinking as argumentation. The argument represented is considered to be implicit and tacit, as necessary. This move seems right in some ways, though it is misleading in others.

Arguments are public entities; they are articulated pieces, set out so that specific reasons appear, offered as support for conclusions. Arguments are couched in just so many words. Critical thinking, however, may be less articulate, especially in some contexts. The recast argument for the fashion design necessarily omits exactly what would be crucial in the successful revision of a design: the deliberative, experiential basis for the aesthetic judgment that the skirt would look all right, or even better, when altered. This is alluded to in the third premise of the stated argument, but the words cannot fully express the sense of balance, symmetry, and appropriateness on which the judgment would have been founded.

Those hard or impossible to articulate suspicions, perceptions, impressions, and judgments may very well be a central part of critical thinking, however. We may follow an inchoate suspicion, a vague sense that somewhere something is wrong and by doing so, come up with the crucial question that reveals the faulty assumption, or the flaw in the design. Critical thinking as process is not only argument construction and argument analysis. It is more haphazard and far less articulate than that. These aspects are central to its very nature. A model of critical thinking through argumentation is very likely to underestimate the importance of those aspects. For that reason, it is to be resisted. In short, argument construction and analysis are too narrow to fully encompass what is involved in critical thinking.

The same conclusion may be drawn from the work of Richard Paul. In an influential article exploring the nature and impact of courses on informal logic, argumentation, and critical thinking, Paul expressed the concern that many students would not receive sufficient impetus to reexamine their own interests, preconceptions, and biases but would rather use the apparatus of atomistically construed argument analysis to secure their views against searching criticism. Seeing arguments as presupposing other beliefs, and constituent concepts founded upon interests and cultural assumptions, Paul urged that real critical thinking would require far more than an appraisal of premises and conclusion and the relation between them.²²

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 truthfacing 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 they have already 'rejected' and very difficult, in some cases, traumatic, to question those in which they have a personal, egocentric investment.

Paul claims that our conceptualizations and beliefs rest upon our interests. An appreciation of this and of the fact that other people can have other interests, or that our interests might change, should lead to a greater willingness to scrutinize fundamental beliefs so that we can transcend our egocentric and sociocentric prejudices. Genuine critical thinking, Paul urges, will include a

willingness to question our background beliefs and assumptions, to probe for the influence of interests, and sometimes to revise the very concepts in which we have posed our questions and problems. In the fullest sense, critical thinking would encompass a kind of epistemological psychiatry and metaphysics – psychiatry in its understanding of how our desires and interests led us to think the way we do, and metaphysics in its appreciation for radically alternative conceptual frameworks for understanding the world. This activity will clearly be more sweeping than atomistic argument analysis.

The pedagogic implications of Paul's view seem to be that critical thinking should be taught by teaching the rest of philosophy (at least). Surely its pedagogy will be broadly based, for a scrutiny of arguments is to include a study of why the questions posed are taken seriously; what competing interests bear on the problem; what alternative concepts might be used to formulate the problem; how our own beliefs, used to appraise the arguments, are founded; and much else.

This sounds like an unmanageably large curriculum, and one in which a philosophy teacher would be frequently tempted to fall back on his own 'egocentric' and 'sociocentric' prejudices in offering accounts of interests and alternatives. For instance, arguments about abortion appear in North American in a much different guise than they do in China. Which of our interests and background beliefs result in this? There are many possible hypotheses about individualism, Catholicism, Marxism, and poverty: which is or are correct is a vastly complex issue of history and sociology. (It would take a lot of high powered information and critical thinking to figure this out, granting that it is possible at all.) An infinite regress is implied here.

We may acknowledge Paul's point about the expansive scope of critical thinking without feeling entirely comfortable about the pedagogical implications of his account. A reasonable compromise would be to recognize the narrower scope of argument construction and analysis as pedagogically more manageable and responsible, while acknowledging the analytic point that argument analysis cannot exhaust the scope of critical thinking. We would thus stay away from broad psychiatric and metaphysical hypotheses while teaching argument analysis. At the same time we may acknowledge the truth of Paul's account by our recognition that argument analysis cannot be said to be all that is involved in critical thinking.

Even those disposed to use 'informal logic' and 'critical thinking' as virtual synonyms have recognized in one way or another that the term 'critical thinking' is too broad to be captured even by the broadened sense of logic that characterizes the informal logic movement. As we have seen, critical thinking requires information, and has status as a pre-articulate process that makes a full identification here inappropriate. What is sometimes proposed is, in effect, an operational definition of 'critical thinking' that would identify it with a battery of skills involving deductive reasoning, inductive reasoning, identification of fallacies, location of assumptions, spotting of poor definitions, finding of conclusions, and much else from the standard array of topics in informal logic courses.²³ Critical thinking would be defined by reference to such traditionally logical operations as finding ambiguities and fallacies, determining the deductive validity or cogency of arguments, distinguishing value judgments from factual judgments, understanding the distinction between deduction and induction, and so on.²⁴ Such a stipulative definition will, in effect, give philosophers professional status as society's experts on critical thinking, with many possible fringe benefits for employment and prestige.

There are, however, significant objections to this approach. First of all, it is misleading to the potential audience. Suppose that we admit that the concept of critical thinking is broad, and includes

not only information but pre-articulate awareness of mechanical or aesthetic factors, and synthetic or hypothesizing abilities. Then we have, in effect, conceded that what we treat in a philosophical course on critical thinking is only an important and central part of critical thinking. It is not all of it. Even argument evaluation cannot be fully taught in formal or informal logic courses, since such courses cannot, by their very nature, provide all of what is needed in the way of substantive knowledge. However rich, careful, imaginative, and useful they may be, courses that teach argument construction, analysis, and evaluation cannot cover all aspects of critical thinking. We should not adopt definitions that imply that they do.

To do so will be to encourage others and ourselves to forget what falls outside the definition. The situation may be compared with the temptation, irresistible to some psychometricians, to identify intelligence with I.Q. It will not do to operationalize intelligence as I.Q., because there are aspects of intelligence – the intelligent handling of emotionally distraught people, for instance – not covered by I.Q.²⁵ The prevalence of this operationalization reinforces society's tendency to think of intelligence in terms of verbal and mathematical ability of certain kinds, and to neglect other dimensions.

It can demoralize people with a low I.Q. and lead them to think that they are in no sense intelligent. We should learn from this experience and not encourage analogous errors for critical thinking.

Many people every day engage in critical thinking without ever having had a course on formal logic, informal logic, or philosophy. They engage in critical thinking without ever thinking to themselves that they are doing so. In this respect, critical thinking is like speaking in prose. When there are courses and 'experts' on critical thinking, such people might well be led to think that they cannot do it because they have never been taught. This kind of inference would be disempowering to say the least. The operationalization of 'critical thinking' into a list of informal logic capabilities that form a discrete academic subject that can be taught and marked is objectionable for this reason in addition to others.

Operationally defining 'critical thinking' in terms of informal logic skills, we can then teach informal logic and discover that, judging by tests based on our operationalization, students have improved their critical thinking. If we are trying to show that informal logic will improve and cultivate critical thinking, such a procedure is obviously question-begging. Alternatively, we can seek to show that a course on informal logic improves students' abilities to do informal logic. (This is likely, but not certain. A course might fail so totally that it did not even convey the information directly taught.) If we show we have taught informal logic in an informal logic course, that's fine, and will count towards establishing that we have taught critical thinking. Since informal logic and critical thinking are semantically and psychologically distinct, the first conclusion is not identical with the second. We may seek to show that a course on informal logic improves students' abilities at critical thinking, more generally defined. This seems likely, though testing it will be more difficult. What we must not do is confuse the first conclusion with the second one. This is what operational definitions of 'critical thinking' in terms of informal logic skills invite us to do.

Pedagogically the danger of too closely identifying critical thinking with argumentation skills is that other aspects of critical thinking may be neglected. A critical thinker may, in certain contexts, require synthetic, aesthetic, mechanical, or other skills that will be needed only rarely when the product of critical thought is to be an articulated argument or argument evaluation.

This is no objection to learning to do argument analysis, because doing this is useful and important in many ways. However, the construction and critical evaluation of arguments does not encompass

every dimension of critical thinking. Neither students, nor teachers, nor the public at large should be encouraged to think that it does.

Notes

This chapter has profited from discussion on an occasion when it was presented at Trent University and also from comments by John McPeck, Ralph Johnson, Tony Blair, and David Hitchcock.

1. Not quite. John McPeck has argued that it is wrong to think of abilities in this context, because there is too little transfer from one area to another. For some discussion of this point, see 'Critical Thinking about Critical Thinking Tests', below.

2. Including my own. The market potential of this move is hard to resist.

3. For McPeck's views. I am relying on his book, *Critical Thinking and Education* (Oxford: Martin Robertson, 1981); and on selected papers: 'Critical Thinking without Logic: Restoring Dignity to Information' (*Proceedings of the Philosophy of Education Society*, Vol. 37 (1981), pp. 219-227; 'Stalking Beasts but Swatting Flies: the Teaching of Critical Thinking', *The Canadian Journal of Education*, January 1984, and 'Critical Thinking and the "Trivial Pursuit" Theory of Knowledge' (unpublished paper presented at the University of Chicago in November, 1984). I am grateful to John McPeck for his cooperation in supplying me with copies of these and other works.

4. John Wisdom. in the Virginia Lectures. (Unpublished manuscript in private circulation.)

5. Nothing here is intended to rule out the possibility of generalizing over contexts, which is, indeed, implied by some of my discussions elsewhere.

6. Compare the discussion of the Discipline-Specific theory of argument in 'Is a Theory of Argument Possible?'

7. In 'Critical Thinking and the Trivial Pursuit Theory of Knowledge', McPeck makes it clear that he does not regard knowledge as a conglomeration of discrete, easy-to-look-up facts. I agree. However, he and I draw different conclusions from this position. I think that it implies that analytical critical skills are needed sometimes in order to find 'information'.

8. The biologist was interviewed on the CBC's background news show, *The Journal*, in March, 1984. He repeated the argument several times and rested his whole case upon it.

9. 'Stalking Beasts, but Swatting Flies'.

10. See Robert Ennis, 'Logic and Critical Thinking', *Proceedings of the Philosophy of Education Society*, Vol. 37 (1981), pp. 228-232.

11. The kinds of problems that arise are well illustrated in L.J. Cohen's criticisms of Nisbett, Ross, Kahneman, Tversky, and others who have done experimental work on inductive reasoning. See, for example, L. J. Cohen, 'On the Psychology of Prediction: Whose is the Fallacy?' (*Cognition* 7, pp. 385-407) and 'Are People Programmed to Commit Fallacies: Further Thoughts about the

Interpretation of Experimental Data on Probability Judgments', (*Journal for the Theory of Social Behavior* 12, pp. 251-274).

12. I do not mean to imply that experimental work should not be done on reasoning error and substantive error; my point is merely that any result would be heavily theory-dependent and not in any plain sense just 'empirical'.

13. I have argued for a similar conclusion in my review of McPeck's book. See *Dialogue* Vol. XXII. No. I, pp. 170-175.

14. Argument analysis integrates interpretive and substantive work with inference appraisal, thus including at least two stages that are not logical in any traditional sense of that term.

15. I think McPeck's concern is that people who do not seriously deny this nevertheless imply a denial of it through the way in which they and others market courses and textbooks.

16. J.A. Blair, 'Teaching Argument in Critical Thinking', *The Community College Humanities Review*, Winter 1983-4, No.5, pp. 12-29, p. 21.

17. See Richard Paul, 'Teaching Critical Thinking in the 'Strong' Sense', *Informal Logic Newsletter*, Vol. IV, no. 2 (May, 1982), pp. 2-6.

18. This is not the only such purpose. We also construct and analyze arguments for private inquiry, but this is much less common.

19. Harry Reeder, 'The Nature of Critical Thinking', *Informal Logic*. (Vol. VI, no. 2. pp. 17-22), p.19.

20. Fred Oscanyan, 'Critical Thinking: Response to Moore', (*Teaching Philosophy* 7, no. 3 (July, 1984), pp. 241-6), p. 244. In 'What is Critical Thinking About?' (CT. News. Vol. 2, no. 7) Perry Weddle also argues that the object of critical thinking is not always argumentation.

21. This claim is, of course, testable. Compare 'Critical Thinking about Critical Thinking Tests', below.

22. Richard Paul, 'Teaching Critical Thinking in the 'Strong' Sense', p. 3. See also his 'Critical Thinking in the 'Strong' Sense: a Focus on World Views and a Dialectical Mode of Analysis', (*Informal Logic Newsletter* iv, no. 2 (June 1983), pp. 2-7.)

23. Brooke Moore argues that the California Educational Order (338), requiring students in the California State University system to take instruction in critical thinking, does this, in effect. See her 'Critical Thinking in California', (*Teaching Philosophy* 6, no. 4, pp. 321-330).

24. In October, 1984, the Board of Officers of the American Philosophical Association adopted the following statement: 'The Board of Officers of the American Philosophical Association notes that teachers and educational authorities across the country have become increasingly interested in critical thinking as an educational objective. Since philosophy provides resources essential both for the development of the techniques and for education in the disciplines and habits of mind necessary to critical thinking, it is important that professional philosophers be consulted in the development of

curricula and tests in critical thinking. The American Philosophical Association urges its members to participate in such endeavours and offers to help boards of education and testing agencies identify philosophy departments, graduate programs in philosophy, and individual philosophers who can assist them in framing new tests and organizing new curricula in this area.' This statement is reprinted in the *Proceedings and Addresses of the American Philosophical Association*, Vol. 58, number 3 (February, 1985), p. 484. The report comments: 'The increased emphasis on development of basic skills in education, including reasoning skills, offers an ideal opportunity for philosophers to assist in the creation of innovative and effective programs in the schools.'

25. This point is increasingly acknowledged by psychologists. Howard Gardner's recent *Frames of Mind* (New York: Basic Books, 1983) argues for at least seven distinct human intelligences. only three of which are covered by I.Q. tests. This book has been well received and won the 1984 National Psychology Award for Excellence in the Media in the United States. Gardner distinguishes linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, and personal intelligences. In the personal area, he distinguishes responsiveness to others from self-awareness and self-direction.

CHAPTER 12.

CRITICAL THINKING ABOUT CRITICAL THINKING TESTS

With instructors feeling a need to demonstrate the effectiveness of their teaching, there are hundreds of critical thinking tests. It would be a massive task to comment on their merits; obviously this chapter is at best of limited relevance years after it was written. Given the common requirement to indicate critical thinking skills and dispositions on a mechanically scorable test of about 50 minutes in length, there are restrictions. Questions must be about fairly manageable issues requiring only limited background material and they must be worded so as not to be open to different interpretations. There are many other requirements; these alone suggest that such tests will favour invented passages. Should essay questions supplement short answer tests?

If certain sorts of questions need to be removed, more issues will arise about the scope of the tests. How would those working on argumentation studies, critical thinking, and test development today respond to such concerns? When this chapter was written, I was concerned about social and institutional demands for quickly obtainable quantifiable results that would measure something as fundamental and important as critical thinking skills. I wondered whether there was something rather absurd about the idea that people should be asked to demonstrate, in short and clear order, their capacity to think critically – and also something absurd about the notion that philosophers should engage in constructing tests to do just that. Professional interests lead to such efforts and there are hundreds of results. But there is still space for reflection about the assumptions and institutional requirements underlying them.

As I write, in the U.S. presidency of Donald Trump, there is great concern about problems of fake and allegedly fake news, media bias and distortion, ‘alternate facts’, truthiness, and confabulation. In high quarters, there seems to be little respect for facts and truth, consistency and coherency – to say nothing of decent civility. We find increased public attention to the importance of critical thinking; indeed many cry out for more of it. By implication, there should be increased attention to the teaching and cultivation of critical thinking and to the quality of related testing material. Sadly some who respond seem carelessly unaware of decades of work by informal logicians and argumentation theorists, substituting instead their own sense that they themselves are competent critical thinkers. The challenges are many and of great importance.

If we are going to claim to teach critical thinking, we will want to check out our claims. On standard accounts, this would involve testing students for critical thinking abilities or skills. If students test higher after a course than before it, we would naturally infer that the course has improved their critical thinking skills. In addition, since we value critical thinking ability, we may wish to test it as a basis for admission to occupations or educational programs. Standard testing could then be used to rate students, and critical thinking ability as thus tested could be a factor in admission decisions.

Tests to measure critical thinking have existed for three decades at least. For senior high school

and college age students, the best known are the Cornell Critical Thinking Tests and the Watson-Glaser tests.¹ The Cornell tests are at two levels – level X, which is for students as young as grades five and six and up to the high school level; and level Z, for college age students. Other critical thinking or reasoning skills tests are aimed at much younger students, in elementary schools, and some are designed to be used at various ages ranging from elementary to senior high school.

Critical thinking tests have, until recently, been given relatively little scrutiny and analysis from philosophers. Nor have they received the political attention given to I.Q. and some other psychological tests. A recent article in *Harper's* magazine, scathing in its comments on tests marketed by the American Educational Testing Service and the social attitudes generating a demand for them, had not a word to say about critical thinking tests.² Since these tests are based on the idea that critical thinking ability is something teachable and acquired by students, rather than something fixed which might be inherited and racially or sexually linked, the context in which they have been developed is radically different from that underlying I.Q. tests.³

Nevertheless, when John McPeck attacked critical thinking tests in his book *Critical Thinking and Education*, his comments received a surprised, but sympathetic response from many philosophers. A seminar on the tests, in which McPeck exchanged comments with Robert Ennis, creator of the well-established Cornell tests, stimulated considerable interest at a symposium on informal logic.⁴ Audience consensus seemed to be that the debate was fascinating and the result a draw.

Reflection on critical thinking tests brings out many interesting issues about critical thinking, argument analysis, inferring skills and abilities from results, and the implications of using machine-gradable short-answer tests for a variety of social purposes.

1. Mechanized Tests and the Concept of Critical Thinking

The concept of critical thinking is a broad and contestable one. The kind of critical thinking one might do in improving on a play or revising the fundamental assumptions of a social theory is not likely to be elicited on a mechanically scorable 50 minute test.⁵ The context is too limited for either; the focus too verbal for the former and too atomistic and temporally restricted for the latter.⁶ In teaching there is inevitably some restriction as to what is taken as critical thinking. Restrictions are bound to be greater in the context of a short-answer machine-gradeable test that can be taken in an hour or so.

Mechanically scorable critical thinking tests have to deal with articulated thought about small, easily described issues where answers do not diverge due to differences in political or ethical perspective or on the basis of varying background knowledge. Questions and illustrative material have to be minimally susceptible of divergent interpretations. They have to be clear cut and expressible in brief phrases. They cannot presume much background knowledge about any particular substantive issue unless those to whom the test is to be given can be expected to have uniform knowledge on that matter – a condition which would rarely be met in practice. The material used must not be susceptible to a variety of interpretations; interesting figures of speech, irony and sarcasm, and suggestive ambiguities will have to be avoided. Thus tests almost always use invented passages rather than real ones. From all these requirements, we can see that the construction of such tests is indeed a challenging task.

Obviously, these necessary restrictions mean that many aspects of critical thinking could not possibly be included on such tests. We cannot in such a context test for abilities to elucidate judicious value judgments about sensitive topics, to find underlying metaphysical or social assumptions, or

identify mechanical or aesthetic flaws not easily characterized in words. Nor can we handle material incorporating and exploiting subtle nuances of meaning. The format of the tests, and the social demands placed upon them, make these things impossible. These matters are too profound to be amenable to the short answer and time frame format, too controversial by nature for sufficient agreement in a key of answers, and too hard to sum up in a few words. If we value these aspects of critical thinking, we are likely to conclude that critical thinking ability is not testable by mechanical short-answers methods.

There is a distinction to be drawn between external and internal criticism of critical thinking tests. Internal criticism would focus on the details of particular tests. What range of items, within the range which can be handled by the format, is included on the test? Is the proportion of various items about right? Are instructions given in clear language? Most significantly, are keyed answers correct, and are they the only alternative answers that reasonably seem to be correct? These internal issues arise provided that one has decided to try to elicit responses in a mechanical test format and take these responses as indicative of critical thinking ability. If internal criticism should reveal flaws in popular tests, it is an important issue whether these flaws are endemic to the endeavour or whether they are, as it were, accidental. If we found flaws and decided they were of a type that could be avoided only by stringent restrictions on the content of tests, we would naturally be led to the stage of external criticism.

External criticism is broader in focus. It addresses the question of how significant those aspects of critical thinking that cannot in principle be handled on these tests are to critical thinking ability. It may address also the socio-political question as to why there is a need to attempt to measure critical thinking ability by means of a machine-gradable short-answer test and whether this need is one that philosophers and other academics should try to meet. Here, sections two and three treat internal issues, section four external ones.

2. Test Performance and Critical Thinking Ability

To reach on the basis of test performance a conclusion about someone's critical thinking ability requires a number of inferences. Interestingly, if we examine the inference stages here, there is an asymmetry between the positive and the negative case. That is, different kinds of things can interfere with the merits of an argument from doing well on a test to having critical thinking ability and an argument from doing poorly on such a test to not having critical thinking ability.

To see how this works, let us first consider the positive case. Suppose that a critical thinking test has been constructed and an individual performs well on that test. We wish, then, to reason from that good performance to the judgement that he or she has critical thinking ability. This conclusion will be based on a number of steps, which may be ordered as follows:

1. *S does Q.* (That is, S answers a high number of questions on the test correctly. This is a straight behavioral judgment; it is to say that a suitably high percentage of S's answers coincide with keyed answers.)

Therefore,

2. *S can do Q.* (That is, S is able to answer a high number of questions on the test correctly.) There are two presumptions here. The first is that the coincidence of S's answers with keyed answers is not due to fluke, accident, or cheating, but due rather to features of S. The test-taker gets

keyed answers because of some ability or mental power he or she has. This leads to the second point. The claim implies that the keyed answers really are correct answers. If keyed answers were wrong, or if they were correct but not uniquely correct, getting answer that coincided with keyed answers would not show that one can get these answers in the sense of having an ability or power to arrive at them.⁷ It would appear either to be accidental, the product of training, due to a similarity in tendency to err between the respondent and the person who constructed the test, or the result of a combination of these factors.

Therefore,

3. *S can do Q'*, where *Q'* is a set of questions similar to, but not identical with, those on the test. (That is, the questions *Q* are a subset of *Q'*, and they represent the whole set sufficiently well that being able to do them correctly is good inductive evidence that one will be able to do the rest correctly. Questions represent an array of questions and problems an array of problem types. For example, if *S* can do, on the test, some particular deductions involving class relationships, then *S* can do many further deductions relevantly similar to those presented on the test.)

Therefore,

4. *S has (a high level of) Q (critical thinking) ability.* (Given that the questions in *Q'* represent the whole array, or a very significant proportion, of questions that capture the concept of critical thinking and that *S* knows how to do questions of this type, we conclude that *S* has critical thinking ability.)

It is useful to look at this sequence of inferences and see what issues arise at various points. At the first stage, from (1) to (2), what is at issue is, in part, background circumstances pertaining to teaching and test taking and the construction of the test. It is important to note that these factors are largely within the control of teachers, professors, and test constructors, and do not pertain to personal idiosyncrasies and problems in motivation or concentration that may affect respondents. If a test is poorly constructed, someone may get a large number of correct answers by merely guessing, or by being attuned to the kind of thing test constructors are usually looking for and the kinds of constructions they usually make. To see this, consider some extreme cases. Keyed answers might fall into a pattern abba, bccb, cddc, or whatever, detected by the respondent. Or a person might have been taught to take that very test, and fill in many correct answers due to rote memory, so that the correctness of his answers did not show that he could answer even those questions he got right.⁸

The inference from (1) to (2) presumes that keyed answers are right and, among alternatives offered, uniquely right. We wish to infer from the coincidence of a subject's answers with the keyed answers that he has the ability to get these answers. The notion of 'ability' in this context is normative and contains within itself the implication that the answers are correct. The ability to answer a problem in this context is more like the ability to sing than like the ability to breathe. A person cannot breathe incorrectly, so if he breathes at all and the breathing is a product of his own powers rather than mechanical intervention, he has the ability to breathe. However, a person can sing badly or well; speaking of the ability to sing, we would typically imply satisfactory performance. Thus, from the fact that a person sings at all, it does not follow that he has the *ability* to sing, as 'ability to sing' would commonly be used in this context. Clearly, in a test context, we are concerned not merely with the capacity to understand test questions and insert answers, but with the ability to answer the test

questions correctly. To get any evidence for this from performance on the test clearly presumes that answers keyed as correct really are correct.⁹ If the test is well designed so that getting good answers is almost certainly a result of characteristics of the respondent, and if there are no contestable answers, then the inference from (1) to (2) should go through.

The second inference, from (2) to (3), raises a new issue. It concerns the representativeness of the various questions on the test. Given any question, we can construct a similar question by varying a nonessential feature. If a respondent can detect that the inference in 'If Fred is thin, he is fit; Fred is fit; therefore Fred is thin' is flawed, it would be absolutely astounding if he could not detect the same flaw in 'If Joe is thin, he is fit; Joe is fit; therefore he is thin'. Necessarily, there will be generalizations. The question will arise as to how far we can generalize – how we generate Q' from Q. Surely there would be no controversy about substituting 'Joe' for 'Fred' in the above example, but other substitutions are not so straightforward. Seeing the question as an example of faulty reasoning using a conditional, someone might suggest that anyone who could get this question right has understood the conditional and would get the right answer on 'If Jane Fonda folk dances, Jane Fonda is fit; Jane Fonda does not folk dance; therefore Jane Fonda is not fit.' Alternately, one might see the question as representative only of instances of affirming the consequent, but one might see this as independent of subject matter. Thus if a respondent could handle the initial example, he should be able to handle the formally similar one, 'If mermaids are mathematicians, mathematicians have tails; mathematicians have tails; so mermaids are mathematicians.' Alternatively, one might see the question as similar to another instance of affirming the consequent where component statements were more complex and involved a more abstract subject matter, as in 'If science and philosophy have the same essential structure, then, if science is partially empirical, philosophy is partially empirical. If science is partially empirical, philosophy is partially empirical. Therefore, science and philosophy have the same essential structure.'

Probably most logicians would be comfortable with the first two variations as members of Q' but uncertain about the third. Psychological evidence is surely relevant here, however. It is possible that formally similar examples, even at the same level of formal complexity (as the first two variations are and the third variation is not) are not handled similarly by most test respondents. The second example includes counterfactual material of a bizarre nature, which might confuse respondents. In fact, even the initial example, involving thinness and fitness, is emotionally charged in our culture in a way some other examples of affirming the consequent would not be. It might for this reason be assimilated to other cases of reasoning clearly on emotional material. Psychological evidence indicates that the expectations of logicians in this area are frequently not met. People may be clear on conditional relationships when they deal with familiar, unthreatening subject matter, yet handle them badly when they move to unfamiliar, highly emotional, or highly abstract subject matter.¹⁰

Thus, the generation of Q' from Q depends on both logical and psychological considerations. *It is a logical judgment that two examples embody the same logical principle. It is a psychological judgment that someone who can grasp and apply this principle to the first example can do so with the second.* Possibly logic and psychology will diverge in unexpected ways. Perhaps people will be able to detect affirming the consequent when the example is mathematical and the conclusion reached false, but not when the example involves health and nutrition and the conclusion represents a widely held and socially powerful belief. Or perhaps people who easily detect persuasive definitions in contexts of advertising will not detect them in contexts of political speeches by authoritative figures, even though their logical structure is essentially the same in both cases. These questions are empirical.

The next and last inference, from (3) to (4), will depend on how representative the questions in Q'

are of issues calling for critical thinking. If we specify a list of all the kinds of things a critical thinker should be able to do¹¹ and compare Q' with such a list, then the inference from (3) to (4) will depend on how close the comparison is. Suppose, for example, that we decided we wanted a critical thinker to be sceptical about the most fundamental metaphysical and political assumptions of our society, and we wanted him or her to have a disposition to apply this kind of scepticism even within daily life. This *desideratum* would likely not be captured by Q. So if we had such an element as an essential part of our concept of critical thinking, we would regard the inference from (3) to (4) as shaky, first conceptually, and as a result, inductively. If, on the other hand, we were to define critical thinking as the ability to do deductive and inductive inferences, evaluate analogies, identify fallacies, and detect vagueness and ambiguity, we might easily find all these aspects in Q'. The inference from (3) to (4) would appear strong. The concept of critical thinking is an essentially contestable one, so this inference is bound to be questionable.

It is instructive to compare the series of inference steps just explored to a parallel series premised on poor test performance.

(x1) *S does not do Q.* That is, the respondent does not answer (most) questions correctly. Again, this is a straight behavioral judgment. There is a discrepancy between the answers the test-taker gives and the keyed answers.

Therefore,

(x2) *S cannot do Q.* This is to say that the respondent fails to answer correctly because of some aspect of his or her capacities pertaining to the questions. The failure is not due to rebelliousness, sleepiness, accident, lack of attention, misreading of instructions, or flaws in questions.

Therefore,

(x3) *S cannot do Q'.* The questions S cannot do on the test are taken to represent a broader range of questions, and S's inability to do them indicates inabilities in this broader area as well.

Therefore,

(x4) *S has little critical thinking ability.* Questions in Q' represent a core area of critical thinking ability, and S is unable to do them, so he or she is a poor critical thinker.

A very important asymmetry occurs with the first level of inference here. As in the positive case, things may go wrong. But there is a difference in that what can go wrong includes aspects of the respondent and his or her situation, things outside the control of test constructors and professors. If a respondent got drunk the night before, or is feeling rebellious and wants to undermine the instructor by indicating that he did not learn anything in a course, he can put incorrect answers for reasons that having nothing to do with his inability to get the answer right. The inference from (x1) to (x2) might fall down due to flaws in test construction. In fact, this seems more likely in the negative case than in the positive one. To get a whole series of things right by accident on a test is inductively unlikely; to get a whole series of things wrong by accident much more likely. (One might, for example, misread a crucial word in a set of instructions applying to a large section of the test, or code in answers in the wrong place.) Thus it seems that the inference from having a high score to being able to do the questions is in general stronger than the inference from having a low score to not being able to do them. There are fewer ways in which the former can go wrong, instructors and testing professionals

have more control over these factors, and the pertinent circumstances are less likely to arise in real life.

The next stage is closer to the positive case: the inference from (x2) to (x3) depends on the same kinds of factors as that from (2) to (3). In both cases, what is at issue rests on both logic and psychology. How similar are the further cases in a logical sense, and how likely are people to transfer their competence?

As for the last inference, here the negative inference is stronger than the positive one. This is because the contestability of the concept of critical thinking affects it less. To see this, we recall that there is really no disagreement about certain minimal aspects of critical thinking. The disagreement comes when we consider what should be added to these. Should we add having background information on a variety of subjects? Should we add the ability to do fundamental social criticism? Should we add the ability to synthesize diverse accounts? To make apt analogies between apparently disparate areas? To question the social and political implications of standard linguistic usage? To detect aesthetically inappropriate elements? The possibilities seem to extend indefinitely. For anyone who wants a long list, an inference from (3) to (4) will seem doubtful. The term 'critical thinker' is to some extent honorific, and we may not wish to allow the title to someone who shows only finite and determinate competence on a short-answer test. On the other hand, on virtually any account of critical thinking, deductive competence, linguistic sensitivity, inductive competence, and the ability to detect fallacies will constitute minimally necessary conditions of critical thinking. If a person lacks these, he or she is not a critical thinker, no matter what else this person can do. In the negative case, once we move beyond the first stage, things go more smoothly than in the positive case. However, the crucial first stage inference is more questionable.

Philosophical issues enter at every stage, and psychological ones at least at the first two. The philosophical issues fall into three main areas: the correctness of keyed answers; the determination of the range of problems represented by the test set; and the extent to which ability to do problems in that range represents critical thinking ability. Critical thinking tests will be inadequate from a philosophical point of view if a substantial portion of keyed answers are not uniquely correct, if the set of problems represented by the test set is too restricted even for the range the test purports to cover, or if that range of sub-areas is insufficiently broad. They will be inadequate from a psychological point of view if they are not constructed so as to preclude such things as getting many right answers by guessing, or being sent into a panic by instructions. More interestingly, they may be psychologically inadequate if the set Q' is generated from the set Q with insufficient attention to normal competence in matters of transfer. There are, of course, further psychological issues. Since I cannot presume the competence to assess critical thinking tests from a psychological point of view, I shall concentrate on philosophical questions here.¹²

3. Content Analysis of Several Popular Critical Thinking Tests

3a. The Watson-Glaser Test

The Watson-Glaser Critical Thinking Appraisal is widely used. Circulated by the well-known Psychological Corporation, it has been an established pedagogical and evaluation tool for some decades. Two different tests are available; Form A and Form B. Comments here apply to Form A.¹³ The test has 80 questions, which are to be done in 50 minutes. It is divided into five equal sections. The first section deals with inference; the respondent is to decide on 'the degree of truth

or falsity [*sic*] of the inference', given some facts. Statements are made; the respondent is to assume that these are true and then say whether a further statement is true, probably true, left undetermined, probably false, or false, given the stated claims.¹⁴ The second section involves recognizing assumptions, which are defined in the instructions as something that is presupposed or taken for granted. From examples given, it appears that deductively required assumptions and pragmatically required assumptions are both included. The third section is about deductive inference; statements are made and respondents are to say whether other statements follow necessarily from these. The fourth section, though called interpretation, appears to overlap considerably with the first one. The respondent is given some statements and asked to say what 'follows logically beyond a reasonable doubt from the information given'; thus deductive and (presumably) strong nondeductive inference are involved. The only difference between this section and the first is that here respondents make a 'yes' or 'no' answer; thus the fourth section calls for fewer discriminations than the first one. The last section is about the evaluation of arguments. Here again, it is inference or 'reasons for and against' that is in question. Respondents are to 'regard each argument as true'; that is, they are not to question the merits of arguments on the grounds that false or unlikely claims are contained within. The point is to determine whether, if true, the claims made in the argument would prove strong or weak reasons for a further claim.

The wording of some of these instructions would make any philosophically educated person cringe.¹⁵ The test is full of logical horrors such as 'Examine each inference separately and make a decision as to its degree of truth or falsity'; 'For an argument to be strong, it must be both important and directly related to the question'; 'for the purposes of this test, you are to regard each argument as true'; 'Try not to let your personal attitude toward the question influence your evaluation of the argument, since each argument is to be regarded as true'; and 'When the word 'should' is used as the first word in any of the following questions, its meaning is, 'would the proposed action promote the general welfare of the people of the United States?'.¹⁶

One might defend such wording on the grounds that the test is intended for use by people who are not philosophers and are not philosophically educated.¹⁷ One might urge that speaking of the truth of arguments, degrees of truth, inferences as being conclusions and so on will not be misleading. However, there are several problems with this defense of the test. First of all, it is not necessary to employ such expressions in order to communicate with non-philosophers. Instructions in some other tests do not employ such expressions on respondents, and they are perfectly comprehensible nevertheless. Secondly, the serviceability, of these logical innovations is in question. Thirdly, the instructions will be confusing to anyone who has studied logic or theory of knowledge, even at quite an elementary level. Since the test is supposed to be adequate for college students generally, this is a mark against it. The direction to interpret 'should' in terms of interests of the United States indicates an ethnocentrism which is entirely contrary to genuine critical thinking within the United States, and which makes the test quite unsuitable for use outside the United States.

There are problems that are approachable in the short-answer format but that the Watson-Glaser test rather mysteriously omits altogether. These include at least the following: reasoning by and about analogy; fallacies, both formal and informal; judging credibility of sources; definitions in context; sensitivity to ambiguity, vagueness, and emotionally loaded language; reasoning about and to explanations; causal reasoning and empirical confirmation in experimental contexts. This is a substantial list.

The Watson-Glaser test seems especially narrow when we consider these omissions in the context

of the very considerable duplication that exists between sections. Sections 1, 3, and 4 are extremely similar. Section 3 restricts itself to deductive inference from given statements; sections 1 and 4 include deductive inference and strong probabilistic inference as well. The different titles for the sections, 'Inference', 'Deduction', and 'Interpretation', disguise the fact that very similar questions appear in each.

Further problems arise when we come to consider specific questions and keyed answers. Of the 80 questions, eleven are questionable, on my judgment. Some illustrations are discussed below.

Question 15. (From 'Inference' section: respondents are to say whether, given the initial statements, the further statement is true, probably true, insufficiently determined by the data, probably false, or false.)

'Some time ago a crowd gathered in Middletown to hear the new president of the local Chamber of Commerce speak. The president said, 'I am not now asking, but demanding, that labor unions now accept their full share of responsibility for civic improvement and community welfare. I am not asking, but demanding, that they join the Chamber of Commerce.' The members of the Central Labor Unions who were present applauded enthusiastically. Three months later all the labor unions in Middletown were represented in the Chamber of Commerce. These representatives worked with representatives of other groups on committees, spoke their minds, participated actively in the civic improvement projects, and helped the Chamber reach the goals set in connection with those projects.'

'Some of the Chamber of Commerce members came to feel that their president had been unwise in asking the union representatives to join the Chamber.'

The keyed answer is that there is insufficient data. However, on best explanation grounds, the answer 'probably false' would seem defensible. The key can be defended on the grounds that we are only supposed to consider the given facts. However, in order to avoid the inference that members of the Chamber of Commerce will be glad to have union participation, we have to suppose that they are not glad to have had their projects and goals so successfully completed. This supposition seems very unreasonable.

Question 16. (Same section, same instructions; same passage as in question 15.)

'The new president indicated in the speech that the town's labor unions had not yet accepted their full responsibility for civil improvement.'

The keyed answer is 'true'. However, the answer 'probably true' seems preferable. The difference hinges on the distinction between entailment and pragmatic, or conversational, implication. The president has demanded that unions now do their share. This strongly suggests, but does not entail, that he thinks they did not previously do their share. We are asked whether the president 'indicated' in his speech that they had not yet accepted full responsibility. There is an indeterminacy in 'indicated' that compounds the problem here. If we are being asked whether the president said outright that they had not yet accepted full responsibility, the answer is no. Yet if we are asked whether he strongly suggested, implied, or virtually said it, the answer is 'yes'. Standards for what we are entitled to infer seem looser for question 16 than for question 15.

Question 28. (From the section on assumption; respondents are to say whether an assumption is made – taken for granted or presupposed – by a person who makes a sample statement.)

Statement: 'I'm traveling to South America. I want to be sure that I do not get typhoid fever, so I shall go to my physician and get vaccinated against typhoid fever before I begin my trip.'

Alleged Assumption: 'Typhoid fever is more common in South America than it is where I live.'

The keyed answer is that this assumption is not made. We can see how this answer is defensible, for one might believe typhoid was only equally common in South America than in the place where the person lives, and he might want the vaccination in any event, for his trip. (This seems unlikely, but is possible.) However, the instructions do not tell us to restrict ourselves to assumptions that are necessarily made. A natural explanation, the 'best' by many standards, of wanting this vaccination would be in terms of the belief that typhoid is more common in South America than at home; hence it would, by this type of inductive reasoning, perhaps be defensible to answer that the assumption is made.

Question 31. (Section on assumptions; same instructions as for question 28.)

Statement: 'If war is inevitable, we'd better launch a preventive war now while we have the advantage.'

Alleged Assumption: 'If we fight now, we are more likely to win than we would be if forced to fight later.'

The keyed answer is that the assumption is made. Standards seem to be different here than in the previous two questions. There, a natural assumption was 'not made' because an alternative could be envisaged. Here, an alternative is easily envisaged, but the assumption is said to be 'made' nonetheless. One might assume that we have an advantage now and we may or may not have one later; this is to say not that we are more likely to win now, but that we have a relatively sure thing now, whereas the future is unknown. This view allows that in the future we might, in fact, be more likely to win, but we would not want to gamble on that prospect now. This assumption could equally well underlie the reasoning; as it is more restrained and attributes to the speaker a more modest claim to future knowledge, it is arguably more charitable in a real case to attribute it to a speaker. Again, the problem would be eliminated if we had been asked to find assumptions that were necessarily made.

Question 78. (From the section on Evaluation of Arguments. One is to assume that 'arguments are true', and rate them as strong or weak.)

Issue: Should pupils be excused from public schools to receive religious instructions in their own churches during school hours?

Proposed Argument: 'Yes: religious instruction would help overcome moral emptiness, weakness, and lack of consideration for other people, all of which appear to be current problems in our nation.'

Respondents are supposed to deem this argument strong. If we grant the claims, it would be a strong reason to have religious instructions, but not a strong reason to have it by excusing pupils to go to church during school hours.

On the basis of this content analysis, the Watson-Glaser test does not fare well. Its range is narrow, even allowing for the fact that some aspects of critical thinking are not within the scope of short-answer tests. Its instructions are philosophically garbled in an unnecessary and unhelpful way. Within the covered range, there are many contestable items; more than ten per cent of the total items are of this type. If students improve scores by 15 or 20% from a pre-test to a post-test, little can be inferred, because they may merely be more in tune with the test writers on contestable items on

the latter occasions than on the former. If one student surpasses another by 15 or 20%, a fact which would surely be taken as relevant were the tests used for admission decisions, the higher score may reflect little more than luck or accord with testers' background or prejudices. The proportion of contestable items is too large. Furthermore, some problematic aspects of instructions are so extreme that genuinely critical thinkers might become positively angry with the test and thereby do badly. Willingness to go along with the instruction to interpret the word 'should' in terms of the welfare of United States citizens is surely inversely related to any capacity for critical thought and analysis.

3b. The Cornell Level Z Test

The Cornell Level Z test is another test of great interest. It is designed for students at the college level and is the product of years of thought by a well-known logician. In addition, it is of special interest because of a recent expert study done in the spring of 1983. Test author Robert Ennis invited a number of informal and formal logic teachers to do the test and wrote an analysis of their responses.¹⁸ The 1985 version of the test is very similar to the 1983 version, so the answers apparently did not reveal any serious flaws in the test – or so the testers judged from the experts' responses.

The Cornell Level Z Test consists of 52 questions to be done in 50 minutes. Respondents are advised that the test is 'to see how clearly and carefully you think'. They are told to avoid wild guesses, though to make shrewd guesses, if they have some good clues bearing on the answer. There are seven sections in the test. The first section tests deductive consequence and contradiction. Most of the reasoning is syllogistic in nature, not propositional or modal. The manual for the tests notes that questions are set in strong value-laden contexts, so that there is an emphasis on being able to reason neutrally with suggestive content. This section contains ten questions. The second section is about faults in reasoning, if we take the test instructions for respondents at face value, and about 'semantics', according to the manual. It tests for emotionally loaded language, arguments and claims that trade on ambiguity, and tacit persuasive definitions. There are several false dichotomies and one hasty inductive generalization. The greatest emphasis is on problems due to the use of language; this section contains eleven questions. The third section asks respondents to comment, given a specified evidential situation, on the 'believability' of statements. The manual indicates that it is about credibility. 'Believability', the term used in instructions, would seem to indicate that respondents should consider both the credibility of people as sources of knowledge and the plausibility, given substantive background information, of the claims they make. This section contains four questions.¹⁹

The fourth section of the test deals with inductive confirmation reasoning by describing an experimental situation, and getting respondents to comment on the implications of empirical results for an experimental conclusion. The manual indicates that best-explanation criteria are to apply in judging the items. The section has thirteen questions. The fifth section again has to do with inductive experimental reasoning, but has a somewhat different thrust, in that respondents are to comment on the logical significance of various predictions. The manual indicates that it is about planning experiments. Respondents are to comment on which sort of experiment would have the greatest epistemic usefulness in a described situation. Four questions deal with this aspect. In the sixth section, the focus is primarily on word meaning, how words are implicitly defined on the basis of their use in a given context. Four questions are given.

In the seventh and final section, respondents are to comment on unstated assumptions behind arguments and remarks. The problem is construed in a deductivist way: missing assumptions are those that, when supplied,

will make a conclusion logically follow from stated premises, or an *explanandum* logically follow from stated *explanans*. There are six questions here.

Clearly, the scope of the Level Z test is considerably broader than that of the Watson-Glaser test. But still, reflecting on its content in a general way, we can see a number of features of argumentation, reasoning, and critical analysis that might have been, but were not, included. There are no questions that call for judgments of relevance. There are none about analogies. There are none that deal with conductive (cumulation of factors) arguments, calling for considering the significance of pros and cons. Despite the presence of a section said on the test to deal with faulty reasoning, a number of fallacies make no appearance on the test. Straw man, *ad hominem*, the argument from ignorance, guilt by association, such deductive fallacies as denying the antecedent, and many others are entirely omitted. There is no section addressed to the interpretation of discourse, and attempting to elicit respondents' abilities to distinguish what was said from what was not said. (Missing assumptions could have been treated in this context.) No real passages are used. All material has been invented for the test; presumably this is to ensure maximum clarity and neutrality. No section tests ability to subsume cases under stated principles. Within the deductive section, there is no material pertaining to propositional or modal logic; only class relations are tested. Nor is there any testing of general sense of argument structure – whether one or two conclusions are drawn, whether there are subarguments, or whether premises are linked or bear separately on the conclusion.²⁰

If we look at the content of the test, it seems to have been constructed on the basis of a broadly positivist theory of argument. This should not be surprising, in the light of the prominence of that particular theory, especially among philosophers. Inductive reasoning is included, despite its greater difficulties for the tester, and is apparently construed as involving confirmation in experimental contexts and credibility reasoning pertaining to sources of information. There are many questions that call for sensitivity to language – ambiguity, tricky use of definitions, and meaning in context. There are questions on deductive relations, primarily consequences, consistency, and inconsistency. Nevertheless, independent scholarly thought, practical decision-making, judging actual arguments, and participating competently in debate surely require judgments of relevance and a good sense of classification so that stated principles can be properly applied. Legal and moral reasoning depend heavily on analogies, as does the use of models in scientific reasoning. In addition, analogy is a powerful rhetorical device, and the basis of many deceptive arguments. A sense of underlying argument structure can be very important for critical evaluation, as when one premise in an argument is false, and we need to look to see how this affects the cogency of the rest of the argument. Any ability to do this is untested, though it would seem in principle amenable to inclusion on a test in this format. It seems strange to include a section on faulty reasoning and yet pay so little attention to fallacies. There is much attention to abuse of language in the section on faulty reasoning, while fallacies as traditionally construed scarcely appear.²¹

So far as the questions posed and keyed answers are concerned, despite great care and willingness to elicit expert criticism, contestable items remain on the Cornell Level Z (1985). Different analysts would no doubt differ on this matter – a fact that is itself of some significance. My own scrutiny of the test and keyed answers left me with some concerns as to seven questions, nearly fifteen per cent of the total.²² Here are details for some examples.

Question 12. (In the section on faulty reasoning or, as described in the manual, 'semantics'.)

DOBERT: *I guess you know that to put chlorine in the water is to threaten the health of everyone of Galltown's*

citizens, and that, you'll admit, is bad.

ALGAN: What right do you have to say that our health will be threatened?

DOBERT: 'Healthy living' may be defined as living according to nature. Now we don't find chlorine added to water in nature. Therefore, everyone's health would be threatened if chlorine were added.

Pick the one best reason why some of this thinking is faulty.

- A. Dobert is using emotional language that doesn't help to make his argument reasonable.
- B. Dobert's thinking is in error.
- C. Dobert is using a word in two different ways.

The keyed answer is C. Clearly this makes sense, because Dobert's first comment would appear to use 'health' in the ordinary sense as meaning absence of disease, and his response stipulates a special meaning. However, A is also a reasonable answer, because 'nature', which figures in the stipulative definition, is an emotionally positive term. Also, we merely infer that Dobert's first use of 'health' is our ordinary one. Thus, our evidence that a word is used in two different senses could be said to be less convincing than our evidence that Dobert uses emotional language that doesn't help make his argument 'reasonable'.

Question 14. (Again, from the section on faulty reasoning or 'semantics'.)

DOBERT: I understand that you look on this thing as an experiment. I'm sure that the citizens of Gallton don't want to be guinea pigs in this matter.

ALGAN: This is a demonstration. Nobody ought to object to a demonstration, since the purpose of a demonstration is not to find out something, but rather to show us something that is already known. An additional value of this demonstration of chlorination is that its purpose is also to test for the long-range effects of chlorination on the human body. This objective of the demonstration is a worthy one.

Pick the one best reason why some of this thinking is faulty.

- A. Algan has now shown that knowing the long-range effects of chlorination is a worthy objective.
- B. Algan is using a word in two ways.
- C. There is an error in thinking in this part.

Here B, which is the keyed answer, does in fact seem correct. The problem is that we might be able to defend A as an answer, and whether we can depends in part on how broadly the expression 'faulty thinking' is interpreted, Algan does just assert that finding out the long-range effects of chlorination on human bodies is worthwhile; he offers no evidence for that claim. Analyzing his argument, we could point out his inconsistent and stipulative use of the word 'demonstration'. We could also point out that this claim about long-range effects is rather problematic; it could even be branded as question-begging in the broader context. If thinking involves mainly reasoning, then this answer is out of order. However the concept of thinking underlying the section seems to be a broader one. In any case, respondents could well be confused by this potential ambiguity.

Question 32. (From section four, on judging inductive inference to conclusions.) *The background*

information given concerns an experiment in which some ducklings, of three different types, were fed regular diet, and some were fed regular diet plus cabbage worms. In the latter group, seventeen were dead, four were ill, and one was healthy at the end of a week; in the former group, one was dead, three were ill, and eighteen were healthy. The question is how the added information would affect the conclusion drawn, which was that cabbage worms are poisonous to ducklings. Respondents are to choose between:

- If true, this information supports the conclusion.*
- If true, this information goes against the conclusion.*
- C. This information does neither.*

It is discovered that during the original experiment the regular-fed ducklings had less sunlight than the worm-fed ducklings. It is not known whether or not the difference in amount of sunshine would have an effect on the health of ducklings.

The key states that this additional information would count against the conclusion, because ‘the differences in sunlight might explain the difference in results.’ The advice to respondents, that it is not known whether difference in sunlight affects the health of ducklings, is probably inserted so as to avoid respondents appealing to the common belief that sunlight is generally healthy. Using this belief, we would arrive at C as the answer, or possibly even at A. (We might reason that since sunlight makes for health, and worm-fed ducklings die more even with more sunlight, the good effects of the sun are countered by a bad effect – which must be that of the worms.) The answer given seems then to be correct, provided that our background beliefs about sunlight and health are ignored. But that may be difficult to do. Whether it is logically correct to ignore such fundamental background beliefs in the context of inductive reasoning about health is questionable.

Question 45. (From section 6, on definition and assumption identification.)

‘What are you making with that dough?’, asked Mary’s father.
‘Dough!’, exclaimed Mary. ‘Did you ever see anything made with yeast that was baked immediately after it was mixed? Naturally not,’ she said as she put the mixture into the oven immediately after mixing it. ‘Therefore, it’s not dough.’
Of the following, which is the best way to state Mary’s notion of dough?

- A. Dough is a mixture of flour and other ingredients, including yeast.*
- B. Dough is a mixture of flour and other ingredients, not baked immediately.*
- C. Dough is a mixture of flour and other ingredients, often baked in an oven.*

The keyed answer is A. The explanation in the key reads, ‘Mary’s reasoning is that the mixture is baked immediately, so it is not made with yeast; so it is not dough. The selected definition fills the gap between the subconclusion and the final conclusion.’

The problem here is that Mary focuses on two things: the inclusion of yeast, and the idea that when yeast is included, if the resulting mixture is put into the oven immediately, it is not dough. She is defining what is not dough, rather than what is dough, really, saying that if x contains yeast and x is

baked immediately, then x is not dough. (If Y and I then not D.) Contraposing, we get a definition of dough, perhaps; at least we get two necessary conditions, if it's dough, then it does *not both* contain yeast and go into the oven immediately. (If D then either not Y or not I.) No answer says this. The 'right' answer requires that we see Mary as offering a two stage argument, but there is nothing in the passage quoted to indicate that she is doing this. The question is extremely confusing. The matter is made worse for those familiar with baking, in that the ordinary language sense of 'dough' is much looser than Mary's. (No doubt this is why the emphasis is put on Mary's sense of the word, in the statement of the question.)

The Cornell Level Z test seems superior to the Watson-Glaser test in a number of respects. It has a wider range, including inductive-confirmation and explanatory reasoning, and semantic matters. Instructions are stated clearly – without either deviating from or obscurely trading upon standard logical terminology. The test has been open to expert scrutiny, and its author is sensitive to academic disputes that bear on its content. Nevertheless, there are important criticisms to be made, even from an internal point of view. Contestable items remain, despite great care. Important aspects of reasoning and argument evaluation essential to critical thinking are not covered by the test, even when such aspects would appear to be manageable within the restrictions of the format.

4. Concluding Comments

The two most widely used critical thinking tests would seem rather imperfect, then, although the Cornell Level Z Test seems far better than the Watson-Glaser test with regard to breadth and philosophical cogency of instructions. The number of contestable items in either case is significant when we consider the purposes for which these tests are used. These are observing improvement or non-improvement in a class as a result of teaching and comparing that improvement or non-improvement with a control group; and comparing individuals' tested critical thinking abilities for admission or employment decisions. In either case, a difference of 15% in score would surely be seen as very significant. And yet both tests have 15% contestable items and hence, a possible variation in this range that is due not to critical thinking ability but to something else.

Referring back to the inference levels discussed in section two above, the contestability of some items on the test will affect not only the first inference, from the coincidence of a respondent's answer with the keyed answer to his or her being able to get that question right, but the second inference, from a respondent's getting some question right according to the key to his being able to answer a related set of questions correctly. This is because if the keyed answer is not uniquely right (but is instead, either wrong, or non uniquely right, as has been argued for some items on these tests), then resolving the question as indicated in the key is a poor indicator that one would resolve a formally (and, where relevant, psychologically) similar instance in the same way. If test constructors are not aware of the ambiguity – which presumably is the case – then they will not see a particular response to that ambiguity as being part of the explanation for respondents answering in the way they do. This being the case, they will not take it into account in generating set Q' from set Q; Q' will be generated in an unreliable way.

As was noted, many aspects of critical thinking are not covered on these two tests. This is true even if we consider critical thinking in a fairly narrow framework, restricting ourselves to the context of articulated criticism of inferences and arguments. It is still more obvious, of course, if we adopt a broader conception of critical thinking. Many of the aspects of critical thinking still within the argument analysis area, such as various fallacies, questions regarding relevance, issues of discourse

interpretation, and senses of argument structure, seem amenable to mechanical testing. And yet probably if such topics as relevance and analogy had been included, the number of contestable items would have increased.

There seems to be a dilemma here. Contestable items might possibly be eliminated from critical thinking tests altogether, but if they were, this would surely be at the cost of great restriction in the scope of these tests. Already such tests necessitate restriction to short illustrations, to invented material, to fairly straightforward wording, to domains where background knowledge and value judgments do not crucially affect judgment, to issues that can be quickly summed up, and so on. It is likely that some omissions are due not to the fact that test authors regard the material as irrelevant to the nature of argument and critical thinking, but because the construction of noncontestable short-answer questions in those areas is either difficult or impossible.

It is instructive, at this point, to compare the scope of the Cornell Level Z Test with a recent curriculum statement by Robert Ennis. Ennis provides an excellent and extensive list of abilities that it would be desirable to cultivate in a course on critical thinking. Examining this list, and comparing it closely with his own test, I found many aspects not covered by the test. These include the ability to identify and formulate questions; seeing similarities and differences in argument; identifying and handling irrelevance; summarizing material; handling tables and graphs; arriving at value judgments after considering alternatives; weighing, balancing and reaching a decision in a value context; defining a problem when one has to decide on an action; and presenting a position orally or in writing, using appropriate logical and rhetorical strategies. These and a number of other aspects Ennis included are not covered on his test. Many could not be, due to the restrictions dictated by the format or to the great unlikelihood of avoiding contestable items, or both.

The range of the Watson-Glaser and the Z level tests seems narrow. It is narrow in comparison with Ennis' admirable curriculum proposal, and it is narrower still when we consider the broader psychological and socio-political aspects emphasized by Richard Paul. Given this, the last stage of inference, from being able to do questions of the type covered on the test to having critical thinking ability in some sense general and wide enough to be of genuine interest and importance, will be questionable. As noted earlier, this will be more questionable in the affirmative case than in the negative. If someone does well on a test with narrow range, that will not give good evidence for his having general critical thinking ability; whereas if he does poorly on such a test, it is more likely that he really does lack the ability – granting, of course, the earlier stages of inference.

The dilemma that arises here is a perfectly obvious one. By greatly narrowing the scope of tests, we might be able to eliminate contestable items, thereby strengthening the inference that what respondents do on the test reliably indicates their ability to do an appropriately generated set of related problems (problems of the same type). However, by narrowing the range, we weaken the inference from their being able to do these things to their being critical thinkers. Too many aspects central to critical thinking will have been omitted from the test. On the other hand, the scope of tests could be greatly broadened, using something like Ennis' proposed curriculum – perhaps with inspiring amendments from Richard Paul and others – as a base. If this were done, contestable items would undoubtedly increase, and the earlier inferences would correspondingly weaken.

It seems to be a no-win situation. This tension is not merely the result we would expect on the basis of armchair analysis, but is corroborated by what we found in the Cornell Level Z Test. The test has been carefully constructed by conscientious experts and is relatively limited in scope; yet it still retains approximately 15% contestable items.

A possible response to this problem is that it is apparent, but perhaps not real. Until people have tried hard to construct tests, based on a broad range of items, with zero or very low contestability, we are not in a position to conclude for certain that such a thing cannot be done. One might argue that those who criticize existing tests should, perhaps, be working hard to improve them or to invent new ones.

This response raises broader questions about the role of machine-gradable short-answer tests and the interests they serve. If we regard their role as benign or neutral, and the interests they serve as legitimate, we may think that it is important to try to broaden and strengthen these tests. If, on the other hand, we see the tests as an expression of a general desire to sum up personal differences in a quantitative fashion, in the interests of apparently authoritative bureaucratic decision-making, we will have a quite different attitude. Why do we have critical thinking tests? How much do we need them? How important is it to make them accurate?

If we wish to test for critical thinking, but are willing to relinquish the requirement of short answer so-called objective tests, we could try to test ability by essays or interviews, or a combination of these with short-answer tests. Such procedures would also, of course, have their flaws. For instance, interviewers or markers might differ in their skill or in their

interpretive assumptions, leading to unreliable results. A major problem with such procedures would be that of cost. The 50-minute short answer test, markable by computer, has obvious practical advantages. Society so often demands quantifiable results, obtainable cheaply, in a relatively short time. Lobbying for courses, programs, fellowships, and grants is facilitated if one can appeal to results presented in this way, on the basis of 'objective' tests. Nevertheless, we have seen fundamental problems with these tests.

Is there is something rather absurd about a society that seeks numbers based on short pencil-and-paper encounters to represent such fundamental, profound, and wide-ranging human abilities as critical thinking? Is there perhaps also something absurd about philosophers claiming expertise in critical thinking helping to pursue this questionable ambition?

If critical thinking tests have serious theoretical liabilities, philosophers and psychologists should not be relying on them for significant group or individual decisions. Nor should they be encouraging other people to do so. The supposed need for such tests comes from interests of bureaucratic efficiency and academic-political lobbying, not from truly educational, philosophical, or critical interests. Furthermore, as argued in detail here, one is caught in a trade-off situation with these tests.

Perhaps the way out of this dilemma is to refuse the task and use what critical thinking abilities we have to resist those forces in society that demand a single number, obtainable after a 50-minute computer-scorable examination, to represent critical thinking ability.

Notes

I appreciate the help I have had from Robert Ennis, Matthew Lipman, Stephen Norris, and John McPeck in obtaining materials on which this discussion is based.

1. These are the most widely used among college level students. Several other common tests are used mainly for younger students from fourth or fifth grade to high school level. One is more specialized, focusing solely on students' abilities to appraise authoritative sounding observational statements. Several tests, including the Ennis essay style critical thinking test. were reported to me to be out of

print by their publishers in March, 1985. (In the case of the Ennis tests, this later turned out not to be correct.)

2. See David Owen, '1983: The Last Days of ETS', *Harper's*, May 1983, pp. 21-37.

3. The links between the development of early IQ tests and nationalistic, racist, and sexist attitudes are vividly described and documented in S.J. Gould's *The Mismeasure Of Man* (New York: Norton, 1981).

4. The papers presented at the symposium were both subsequently published in *Informal Logic*. See John E. McPeck, 'The Evaluation of CT Programs: Dangers and Dogmas', *Informal Logic* Vol. VI, no. 2 (July 1984), and Robert H. Ennis, 'Problems in Testing I L/CT/Reasoning Ability', *Informal Logic*, Vol. VI, no. I (January 1984).

5. Compare 'Critical Thinking in the Armchair, the Classroom, and the Lab'.

6. Minimum requirements may be amenable, though fully adequate requirements are not.

7. Compare Don Locke, 'Natural Powers and Human Abilities' (*Proceedings of the Aristotelian Society*) Vol. 74 (1973-4), pp. 171-187 and 'The 'Can' of Being Able', *Philosophia* (Israel), Vol. 6, pp. 1-20. (March 1976.) See also W.E. Cooper, 'On the Nature of Ability', *Philosophical Papers*, Vol. 3, (October 1974), pp. 90-98.

8. Teachers can probably avoid teaching to the test by being alert and conscientious. Conspicuous patterning such as that illustrated in the text can easily be avoided by conscientious test constructors. More subtle cues may be harder to avoid, however. In his caustic article on the ETS, David Owen reports that colleagues at *Harper's* who were accustomed to taking SAT tests were able to answer a substantial number of questions about the interpretation of a passage correctly without ever having read that passage! Presumably they did so due to having been sensitized to testers' background assumptions and style of questioning.

9. It is for this reason that our judgment that keyed answers are uniquely correct is absolutely crucial. One may quote statistics until one is blue in the face, but any argument for the validity of a critical thinking test is otiose unless this initial logico-philosophical condition is met.

10. The point is emphasized in Stephen P. Norris, 'The Choice of Standard Conditions in Defining Critical Thinking Competence', *Educational Theory* Vol. 35, no. 1 (Winter 1985), pp. 97-107. Norris refers to recent work on deductive logic competence-which presumably would be more neutral than inductive, analogy, or conductive argument ability. This work indicates that linguistic factors, content and context factors, and nonlogical biases can mean that competence in basic areas of deductive inferences does not transfer as logicians and philosophers have traditionally expected. One may be able to handle conditionals when they are about a familiar subject, but not when they are about an unfamiliar one, for instance. The *locus classicus* in this area is Jonathan St. B. T. Evans, *The Psychology of Deductive Reasoning* (London: Routledge and Kegan Paul, 1982).

11. Robert Ennis supplies an excellent list in 'Goals for a Critical Thinking/Reasoning Curriculum' (January, 1985; private circulation). He includes focusing on a question, analyzing arguments, asking

and answering questions of clarification and challenge, basic support, inference, strategy and tactics, and dispositions. Under each heading, many useful specifications are indicated.

12. These are in any case centrally relevant and necessary, though not sufficient, for the validation of any critical thinking test.

13. If Forms A and B are relevantly similar, the same problems will appear in B. If not, other difficulties arise, because the two forms are designed so as to be usable in pre and post testing.

14. The theory of argument presupposed here appears to be broadly positivistic, as all forms of support that are nonconclusive are regarded as rendering the conclusion probable.

15. A point emphasized by McPeck in his discussion in *Critical Thinking and Education* (Oxford: Martin Robertson, 1981).

16. Noted by McPeck, *loc. cit.*

17. Robert Ennis has charitably offered this defense of the Watson-Glaser test.

18. A summary of findings is given in *C. T. News* (Newsletter circulated by the Philosophy Department, Sacramento, California.) Vol. 2, no. 3 (November 1983). Agreement on the higher level test was about 85% on induction items; it was lower for these items on the less advanced test. Notably, the more advanced respondents were in comparison to the intended test level, the more they tended to contest keyed answers. This suggests that especially competent students might be, in effect, disadvantaged on such tests.

19. The manual for the Level Z test indicates that it is the reliability of the person that is intended to be relevant here. Yet 'believability', as used, seems to refer to the probability of the statement itself as well – implying that one would at least partially base one's judgment on one's sense of how likely it was that the statement was true given background knowledge. Though I urged this point as a respondent to the expert survey, it was not taken up. It might be less misleading to speak of the believability of people as Ennis did when he wrote 'The Believability of People' (*Educational Forum*, March 1974), pp. 347-354). In that article, however, he quickly moves from this locution back to speaking of the believability of a statement, qua the statement of the person described.

20. In fact, these aspects should be relatively easy to test in the required format, and the importance of such skills is widely recognized.

21. A close comparison with Ennis' own curriculum – see note 12 – indicates that many fallacies he himself thinks should be taught do not appear on the Cornell Level Z Test. These include (at least) slippery slope, bandwagon, *ad hominem*, *post hoc*, affirming the consequent, denying the antecedent, straw person, faulty argument from analogy, appeal to tradition, and irrelevance.

22. At many points when analyzing natural argumentation, we have seen that legitimate alternative interpretations and appraisals are possible. Given this, it would be surprising if material on critical thinking tests could avoid all such issues. Examination of these tests in this chapter indicates just what we should expect: they do not.

CHAPTER 13.

THE SOCIAL EPISTEMOLOGY OF ARGUMENT

Social epistemology was not a major topic within philosophy when this chapter was written in 1985. It came into prominence some years later, emerging from concerns in the philosophy and sociology of science and the careful attention to testimony of C.A.J. Coady. The conception of epistemic individualism came to be questioned, and theorists sought to acknowledge social factors without lapsing into relativism. The notion that evaluations of an argument's cogency could be relative to the understanding and beliefs of its audience, defended in this chapter, points to concern about relativism in justification and hence in epistemology more generally. It is fair to say that such concerns persist today.

A crucial point, not always observed even in recent theorizing, is that acceptability must be distinguished from acceptance. The latter notion is descriptive; the former is normative – as argued here. In seeking criteria that are audience-sensitive but genuinely normative, the notion of the universal audience retains its interest. There is a quest for non-literal interpretations of this ideal. Its contrary, the idea of the self as audience, has received little attention.

At one point, discussing pragmatic inconsistency, I argued that if a person A fails to do X, which is required by a principle that A accepts, then A is not committed to that principle. This point is too strong, I think. A could be committed to X but unable to act accordingly or fail to do so due to weakness of will. To qualify my original point, one needs to reflect on what is required by commitment to a principle.

This chapter shows intimations of my subsequent and enduring interest in the topic of trust. That interest is indicated here in the discussions of credibility and testimony. Given limitations in our experience, expertise, and knowledge, there are many occasions when our acceptance of the claims of others requires that we trust them. In such contexts it is not irrelevant or fallacious to take into account personal characteristics bearing on their trustworthiness. The qualities of persons and relationships between them gain epistemic relevance.

Communicating reasons and arguments is a social practice. Standardized PC models of argument are somewhat misleading in these contexts because we need to consider not a bare proposition detached from its surroundings, but a claim as asserted in context by a person whose (understood) personal characteristics are relevant to its rational acceptability. Within traditional topics of informal logic, such considerations bear most obviously on accounts of the fallacies of ad hominem, tu quoque, and authority. They are clearly important, as well, in considerations about the logic and epistemology of testimony.

*The detachability of propositional content from these and other features of context is a theme explored by subsequent theorists including Andrea Nye, Douglas Walton, Harald Wohlrapp, and Christopher Tindale. An appreciation of the significance of credibility has been greatly enhanced by Miranda Fricker's *Epistemic Injustice* and work stemming from it, at an intersection between epistemology and social philosophy.*

Standard logical treatments of argument detach premises and conclusion from the surrounding verbal discourse, and also from the social and psychological context in which that discourse occurs. Interpretation may require some reference to this context, of course, but once premises and conclusion are isolated, their acceptability and inferential relationships tend to be considered apart. This strategy is appropriate for many purposes. Nevertheless, it is a considerable abstraction. Arguers and their audiences are persons with emotions and interests as well as beliefs, and with histories that may bear significantly on the context in which the argument occurs.

1. Arguer's Credibility

An obvious aspect to consider here is that of credibility. Credibility, or worthiness to be believed, is something persons addressing an audience are normally assumed to possess. Personal and social relations presume a basic underlying trust between people. In contexts of argument, this trust takes the form of our tacitly assuming that people are competent observers and witnesses, that they speak sincerely, intending to express their genuine beliefs, and that they try to support those beliefs with good reasons. In stating and considering arguments, we are engaged in an activity of mutual persuasion and reflection. This activity requires the exchange of information and evidence and the careful consideration of the reasons of others. Of course, not all contexts in which arguments are put forward measure up to this ideal, though it is the norm of the practice. Normally, we grant others credibility, or worthiness to be believed, as a matter of course. We presume that they are perceptually competent, reasonable participants in the discourse, genuinely asserting what they believe to be the case. But this standardly presumed credibility may be diminished or lost. As H.H. Price put it,

Of course no one believes everything that he is told, nor everything that he reads; still less does he always believe it with complete confidence. But in nine cases out of ten, we do give at least some credence to what we are told or what we read. There is, of course, the tenth case.¹

Logical tradition has stressed the erroneous nature of much reasoning from alleged defects of people to alleged substantive error in their claims or arguments, and has tended to brand as fallacious any inference from the personal inadequacy of an arguer or speaker to the unacceptability of that person's argument or claim. This stringent insistence on the separation of the personal and the logical may have emerged because many people are so sensitive to the social aspects of argumentation that they too easily allow personal characteristics to overwhelm the detached consideration of premises and conclusions.

Still, some personal features of arguers bear on their credibility, and this is relevant to the proper understanding of the dynamics of argument. Recent accounts of credibility, authority, and the *ad hominem* argument have recognized these points.² When we are dependent on the authority or testimony of an arguer in order to decide whether to accept his or her premises, a number of personal and situational qualities are genuinely relevant to that decision. The point has been emphasized by Lawrence Hinman in a paper on *ad hominem*, acknowledged in several recent textbooks on practical logic, and most interestingly portrayed in a recent article by John Hardwig entitled 'Epistemic Dependence'. Hardwig emphasizes our dependence on others – especially those who are experts in specialized areas – for beliefs and knowledge. He maintains that this is such a pervasive feature of modern life that the epistemic individualism issuing in the general advice to think for yourself is overly simple. Hardwig reminds readers that more is known that is relevant to the truth of our beliefs than anyone could know by himself or herself. The extent to which wholly autonomous thinking is

impossible in modern life is vividly illustrated by Hardwig's citation of an article on particle physics with ninety-nine authors.

Experts depend on each other and, of course, non-experts depend on experts. We must trust others to build up knowledge and beliefs. Because trust is needed, the personal qualities of others are genuinely relevant to the rationality of our relying on them. Given this dependence, there are many *ad hominem*s that permit us to withdraw our normal rational deference; such references to background information about arguers do not always involve us in fallacies. They are likely to be more important and relevant in discussions with experts than with peers. As we have seen elsewhere, standardized Critical Thinking tests even sometimes include sections on which respondents are to judge which claims are less believable on the basis of aspects of the persons who assert those claims and their circumstances.³

There are two fundamentally different ways in which an arguer's credibility may be upset so as to affect the dynamics of his or her argument. These correspond to what logical tradition termed the abusive *ad hominem* and the circumstantial *ad hominem*. In the abusive *ad hominem*, an attack is made on the arguer's character or background and this attack is used, irrelevantly, to undermine that person's credibility and thereby lessen acceptance of his claims or arguments.⁴ In the circumstantial *ad hominem*, credibility is attacked on the grounds that the arguer fails to practice what he preaches. These are *tu quoque* attacks; they are branded as fallacious because typically what an arguer does has no rational bearing on the truth or plausibility of his claims or on the merits of his inferences.

In effect, logical tradition requires that premises and conclusions be considered in detachment from the social and psychological relations of arguers and their audiences. Tradition seems to presume the epistemic individualism Hardwig criticizes in his article. The tacit model is that of the solitary thinker who can check each claim for himself or herself. We often cannot do this. The unsatisfying nature of this view is most apparent when we consider the long-established relevance of personal characteristics of witnesses to the acceptability of their testimony in courts of law.⁵ The greater sensitivity of recent accounts to the many circumstances in which personal characteristics of arguers do bear legitimately on the acceptability of their premises is a substantial improvement in the direction of bringing logicians' advice closer to sensible reasoning in law, science, and everyday life.

Trust and confidence in others as a source of information are crucial in circumstances where the audience is not independently competent to appraise the premises and must rely on an arguer's statement that these are true. This often happens because the premises involve what is, in effect, testimony from the arguer as to the occurrence of events in inaccessible times and places. It also happens when the arguer is functioning as a kind of expert, using premises about a specialized subject in which his or her knowledge substantially exceeds that of the audience. Strict logical tradition on the *ad hominem* has tended to ignore the significance of these special circumstances in which an audience is epistemically dependent on an arguer. There is epistemic dependence if acceptance of claims can be based on little or no evidence save the testimony of the arguer in asserting the claim. If the audience is to accept the claims made, this will be because the arguer has said that they are true. (In the immediate context, little further supporting evidence is available.) Thus, the trustworthiness of the arguer is crucially important in deciding whether to accept his or her claim.

In a fallacious *ad hominem* argument in which the arguer is attacked, there is an unsuccessful and poorly founded attempt to show that such trust is unwarranted. The attempt fails, from a rational point of view, because the characteristics cited do not affect the reliability of the testimony or authority of the person as alleged. The argument may be used in a context in which there is little or

no epistemic dependence in any case, and the audience would be competent to judge claims on their independent merit. The allegations may concern characteristics irrelevant to the arguer's reliability as a source of information on this issue or not possessed by the arguer at all. Irrelevant personal attacks may succeed to some extent: credibility is based on attitude and response as much as on reasoned belief. Once trust is questioned, it is hard to fully restore it.

The effects of personal attack on the process of rational debate can be striking. Some are to be deplored from a logical point of view. But others are legitimate and point to the social dynamic presupposed by the normal workings of argumentative discourse.⁶

The presumption of trust in contexts of argument is again indicated when we consider the circumstantial *ad hominem*, though matters here are more intricate. In the circumstantial *ad hominem* or '*tu quoque*' argument, the arguer is accused of failing to live up to his or her own expressed principles. For example, a President criticizing terrorism might be accused of practicing it by proxy, or political leaders urging the public to restrain wage demands might be accused of seeking high wage increases for themselves. In such cases, arguers express a normative principle as part of their argument (either conclusion or premise), but then, through their own actions, indicate that their support for that principle is flawed because they do not apply it to their own case. Critics accuse them of inconsistency: if the inconsistency is demonstrated, the position of such arguers is seriously affected. Yet, contrary to logical tradition, it does seem to be the case that their credibility is undermined, because there seems to be evidence that they do not in a full sense support what they assert.

In a recent book, Douglas Walton has discussed such cases at some length.⁷ He explains that these arguers are accused of a special kind of inconsistency, a species of pragmatic inconsistency that he and John Woods have called 'deontic-praxiological' inconsistency. Such arguers say that we should do X, but themselves do Y, where Y is, in a sense, contrary to X. The arguer's principle indicates he should do X; what he in fact does is correctly describable as doing Y; and doing Y amounts, in this context, to not doing X.

Walton points out the subtle relationships which may hold between X and Y, and the room for debate as to whether there really is the right kind of pragmatic inconsistency. For instance, suppose that a student accuses a businessman of making weapons that kill innocent people in the developing world. Suppose next that the businessman accuses the student of (by his participation) supporting a university which, as an institution, invests funds in such a way as to support repressive governments that kill innocent people in the developing world. The issue of whether the student's omission in *failing to oppose this institution* constitutes a support for the killing of innocent people in the developing world. Here, whether Y constitutes not X is a tricky question.

In other cases, the inconsistency may be obvious, but other complex questions may arise. Perhaps there are issues as to whether an arguer's actions, taken as support for a principle contrary to the one professed, are involuntary or are excusable. Some cases where pragmatic inconsistency is alleged are complex and contestable, to say the least. Walton's account is appropriately sensitive to these matters.

Here, we focus on another aspect, one bearing more directly on arguers' credibility. Suppose that a pragmatic inconsistency clearly does exist. This pragmatic inconsistency does undermine the arguer's credibility in some way. It shows the arguer to be failing in commitment or sincerity. On Walton's account, the demonstration of such an inconsistency shifts the burden of proof. If an arguer can be shown to be pragmatically inconsistent and accordingly less than wholehearted in support for his or her own principle, then he or she is put on the defensive in the circumstance of back-and-forth

argument. Attention moves away from the practices initially criticized to the arguer as a person, and to that person's actions or omissions. According to Walton it is then up to the arguer to show that the inconsistency is merely apparent, that he or she has changed the practice, or that the practice was involuntary or excusable in the light of circumstances.

Walton discusses a number of fascinating examples. Particularly vivid and interesting is a book review he quotes as an Appendix. In this review, called 'The Myth of Szasz', Gordon Lowe is reviewing a book called *The Myth of Mental Illness*. He attacks the iconoclastic critic of psychiatry, Thomas Szasz. Reviewing a number of Szasz's books, Lowe first accuses him of not being a sufficiently radical critic of illness and medical practice, on the grounds that Szasz wishes to dispute the patient-doctor relationship for mental, but not physical, illness. Lowe adds that, despite his claims that mental illness is a myth, Szasz supports therapy when the relationship between therapist and client is voluntary. The final stage of Lowe's criticism of Szasz is that he does not live up to his principles. It is at this point that we find a *tu quoque* argument.

... he launches his attack on psychiatry from a unique and special position. He is an M.D., Professor of Psychiatry at the State University of New York Upstate Medical Center in Syracuse. He is on the editorial board of at least four medical and psychiatric journals, and on the board of consultants of a psychoanalytic journal. That is, he is not only a practicing psychiatrist and a teacher of psychiatry, but a veritable pillar of the psychiatric community.

What on earth can he tell his students?... If Szasz teaches in his classes what he writes in his books he guarantees that any student who follows his teachings will fail his finals. How can Szasz reconcile what he professes with a professorship? He sees the whole psychiatric subculture as 'a medical tragedy', and 'a moral challenge', insists that it must be improved, then adds 'but we cannot do this so long as we remain psychiatrists'. Why then is Szasz still a psychiatrist? The more telling his criticisms of psychiatry the more obvious his own conflict of interest... His logic is relentless only when he applies it to his colleagues. He appears to regard himself as exempt from his own criticism merely because he is critical.⁸

Walton's comment on this stage of Lowe's argument is that it is a good argument against Szasz, but not conclusive. Were Szasz engaged in an actual two-way discussion with Lowe, he might be able to defend his credibility in various ways, particularly if he were to show that by working from within the discipline of psychiatry he had a better chance of reforming it than he would by becoming an outsider.

This account is in line with Walton's general solution to the *tu quoque*: He says that the allegation of pragmatic inconsistency shifts the burden of proof back to the arguer who is criticizing the practice of another. The arguer must show that he or she is not inconsistent, or suffer a loss of credibility. With Lowe's attack, the burden of proof moves from the tenets of the psychiatric profession which Szasz has attacked to Szasz himself. Attention moves from the original argument to the person of the arguer, because the critic has shown that the arguer apparently does not live up to his own principles. (No doubt it is this shift of attention, resulting from the *tu quoque* move, that underlies the logical tradition of branding this a fallacy of relevance.) Walton seems to grant that this shift to the person is appropriate and makes a legitimate difference to the course of the debate.

Walton's account presumes, correctly I think, that the arguer's credibility has been upset by the allegation of inconsistency. The burden of proof shifts. However, how and why this should be the case needs further explanation, in virtue of the lack of relation between the arguer's behavior and the actual content of the premises and conclusion of the argument. If an arguer does not behave as a moral principle would prescribe, this failing does not show that the principle is incorrect. Walton emphasizes this point. So, interestingly enough, does Lowe. He begins his review of Szasz's books by granting all of his substantive criticisms of the psychiatric profession.

At this point it is important to reflect on the differences between the circumstantial *ad hominem* and the abusive *ad hominem*. In context of *tu quoque* the audience is (typically) not dependent on the arguer either for his testimony or for his authority. It is not the arguer's observations or personal experience that are at issue.⁹ Nor is the arguer speaking in a role as an epistemic authority. The issue is one of moral practice. To defend the idea that *tu quoque* is a fallacy, we would need to explain *why* it is logically appropriate to regard an arguer who is pragmatically inconsistent as less credible than one who is pragmatically consistent. The latter practices what he preaches and the former does not. But why does this make a difference to the logical merits of their arguments? That is the question.

Walton fails to answer this question. If the burden of proof is shifted, as he claims, does that shift occur for good reason? I suggest that if the unpracticed preachings pertain to the principle or principles used as premises in an argument, there is a sense in which those premises 'dangle'. They are expressed. But there is a sense in which they are not endorsed by the arguer as premises employed by a sincere arguer would normally be.

To the logician looking at premises and conclusion isolated from the context of the argument, there would seem to be no relevance of the pragmatic inconsistency to the force of the argument. Walton notes this near the end of his book:

Our point is that an argument should not be treated merely as a set of propositions so that the arguer himself is entirely external to the argument. Rather, in dialectic, the argument is defined as a pair of sets of propositions, each indexed to a participant in a game of dialogue. Thus each participant has a set of propositions identified as his thesis and commitment-store (collectively, his position). Thus a legitimate goal of criticism is the establishment of an inconsistency – in some games an action-theoretic sort of inconsistency among the opponent's position propositions.¹⁰

The first sentence here is the important one. Walton appears to recognize that when people argue, their premises and conclusions are not suspended in a kind of logical space. Rather, they are asserted in a social context where people are communicating with each other. However, instead of exploring the social relations involved as such, it appears that Walton seeks to *reduce* them. He seeks to represent them in terms of sets of propositions to which arguers are committed. He regards pragmatic inconsistency as one kind of inconsistency that may be shown to exist in an arguer's position, propositionally understood. This strategy ignores the normal support for premises that comes from their being asserted by a person relating to other persons in a context presumed to involve sincerity and trust.

This approach misses the socio-personal element in rational discussion. This aspect can explain why pragmatic inconsistency of the type alleged in *tu quoque* is such a serious problem. What is wrong concerns not proposition sets but the trust between persons. When an arguer cannot be regarded as a person committed to principles asserted, it is almost as though the arguer is lying. If these principles are conclusions, the lack of sincerity with which they are held will reflect back on the entire argument. The arguer appears to want to convince us of something, but it appears that that something is not sincerely asserted. It appears, then, that the arguer cannot, then, be fully persuaded of his own argument. Since this is so, we can only presume that he or she does not believe the premises or does not find the expressed reasoning from those premises to be convincing.

We may set out this reasoning, based on the pragmatic inconsistency of an arguer, in the following way:

1. A advocates that P be followed, which would require him to do X.

2. A does Y, which is tantamount to not doing X.

So,

3. A is not committed to P.

Therefore,

4. A's advocacy of P need not be taken seriously by others.

Therefore,

5. Whatever reason A's audience might have for accepting P, this reason does not come from A.

Tu quoque in some of its forms may be fallacious, but there appears to be no fallacy in this line of reasoning.¹¹

The question remaining is *why* these considerations should affect our analysis of A's argument. Granting that the premises and conclusion expressed will not be regarded as claims that the arguer sincerely endorses, this still leaves us the possibility of assessing those claims on their merits. It is this possibility that traditional logic directs us to, in those accounts of *ad hominem* and *tu quoque* that emphasize the irrelevance of personal defects of arguers to evaluations of the validity of their arguments and the truth or acceptability of propositions they assert. The move from (3) to (4) in the above argument needs a rationale.

Logical tradition demands, in effect, that we detach propositions constituting premises and conclusion from the context of personal and social relations that are normally presupposed when there is argumentative interchange. Walton questioned this logical tradition. But he is still enough within it to reduce his own amendments to consideration of a larger set of propositions. What is relevant is, I think, something broader yet. The purpose of argumentative exchanges is for persons to communicate information, beliefs, and opinions both in order to persuade others, by reason, that their beliefs and opinions are true or acceptable and in order to check and possibly revise their own beliefs and opinions as a result of rational criticism and evaluation.¹² Such exchange presumes the sincerity of participants. An arguer asserting a principle he does not hold cannot do so in order to communicate his beliefs, because what he asserts is not in the full sense one of his beliefs. The insincerity that we infer from pragmatic inconsistency upsets the credibility of the arguer because it leads us to think that he or she is not genuinely participating in an argumentative exchange. The arguer only appears to be doing so; we do not have real and honest communication. Thus the framework of argument is upset, although the details of the content of the argument are, from an abstract point of view, left unaffected.

When people appear to be arguing, we normally presume that they are in fact doing so. When we attend to their arguments, we grant their sincerity as a matter of course. But we may discover that they are not sincere, and if we do so, the discourse is upset. Its purpose cannot be served. I suggest, then, that the shift in burden of proof, noted by Walton, is a result of the fact that the arguer must seek to re-establish himself or herself as a genuine participant in argumentative discourse. He or she will typically do this by seeking to show that, despite the alleged contradiction between behavior and stated principles, those principles are really held. (The arguer may submit that the pragmatic contradiction is alleged and not real; that the behavior criticized is involuntary and does not indicate the arguer's beliefs; that behavior is about to change; and so on.) Such attempts are efforts to re-

establish argumentative discourse by reinstating conditions of trust. Appearances to the contrary, the arguer is committed to what he or she says.

To apply this back to the provocative review of Szasz, what effect should Lowe's attack on Szasz as failing to practice what he preaches have on the reader of Szasz's works? As noted, it should not lead us to conclude either that Szasz's conclusions are false or that his arguments are inadequate. That would be a mistake regarding relevance; that kind of irrelevance is just why tradition brands *tu quoque* a fallacy. Rather, Lowe's account should make the reader wonder just what Szasz is doing in writing these works. If we do not decide that Szasz's moral position is that of a reformer trying to work from within psychiatry, we will, after Lowe's attack, no longer be able to read Szasz as an author fervently expressing his reforming zeal in powerful prose. Szasz does not really believe what he says, apparently – at least not in the full sense in which normative belief commits to action. The moral power of his attack will be undermined. To the extent that he fails to believe what he is saying, Szasz will correctly be regarded as an author who appears to be offering arguments in order to participate in a strenuous and genuine discussion about the role of psychiatry in contemporary life, but is actually doing something else. (Earning royalties, or building up a list of publications, or gaining attention for himself, perhaps.)

Argumentative discourse has as its purpose the mutual persuasive and reflective communication of beliefs.¹³ This purpose cannot be served if one or more participants is not expressing his genuinely held beliefs. Logical tradition is correct in emphasizing the irrelevance of personal commitment and behavior to the abstract correctness of the principles and propositions put forward. But it is misleading in its suggestion that bringing out pragmatic inconsistency cannot have a logical bearing on the acceptability of claims and the force of arguments. The relationship is there, though it is best understood as a failing of framework rather than specific content. The shift in burden of proof noted by Walton is something real, and he is correct to see that it requires important revisions in the traditional logicians' account of the *tu quoque* fallacy. But the shift needs explanation.

That explanation can be found, I suggest, in the disturbance of the general presumption of trust and sincerity underlying argument as a social institution. Personal character and characteristics really do have something to do with the force of argument, and that 'something', far from being due to incidental psychological or sociological eccentricities. It is founded upon the very nature of argument.

2. Acceptability, Truth, and Audience-Relativity

Another area where socio-personal characteristics bear on the logical evaluation of arguments has to do with their audiences. Audiences must reason from accepted beliefs to further beliefs. What arguments they find forceful will depend on what they antecedently believe.¹⁴

This messy qualification was avoided by logical tradition, which insisted that in a sound argument, the premises were true. Whatever anybody believes, if the premises are true, they are just true, and if the argument is, in addition, valid, it is sound in an absolute and timeless sense. The problem is, though, that if we stipulate that people should be convinced only by those arguments that have true premises, we would in effect be stipulating that in many times and places, people should not be convinced by arguments at all. In fact, it would be a tough epistemological task to show that we ourselves should often be convinced by arguments, on this model.

The traditional account of soundness might be preserved as a kind of regulative ideal, but standards of argument appraisal that are intended to give real practical guidance will have to move from truth of premises to acceptability. Note here: acceptability is not to be confused with acceptance. It is a

normative notion; acceptability is rational acceptability. Yet still, acceptability is a relative notion: acceptability to whom? The answer brings in the audience to whom the argument is addressed.¹⁵

Recognition of this fact pushes standards of argumentation in a dialectical direction, towards the context in which the argument occurs and the audience to which it is addressed. An audience is given cogent argumentation if it is given argumentation in which premises are rationally acceptable to it and are connected to the conclusion in a way that is appropriate.¹⁶ This conception does not remove the normative aspects from argument evaluation, nor does it push logic and epistemology into the social sciences. There are norms here, regarding acceptability of premises and appropriacy of their link with the conclusion, but these norms incorporate some relativity to the beliefs, knowledge, and inferential capacities of the audience.

Shifting away from truth in the direction of acceptability is difficult for many people to accept, possibly because it is such a substantial departure from a tradition which is so much more succinct, elegant, and tidy. To say which premises are normatively acceptable to which audience and why, in detail, is a demanding task, whereas to insist that premises be true is something we can do finitely and neatly.

A possible way of avoiding such relativity to audience is through the concept of the universal audience. Traditionally, arguing to the beliefs and interests of a particular audience has been regarded as a lesser activity than proving substantive issues from a (supposedly) independent non relative standpoint.¹⁷ If we see argumentation as inevitably directed to some audience and constructed with that audience in mind, and yet wish to preserve the idea that some justifications have a correctness that transcends particular times and places, we may appeal to the concept of the universal audience. This interesting notion is introduced by Chaim Perelman and Olbrechts-Tyteca in *The New Rhetoric*.¹⁸ Scientific and philosophical writing is typically impersonal in tone, and might be regarded as addressed to the audience of all attentive mature minds in all places and at all times. Much abstract writing has an ahistorical tone, as if it emerged from a transcendent non-earthly vantage point to express a message for all. This style of discourse tends to disguise the fact that French noblemen of the seventeenth century, or English clerics of the eighteenth, or philosophers in the twentieth century are the people being addressed.

Taken literally, the concept of a universal audience is not viable. The language and level of difficulty of an argument cannot possibly be such that it is equally intelligible to all mature adult human beings at all times and places. (Even if it could, mature adults are a subset of all human beings, and human beings may be a subset of intelligent creatures.) Its content too is embedded in the beliefs and background assumptions of historical context in which it arises.¹⁹ Questions make sense only in certain contexts, given particular interests and background assumptions. Information and structure presume background concepts and knowledge. Some historical context is presumed for the sense of any argument.

The notion of a universal audience has an important heuristic use if we do not take it literally. As an arguer, one may wish to broaden one's audience as much as possible. To this end, it will be useful to reflect on the background presumed to understand the argument. One might render some background knowledge explicit to increase the accessibility to the audience. One might wish to have one's discourse intelligible to persons in other cultures or far into the future. One can try to achieve this goal. But discourse that is literally designed for everyone does not exist.

The acceptability of premises is relative to context and audience. We may broaden the notion of who is in the audience to envisage readers in future generations, in other cultures, and from other traditions.

But to think that this prospect eliminates all relativity to audience would be a mistake. Premises, to be acceptable, must be acceptable to some persons and these persons will deem them acceptable only on the basis of some other beliefs they hold. A maximally universal audience would hold in common with the arguer only basic logical principles and a minimal core of common sense beliefs about the existence of other people and material objects. Though possibly transcultural, these are beliefs nonetheless.²⁰

There is a degree of audience relativity even in inferential relationships because argumentation must be intelligible to the persons to whom it is addressed.²¹ Premises cannot provide reasons for a conclusion if they are connected to it by a logical link that no one understands. If premises deductively entailed the conclusion, but could be seen to do so only by one world super-expert, the argument based on such an entailment would not be cogent for most audiences, even though it was deductively valid.

Another aspect of audience-relativity for inferences in deductively valid argument emerges when we reflect on the fallacy of begging the question. This fallacy occurs when one or more premises is so intimately related to the conclusion that the audience to whom the argument is addressed would not accept that premise unless it accepted the conclusion. In such a case, the argument cannot possibly serve its purpose of rationally persuading the audience of the conclusion. Such an argument will be adequate from the point of view of strict deductive logic, and yet inferentially flawed, because the audience cannot rationally move from acceptance of the premises to acceptance of the conclusion.²²

In non-deductive arguments, audience and context relativity enter in other ways. The degree of certainty required for the conclusion, and hence the standards for evaluating inductive or analogical inferences, may vary depending on the context. The seriousness with which countervailing factors in conductive arguments are considered may be similarly affected.²³

Appeals to the notion of a universal audience do not eliminate the requirement that a cogent or persuasive argument is one that is cogent or persuasive for a particular audience.

Nor does the curiously related concept of the self as audience. In philosophical writing, particularly of the confessional type, an author may report deliberations and reasonings that led him or her to various problems, dilemmas, and conclusions. He or she may write as though trying to convince the self and the self alone. If we took this style at its face value, we would have a limiting case of an audience. The arguer and the audience seem to be one. But clearly, this style is one particular literary and rhetorical device. The self stands for a representative person in the broader culture the writer addresses. The self is presumed to have beliefs, interests, and problems that will be of broad concern, and standards of evidence and argument that will gain general respect.

Often, as in Descartes' writing, that representative individual is intended as a representative of the universal audience. Thus, what is *prima facie* a maximally narrow audience is intended in fact to be maximally broad. The self is to serve as the universal person, or so the author intends. But of course such a guise, even when as successful as it could possibly be, does not achieve full universality of audience. Any self is a culturally developed and informed person, necessarily not representative of mind in general.

Less metaphysical uses of the self as audience preserve its representative character, but the group this self aspires to represent is typically smaller. Scientists and philosophers seeking to convince themselves of results are of course not really interested in convincing just themselves. They are also interested in argumentation that will stand as rational to those in the cultural subgroup within which they are working. Here, the self represents an individual standing within that subculture, within

which projects, problems, and standards have been developed.²⁴ There is always an audience to whom argumentation is addressed, and that audience is always informed with a tradition of beliefs and equipped with pertinent logical norms and abilities. Whatever the rhetorical pretensions, it is always less than universal.

The cogency of an argument is in some important respects relative to the knowledge and beliefs of the audience to which it is addressed.

Argumentation is linked importantly with justification, and thus with every area of philosophy and human knowledge. If we move from truth to acceptability and from validity to a variety of less determinate and clearcut standards, we are allowing, in effect, that justification is relative to time, place, and background beliefs. Given a background belief that germs cannot cause disease, arguments would be cogent which are not cogent in our own society. Within one and the same society, an argument might turn out to be cogent in one context and not cogent in another. Similarly, an argument might be cogent in one decade and not cogent in another, since its premises might first be rationally acceptable and later not so. Departing from tradition, some fear, will lead to all-out relativism and intellectual anarchy.

I submit that this alarming conclusion need not follow. Justification must proceed from what is already believed. This is true whether what is believed is based on truths of sense perception, elementary propositions of logic and mathematics, or culturally remote statements.²⁵ In a society that holds different beliefs from our own, argument will proceed from different premises and on the basis of different interests and assumptions. But in no society is everything believed. To say that different people in different contexts will ground their arguments differently is not to say that people in a particular context can ground their argument just any way at all. Furthermore, justification can proceed in a number of distinct ways. Different styles of argument will be reasonable and intelligible to different audiences, but for every audience there are limits on what can be used. There are many sources from which justification can proceed and many ways in which it can proceed. But that is not to say that just anything will do. Premises must be statements which the arguer and audience can rationally accept, and inferences must be correct according to reasonably endorsed standards, intelligible to arguer and audience, and capable of providing a level of certainty adequate to the context. We can allow that an argument not cogent in one context might be cogent in another without allowing that whatever people think is cogent is cogent *for them*. Moving from acceptability to truth incorporates only a degree of audience-relativity. Acceptability is not acceptance: there is no need to reject the distinction between what is in fact taken as cogent by an audience and what that audience ought, rationally, to take as cogent. Such a distinction can be drawn with the appropriate sensitivity to the context in which the argument is presented, the beliefs of that audience, and the standards of relevance and rationality that are accepted, whether tacitly or overtly, as norms of rationality in the broader culture in which the audience and the argument appear. Baneful relativism arises only if we relinquish any distinction between what is thought to be and what is.

This distinction with reference to relativism can be brought out by contrasting the accounts of Chaim Perelman and L. Olbrechts-Tyteca on the one hand with that of Carl Wellman on the other. For Perelman and Olbrechts-Tyteca the theory of argumentation is an entirely descriptive enterprise. There are many types of argument that have been used and that continue to be in use. The 'new logic' or 'new rhetoric' seeks to describe these while at the same time describing conditions in which audiences commonly find such arguments persuasive or convincing. If audiences are more or less moved by various features, their response is noted; it is not judged to be logically or epistemically

correct or incorrect. There is no attempt in this work to articulate and rationalize appropriate norms for the variety of argument types described.²⁶

For Wellman, on the other hand, moving from a formalist account of validity to a broader account does not entail renouncing normative judgments about the logical and epistemic merits of arguments. To include the conductive and the inductive gives us a better description of what is going on in natural argumentation than deductivism would, according to Wellman. Yet he employs a notion of validity that retains some normative force, and emphasizes this point. To say that an argument is valid, in Wellman's umbrella sense of 'valid', is to say that it is *ultimately* persuasive for anyone who *thinks in the normal way*.²⁷ Validity is a critical concept on this account. An argument which in fact persuades people may nevertheless not be valid, because it may not have characteristics enabling it to retain its persuasiveness in the long run. Its original persuasiveness may have been due to the social power of the person presenting it, to an unnoticed bit of irrelevance, or to the limited logical acumen of the particular group to which it was addressed.

The notion of cogency might be developed in a somewhat comparable way. To say that an argument is cogent would be to say not that some audience *in fact* has found it convincing, but rather that it *would* be found convincing, *in the long run*, by *any* audience *relevantly similar* to the audience to whom it was in fact addressed. Such an account can incorporate context and audience relativity without relinquishing the application of norms and dropping the distinction between those arguments that in fact convince people and those arguments that rightly (correctly, appropriately) convince people. Some analysts see a stark alternative between timeless, absolute, non-contextual standards and no standards at all. This presumed alternative amounts to a false dichotomy, because standards of a qualified and complex sort may exist.

Perhaps an example can illustrate this point. The context is that of a formal lecture, by an established scholar, on the topic of war and religion. The lecture has been completed. The lecturer stands at his lectern, in the hall of a small art gallery. He is at ease, and elegantly dressed; his lecture has been received with interest; his jokes appreciated. He has been introduced as person of high credentials and many accomplishments. He has developed his thesis to the effect that the sincerely religious citizen has to accept a degree of violence in order to accept state-order at all, and that sincerely religious citizen is therefore contaminated with some degree of evil. He has claimed that the just war theory cannot, on his account, have any real meaning in the conduct of war. He argues that the existence of war and violence is a permanent tragic reality in human affairs. The account does not condone war but suggests that from a religious point of view there will be no moral basis for opposing it as a state activity.

In this context and against this background, there are a number of questions from the floor. A man sitting near the back of the crowded hall stands to ask a question. He is about the same age as the speaker (in his fifties), also well-spoken, but less formally dressed. He is unknown to many members of the audience and has no recognized status (in this context) as an expert on war, religion, or any related subject. He asks the speaker how he would apply his account to nuclear weapons, pointing out that in the lecture, all historical references were to events prior to 1945. The speaker replies that his account will apply equally well to nuclear weapons, stating that there is, in his view, no distinction of kind between nuclear weapons and conventional ones. They differ only by degree, he says, because both are fundamentally similar in that they kill. Once a person is dead, he or she is dead and is not going to care whether the death resulted from nuclear weapons or conventional ones. The questioner

has no opportunity to reply to these comments, because there are many other people waiting to ask questions. The audience appears satisfied with the lecturer's response.

Suppose, as seemed likely on the actual occasion, that the audience has been convinced by this lecturer that there is no difference, save of degree, between conventional and nuclear weapons. On a wholly relativistic account, we should then have to say that the lecturer's argument was a cogent one: it convinced the audience to which it was addressed. However, a more qualified contextual account leaves open the possibility of judging that the argument is not cogent, even if it does convince the audience to whom it was addressed. Such a judgment must take into account the knowledge available to the audience and that audience's capacity and long-term tendency to recognize pertinent norms of acceptability and relevance, and to base convictions on those rather than on epistemically extraneous features such as the socially powerful position of such a lecturer in such a context. A social scientific account of argument cannot ignore such factors, but they are strictly irrelevant to its norms.

When the premise and conclusion are considered as parts of an argument, it is entirely clear that the arguer's vocal, physical, and social advantages do not serve to make his premises more acceptable or his inferences more reasonable. The argument offered is not cogent. The premise that the dead do not care whether they have been killed by nuclear or conventional weapons is not one that can be supported by reasonable evidence. The dead, if wholly dead, have no opinions. If they survive we have no access to those opinions. (For all we know, they might well prefer death by conventional weapons to a nuclear death that could eliminate all surviving people and future generations, if they care about us in the afterlife.) Their opinions, if any, are far from adequate to support any final judgment on the difference between the weapons since this depends on a broad range of environmental effects and on numbers of victims, not just on the effects judged by an immediate victim, who couldn't judge them in any event, being dead.

In making these judgments about the cogency of the argument we refer to standards common in our culture and to conventional beliefs almost certainly accepted by this particular audience. Ordinary beliefs about death render the premise unacceptable; ordinary standards for judgments about weapons render it clearly insufficient as support. Furthermore, in this case, there is empirical evidence both that the speaker later regarded his own argument as unsatisfactory, and the audience would, on reflection, have come to the same decision. The speaker admitted to me in correspondence that he did not have a satisfactory view on nuclear weapons and nuclear war and thus, implicitly, that he was uneasy about fully assimilating nuclear weapons and conventional ones. A group of adults similar to the original audience in background and attitudes found the argument totally unconvincing, for reasons similar to those presented above. The questioner was not satisfied with the response: in a later conversation with me, he referred to the speaker's argument in response to his question as a sophism. If, as seemed to be the case, the audience found the argument convincing on the occasion, this is most plausibly seen as a function of the lack of time for analysis and reflection and the prestigious position of the arguer.

Thus by departing from the classical model of argument soundness, we are not endorsing the view that cogency reduces to what an audience in fact finds convincing. Rather, an argument is cogent for an audience if, according to standards that audience would deem on reflection to be relevant, the premises are acceptable and in the appropriate way sufficient to support the conclusion.²⁸ An argument may be deemed cogent when these conditions are not met, as the example here illustrates. When that happens it is thought to be cogent but is not. Thus *the distinction between what seems to be and what is preserved*.

For arguments, tradition has pushed us to dichotomies. Is an argument valid, or invalid? Is it sound or unsound? Are its premises true or false? Even within this framework there is implicitly more than a dichotomy, as it is clearly possible that an argument might be good in one respect (valid) but bad in another (have false premises), so that whether it is a good or a bad argument is either moot, or an improper question. Results will not be clearcut as they are in formal systems.²⁹ Sometimes, the apparently straightforward question ‘is this a good argument or not?’ is too simple.

3. The Specter of Relativism

When a view that is in any sense relativistic is put forward, there is always the suspicion that it will somehow undermine or defeat itself. Either it will apply to itself, and will thereby lose its claim to rationality and truth, or it will not apply to itself, and will thereby constitute a counterexample to what it claims. Many recent philosophical articles dealing with varieties of relativism concentrate on this line of criticism. A representative version is that of Harvey Siegel, who recently put the point this way:

Assume (radical) relativism is correct. Then the relativist position has strong, indeed compelling, justification – it is a rationally justifiable position. Justification involves good reasons. But good reasons cannot be based on anything non-neutral or arbitrary or framework-bound, by definition of ‘good reason’. Therefore if we are justified in holding that relativism is correct, there must be some non-arbitrary, neutral, absolute framework or ground from which we can make that judgment. Thus, relativism which denies the possibility of that framework is incorrect.³⁰

If relativism is (justified as) true, it is false, and if it is false, it is false. Thus, it would appear, relativism is false.³¹

There are many different respects in which the appraisal of human beliefs and conventions have been said to be relative. We may have relativity to cultures, cultural subgroups, or individuals; relativity of perceptions, norms, or scientific beliefs; relativity of meaning, conceptual framework, or justification. What is most pertinent in the context of the theory of argument is relativity in justification. Siegel is quoted here because he focuses directly on this aspect. For any relativism that would entail relativity in the cogency of justifications, Siegel alleges self-destructive incoherence. Such an account would apply with a vengeance to the analysis offered here.

Let us first examine Siegel’s particular argument, and then approach the broader issue. The problem with Siegel’s argument is very obvious. The question is begged in his definition of ‘good reason’. Siegel says that good reasons cannot be based on anything non-neutral or framework bound; in fact he regards any reasons that are so based as ‘arbitrary’. This is clearly a view that would be opposed by anyone who saw justification as relative to a framework or (as here) to the beliefs and standards of an audience. Such a person would have an account of good reasons as those that are incorporated in a central role within the framework or (as here) as those that are deemed reflectively adequate by an audience using its own considered norms. Siegel begs the question against those who have a relativistic or contextual view of justification. His argument employs a notion of good reason which negates what they explicitly assert, and employs that notion in a context in which he is trying to demonstrate that what they assert is false.

Furthermore, to deem Siegel’s argument question-begging is entirely consistent with the current contextual account of argumentation. The argument is unsuitable for the audience for which it is intended, because a crucial premise is bound to be unacceptable to that audience. It does not just happen to be so, but must be so in virtue of the very aims of the argument. The argument is question-

begging (on any plausible account of what question-begging is), because the conclusion is that a relative account of justification is false and the premise, that good reasons cannot be good in any relative way says, in effect, the very same thing. Thus, Siegel's argument is inadequate and need not worry us further.

However, this leaves the broader issue open. Does an account of argument cogency that is audience relative self-destruct, as a matter of logic? The account argued in this and preceding essays is an account about arguments – not just some, but all. Thus, it must apply to itself and is intended to do so. Does it refute itself, in expressing an audience-relative account of the cogency of argument and in thereby implicitly claiming for itself only this, and not absolute, cogency? The many considerations here are offered to a particular audience and claim for themselves cogency for that audience. They claim for premises acceptability to that audience, and for its judgments and inferential claims, force and intelligibility for that audience. I can see no problem in this.

The intended audience is philosophers, linguists, and other students of natural argumentation, capable of pertinent rational analysis of materials in English and other European languages, in the latter part of the twentieth century. The observations made are intended to be acceptable to those people, and to appeal to their pertinent beliefs and assumptions. Where it is deemed appropriate to change these, evidence is offered in the way of examples, selected so as to seem interesting and familiar to the audience. Reasoning is put forward, designed to begin with statements credible to this audience and to proceed in an intelligible fashion to conclusions seen as at least partially novel to this group. There is no idea that the account will be intelligible or acceptable to Russian astronauts, children, or physical scientists with no interest in natural language argumentation. Examples are all in English. Perhaps most natural languages work in similar ways³², but some may not, and there is little in the account that would preclude such a possibility.

It is of course understood that details of evidence and argumentation may be wrong. This is not at issue here. What is at issue is the matter of coherence. Does it make sense to put forward an *argument* that arguments hold for those-in-a-context, and not necessarily for all in all contexts? I cannot see any paradox here. We might derive one from an understanding of assertion and inference in terms of absolutes, I suppose. If asserting a statement actually entails claiming that it is true in a universalistic sense, we have a paradox. However, assertion need not be understood in this way. It requires only the intention to convey to others statements believed to be true or adequately warranted by evidence. This is compatible with the recognition that what one believes to be true might be shown, someday, not to be so. What the evidence warrants today, another day's evidence may not support. But for all that, today's argument may be cogent, and correctly defended as such.

Notes

1. H.H. Price, *Belief*. (London: George Allen and Unwin, 1969), p. 113. In Lecture 5, Price discusses 'The Evidence of Testimony'. I have been influenced by Price's account, but think that he makes our general presumption of reliability sound more optional than it really is. Price makes it sound as though it would be vastly inconvenient and inefficient not to adopt the policy of generally taking testimony to be right. In fact, if we did not trust the word of others, we could not develop into social human beings at all.

2. Cf. Trudy Govier, 'Ad Hominem: Revising the Textbooks', (*Teaching Philosophy*, 6, (1983), pp. 13-24; Lawrence Hinman, 'The Case of Ad Hominem Arguments', *Australasian Journal of Philosophy*, 60 (1982),

pp. 338-345; and Robert H. Ennis, 'The Believability of People', *The Educational Forum*, March, 1974, pp. 347-354. Hardwig's 'Epistemic Dependence' is in the *Journal of Philosophy* LXXXII, 7, (July, 1985), pp. 335-349. Also relevant is Alan Brinton, 'A Rhetorical View of the *Ad Hominem*', *Australasian Journal of Philosophy*, 63, no.1 (March, 1985), pp. 50-63.

3. Such sections of these tests do, however, evoke controversy about the weighting of various factors and their significance taken apart from other considerations. Compare 'Critical Thinking about Critical Thinking Tests', above.

4. Most recent revisions have focused on the abusive *ad hominem*, with the important exception of Douglas Walton's *The Arguer's Position: A Pragmatic Study of Ad Hominem Attack, Criticism, Refutation, and Fallacy* (Westport, Conn.: Greenwood Press, 1985). Nothing about the necessity for revision is intended to imply that the abusive *ad hominem* is, in general, non-fallacious.

5. The point is not that people haven't understood the relevance of personal credibility to testimony but rather that many standard accounts of abusive *ad hominem* have been formulated so sweepingly as to entail that such considerations would be fallacious. The point is developed and documented in my 'Ad Hominem: Revising the Textbooks'. Hinman and Brinton also note this point, as does Hardwig in his essay on epistemic dependence.

6. The distinction between those personal *ad hominem* considerations that in fact serve to make an argument lack force and those that rationally should do so must, of course, be preserved.

7. *Arguer's Position*. I have a brief review of this book in *Canadian Philosophical Reviews* (Fall, 1985), which anticipates some of the points developed here.

8. Lowe, in Walton, p. 284.

9. This is usually true. The moral hypocrisy of an arguer is something quite other than his or her epistemic unreliability. In the special case of Szasz, there are many complex inter relationships, insofar as many of Szasz's readers will be epistemically dependent, for some claims, on his expertise as a trained psychiatrist, and, for others, on his personal testimony as to how relationships between psychiatrists and their patients actually go on. The lack of seriousness Lowe points out will no doubt affect his credibility in the more strictly epistemic sense as well, conveying a general lack of reliability.

10. Walton, p. 234.

11. Compare my 'Worries about *Tu Quoque* as a Fallacy', *Informal Logic Newsletter* 3, no. 3 (1981), pp. 2-4.

12. See 'A New Approach to Charity', where I use this account of the purpose of argumentative discourse to ground a principle of moderate charity, by adopting Grice's account of the purposes of conversation to contexts of rational argument. In 'A Rhetorical View of the *Ad Hominem*', Alan Brinton advocates a rather similar position. He says "There are, in general, but also relative to particular contexts, certain presuppositions of discourse and of argumentation. Especially important among these presuppositions are some having to do with the credentials, commitments, and intentions of those who participate and especially of those who take the lead. The *ad hominem* typically raises

doubts about whether these ethotic presuppositions have been fulfilled.' Brinton's account differs from mine in being directed both to the abusive and to the circumstantial *ad hominem*.

13. This is its standard normal purpose, not its only purpose.

14. Walton, *Arguer's Position*; Nicholas Rescher, *Dialectics* (Albany: State University of New York Press, 1977); Chaim Perelman, *The Realm of Rhetoric* (Notre Dame: University of Notre Dame Press, 1982); Carl Wellman, *Challenge and Response*, (Carbondale, Ill.: Southern Illinois University Press, 1971).

15. Compare C.L. Hamblin's discussion in *Fallacies* (London: Methuen, 1970) and texts by R.H. Johnson and J.A. Blair and myself.

16. Hamblin makes this point about inferential relationships. See also Hinman, *op.cit.*, and the discussion below.

17. For instance, in Aristotle, such arguments are rhetorical, as contrasted with logical and dialectical arguments. See F. van Eemeren, R. Grootendorst, and T. Kruiger, *The Study of Argumentation*, (New York: Irvington Publishers, 1984) pp. 55-78. Alan Brinton also makes extensive use of Aristotle in his discussion of *ad hominem* in a rhetorical context.

18. Chaim Perelman and L. Olbrechts-Tyteca, *The New Rhetoric: A Treatise on Argumentation*, (Notre Dame: University of Notre Dame Press, 1969). Second edition.

19. The historical context presumed may be richer or poorer. It may be sufficiently thin to be very easily understood by those not part of that immediate history. Nevertheless, it is still there.

20. Compare my 'Theory, Common Sense, and Certainty', in *Metaphilosophy*, 1981.

21. 'Intelligible' should be taken, not as indicative of *de facto* comprehension under all circumstances but rather of capacity to understand.

22. Cf. my discussion in *A Practical Study of Argument*, (Belmont, CA: Wadsworth, 1985), Chapter 4.

23. If there is some reason against C, and many reasons for C, how seriously those countervailing points are taken will vary depending, among other things, on how important it is in the context to be right about C.

24. As emphasized by Kuhn and others for the special case of scientific reasoning.

25. The point is that there is a basis in some other beliefs. As it stands here, this point is neutral as between holism and foundationalism, both of which would obviously agree this far.

26. Compare the discussion in van Eemeren et al., *The Study of Argumentation*, pp. 208-251.

27. Wellman, *Challenge and Response*, pp. 90-109.

28. 'Acceptable' and 'sufficient' are used here as normative or, in Wellman's sense, critical, concepts.

29. A point noted many times in preceding essays, due both to indeterminacies in interpretation and to open issues of evaluation.

30. Harvey Siegel, 'Goodmanian Relativism', *Monist*, Vol. 67, no. 3, (July 1984), pp. 359-376. Quoted passage is on p. 336.

31. There is, of course, the possibility that it is true but not justified as true by good reasons. I take it that Siegel finds this possibility to be devoid of practical interest.

32. Some seem inevitable concomitants of the basic facts about human life, such as the continuing use of language in changing circumstances, and others to be concomitants of the activities of arguing and persuading. Thus, we might urge universality. But such judgments should not be pronounced with confidence.