

# Informal Logic's Influence on Philosophy Instruction

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**Abstract:** Informal logic began in the 1970s as a critique of then-current theoretical assumptions in the teaching of argument analysis and evaluation in philosophy departments in the U.S. and Canada. The last 35 years have seen significant developments in informal logic and critical thinking theory. The paper is a pilot study of the influence of these advances in theory on what is taught in courses on argument analysis and critical thinking in U.S. and Canadian philosophy departments. Its finding, provisional and much-qualified, is that the theoretical developments and refinements have had limited impact on instruction in leading philosophy departments.

**Résumé:** La logique non formelle a débuté dans les années 1970 comme une critique des suppositions théoriques acceptées à cette époque dans les départements de philosophie aux États Unis et au Canada. Il y a eu un développement significatif dans la logique non formelle et dans l'enseignement de la pensée critique durant les dernières 35 années. Cet article est une étude pilote de l'influence de ce progrès dans la théorie et dans l'enseignement de l'analyse des arguments et de la pensée critique sur les départements de philosophie américains et canadiens. La conclusion provisoire est que ces développements et raffinements théoriques ont eu une influence limitée sur l'enseignement dans les départements de philosophie principaux.

**Keywords:** informal logic, critical thinking, philosophy instruction, theory and practice, philosophy courses in argument, philosophy courses in critical thinking

## 1. Introduction

“Informal logic” began as a reform movement aimed at instruction in introductory argument analysis and evaluation and critical reasoning or “critical thinking” courses in philosophy departments in the United States and Canada, with the added ambition in some quarters of being a reform movement in logic itself. The textbooks self-identified as offering informal logic instruction first appeared in the 1970s (e.g., Fogelin 1978) and the first conference addressing issues in informal logic was held in 1978 (see Blair and Johnson 1980). There followed, over the next 30 years: the journal *Informal Logic*, a steady diet of conferences (at Windsor, Sonoma State, Christopher Newport, George Mason, McMaster, Oakton, East Anglia and sessions at Amsterdam<sup>1</sup>), a torrent of scholarly articles, several shelves of textbooks, a growing stream of monographs, and, increasingly, contact with and influence by parallel and intersecting developments in the areas of critical thinking education

and testing, speech communication, argumentation theory, rhetoric and artificial intelligence. The motivating assumption of this article is that it is of interest to look at the effect that all this scholarly activity has had on the instruction in the courses in philosophy departments that informal logic was initially aimed at influencing.

In order to investigate the extent of that influence, an account of what it might be expected to consist of and a method of assessing it, are needed. Accordingly, the article is divided into two main parts. The first is a survey of the theoretical developments and the corresponding influence they might be expected to have on “informal logic” and “critical thinking” courses. The second is a survey of the course descriptions of such courses at a selection of American and Canadian universities and an assessment of the extent to which this influence is reflected in them. At the end of the paper I suggest what might be concluded from the findings in this survey.

## 2. Historical precedents

Informal logic began, in the early 1970s, as skepticism about the utility of teaching elementary formal or deductive logic *as the tool for analyzing and evaluating the kinds of reasoning and arguments that citizens encounter and use in their daily lives* (see Kahane 1971). Theoretically motivated reservations about analyzing arguments in terms of the deductive validity of their inferences had been voiced in the field of philosophy over a decade earlier, independently, by the Belgian philosophers Chaïm Perelman and Lucie Olbrechts-Tyteca (1958), and by the British philosopher Stephen Toulmin (1958). Perelman and Olbrechts-Tyteca took deductive validity to be the norm for *proof*, in contradistinction to *argumentation*, and took argumentation to occur precisely where proof (deductive certainty) is unavailable. Toulmin took substantive arguments to have the structure of the *epicheirema* of Roman legal rhetoric (see van Eemeren *et al.* 1996, pp. 48-49), relying on material (and field-dependent) rather than purely formal inference rules, and always open to qualification and possible rebuttal, thus lacking deductive certainty. Their work on this topic, however, did not become common knowledge in North American English-speaking *philosophical* circles (perhaps except to readers of the journal *Philosophy and Rhetoric*, as a result of the influence of its longtime editor, Henry W. Johnstone, Jr. (see 1959)). It was also generally unknown to those developing informal logic until Toulmin, Rieke and Janik’s textbook appeared in 1979, and until the focus of informal logic expanded beyond instruction to theory as well in the 1980s.<sup>2</sup> (Both works *were* known early, and have been influential, in the fields of speech communication and rhetoric.)

## 3. Informal logic

In the 1970s, independently of Perelman and Olbrechts-Tyteca, and of Toulmin, some philosophers teaching introductory logic courses in Canada and the United

States came to the same conclusions, albeit for somewhat different reasons. In analyzing and evaluating with their students the argumentation found in the public sphere, such as in the press, using as their tool the formal logic in which they themselves had been trained, they made several observations. The task of translating such arguments into a standard form that can be symbolized so as to enable them to be tested formally for deductive validity is fraught with interpretation difficulties. Furthermore, it is often dubious that such arguments can be readily analyzed in ways amenable to standard propositional or predicate logic analysis. In any case, most such arguments, once the effort is made to translate—or transform—they into such standard form, are invalid as they stand. The assumption that they are, or were intended to be, deductively valid requires supplying additional premises to those expressed, and there is no uncontroversial decision procedure for identifying precisely how such supplements are to be formulated. There occurs also the empirical question whether learning some basic deductive (and inductive) logic transfers to skill in reasoning and arguing, and to being a perceptive judge of others' reasoning and arguments. Besides these points, more enriched evaluative criteria than “valid/invalid” or “inductively strong/weak” were deemed desirable. For some, the tradition of the informal fallacies offered more illuminating critical tools. And in general, it seemed to these philosophers that instructional time could be spent more efficiently teaching other analytic and evaluative tools for this purpose than propositional or predicate (or categorical) logic (without denying the value of doing so for other purposes). Some of the philosophers who developed these views called their enterprise “informal logic” to distinguish it from instruction in the standard formal propositional and predicate logic that was often taught in these introductory logic courses as the means of training students in argument analysis and evaluation.

There emerged over the next three decades a number of doctrinal initiatives in the theory of argument from a philosophical and informal logical point of view, often in part also due to theoretical interactions with other developments, including those mentioned above and others to be sketched below. These are far from news to many teachers and theorists who track this field, but it is useful for present purposes to mention a few of them here, for they form the basis of the measurements of the influence of informal logic theory on instruction in introductory philosophy courses teaching critical reasoning and (or by means of teaching) argument analysis and evaluation.

### *The inferential link*

One initiative, which in retrospect might be seen as an offshoot of the empirical turn in epistemology in the second half of the last century, was an attempt to analyze actual arguments, without theoretical preconceptions as to the nature of the inferential link or consequence relation they exhibit.<sup>3</sup> Many who were part of this movement, if not all, found the blatant deductive invalidity and yet non-inductive

character of typical cogent evaluative arguments to be an invitation to characterize the criteria for their assessment in other ways. Johnson and Blair (1977), for instance, noting that logical fallacies seem to fall into three categories of failure—irrelevance as support, insufficient support, and problematic grounds—introduced three critical questions to be asked of an argument's premise: are they acceptable? are they relevant? are they sufficient? The criteria of acceptability, relevance and sufficiency, in those or other words, were picked up by a number of textbook authors (see Damer 1980, Govier 1985, Seech 1987, Freeman 1988). Others introduced the idea of degrees of support—and not just degrees of probability (see Thomas 1973, Scriven 1976, Hitchcock 1983). In sum, there was a challenge to the assumption that by teaching some simple deductive logic one taught the student a basic understanding of the range of inferential strength of actual arguments.

For some, this conclusion was influenced by the arguments of John Wisdom's *Virginia Lectures* (1957), Carl Wellman's *Challenge and Response* (1971), and/or Nicholas Rescher's *Dialectics* (1977). Wisdom argued for the primacy of a non-deductive case-by-case reasoning, Wellman argued for "conductive" reasoning from particulars to particulars in addition to deductive and inductive reasoning in ethical justification, and Rescher argued for a defeasible inference he termed "provisioed" as essential to epistemology. Unrecorded in the informal logic literature at the time were the parallel developments of defeasible reasoning and non-monotonic logics in Artificial Intelligence that were occurring contemporaneously.

One might use the labels "descriptive deductivism" for the empirical proposition that all propositional reasoning is deductive (or intended to be deductively valid), and "normative deductivism" for the theoretical proposition that only deductively valid propositional inferential connections are legitimate or rational. Anecdotal evidence strongly suggests that descriptive deductivism is false. Normative deductivism arguably bears the burden of proof against its denial, given the various well-developed contrary positions noted just above. Both versions of deductivism are thus problematic. In other words, they are open to challenge and require defence; given the literature, they ought not simply be presumed to be true.

"Deductive-inductive dualism" is my term for the view (see, e.g., Brian Skyrms's 1966) that all reasoning or arguments are either deductively valid or else have some quantifiable degree of inductive strength less than 1.0.<sup>4</sup> If Wisdom, Wellman or Rescher, or defeasible reasoning theorists such as John Pollock (1987, 1990) are right, defeasible reasoning is to be distinguished from inductive reasoning, and deductive-inductive dualism is false. I call "inference pluralism" the view that deduction and induction do not exhaust the types of legitimate inference—in other words, that under some conditions an inference can be reasonable even if it is deductively invalid and not quantifiably strong. One feature of some informal logic theories of argument is the endorsement of inference pluralism or at least openness to that possibility (see, e.g., Govier 1999 for a defence of inference pluralism). So deductive-inductive dualism, like deductivism, should not be treated as

unproblematic, facing as it does the challenge of inference pluralism. It follows that a degree of sophistication about inference—a demonstrated awareness of the alternative of inference pluralism—will be one measure of the influence of informal logic on contemporary instruction.

### *Tree diagramming*

An initiative related to the challenges to deductivism and deductive-inductive dualism, was the move, begun by Beardsley (1950), developed by Thomas (1973) and Scriven (1967), then taken up and elaborated by many other textbook authors, but also discussed in the theoretical literature (see Walton 1996), to use tree diagrams to analyze the reasoning or logical flow of actual arguments. Once logical form is set aside as inapplicable to an argument, and when longer and more complex argumentation than a syllogism is examined, instructors and theorists needed to be able to display the analysis of the support relationships in other ways. As higher levels of dialectical exchange are encountered, such as anticipated objections or counterarguments and replies to these, the diagramming becomes increasingly complicated. It is no longer reflective of the literature to teach such simple argument forms as *modus ponens* or disjunctive syllogism as representative of the patterns of reasoning to be found in public argumentation. Teaching such forms alone cannot prepare the student to analyze the logical and dialectical structure of arguments of any typical degree of complexity. Evidence of structural sophistication is thus something to be examined as an indicator of informal logic's influence.

### *New fallacy theory*

Another initiative, traceable in theoretical work to Hamblin (1970) and, following his influence, to Woods and Walton (see 1989), and in textbooks, to Fearnside and Holther (1959) and Kahane (1971), was the revitalization of the theory and teaching of informal fallacies (see Hansen and Pinto 1995). The hundreds of articles on fallacies in the literature over the last 30 years, plus the many book-length theoretical treatments of individual fallacies by Walton (e.g., 1991, 1992a, 1992b, 1998, 2000), and as well the consideration of the Pragma-Dialecticians' (see below) contention that all fallacies are essentially pragmatic rather than logical (van Eemeren and Grootendorst 1984, 1992, 2004), have resulted in reflection on the informal fallacies that has particular depth and subtlety. In a theoretically state-of-the-art account of fallacies, *Fallacies and Argument Appraisal* (2007), Tindale puts the point well in a passage that deserves extensive quotation:

Two things have reinforced the recognition of how complex fallacies really are: The first of these is the appreciation, *now fully expressed in the literature* [my emphasis], that many of the fallacies are failed instances of good argument schemes or forms. Hence we cannot dismiss all *ad hominem* arguments or Slippery Slopes, for example, because there are circumstances under which such reasoning is appropriate. What is required, then, is a careful review of

the differences between good and bad instances of such schemes. . . . The second feature that reveals the complexity of fallacious reasoning is the recognition that to evaluate fallacies fully we need to consider aspects of the context in which the argumentation arises. In many instances this involves the details of a dialogue between participants in an argumentative exchange. In other cases we must sift through what is available of the background to the dispute, such as the history of exchanges between the participants or the beliefs of the audience. This brings into consideration dialectical and rhetorical features crucial to understanding and evaluating fallacies and shows that the study involves more than a traditional logical assessment of the propositions involved. (xiv.)

The views that the concept of fallacy is unproblematic, that the “formal vs. informal fallacy” distinction is illuminating, that Aristotle’s distinction between fallacies dependent on language and those independent of language is unproblematic, and especially that there are easily-identifiable and classifiable lists of logically fallacious argument or reasoning types that are readily teachable—that is, can be learned with benefit to the student’s reasoning—in a one or two week segment of a course, are nothing short of intellectually irresponsible under the conditions of theoretical development of fallacy theory in the past 30 years. Given the developments in the theoretical literature, such antiquated handling of fallacies is not available as intellectually responsible instruction. Fallacy theory sophistication is therefore a third measure of the influence of informal logic on argument evaluation instruction.

More or less simultaneously with the development of so-called informal logic, three other phenomena were occurring that became intertwined with it, one in the philosophy of education in the United States and Canada, one in the field of speech communication in the United States, and one in dialectics in North America and Europe.

#### 4. Critical thinking

The first development was an increase in the attention given to instruction in and the conceptualization of so-called *critical thinking* in the philosophy of education. Traceable to Dewey’s notion of “reflective thought” in *How We Think* (1910) and Edward Glaser’s efforts to test critical thinking in the 1930s (see 1941), the critical thinking movement was reanimated by an article in the *Harvard Educational Review* by Robert Ennis in 1958, who has remained one of the most influential figures in the efforts to develop a clear conception of critical thinking, instructional materials for teaching it, and valid and reliable instruments for testing for it (see, e.g., Ennis 1996). Another influential figure has been Richard Paul, who in the early 1980s began a popular annual conference aimed at introducing critical thinking into schooling at all levels and who has continued to be an active proselytizer of critical thinking instruction (see, e.g., Paul 1990). For various reasons,<sup>5</sup> critical thinking units were imbedded in the curricula of certain subjects, and stand-alone critical thinking courses were introduced in many colleges and universities—for instance,

some sort of critical thinking course was mandated for all students in the State University of California system in 1983 (by Executive Order #338).

There are numerous definitions of critical thinking (for one list, see Fisher and Scriven 1997, 87-93). However much they vary in details, all seem to agree that critical thinking is best understood as at least a kind of evaluative thinking that uses appropriate criteria to assess candidates for belief or action—among other things. In my opinion this conception and the fact that philosophers are preoccupied with the rational justification of beliefs and actions (which consists of sound arguments) have together influenced many philosophers to conceive critical thinking as the judgement involved exclusively in the evaluation of arguments. Accordingly, courses teaching the evaluation of arguments are identified as critical thinking courses, and with logic conceived as the sole standard of good argument, courses teaching logic are seen to be natural candidates for critical thinking courses. If this is true of standard logic courses, it is no less true of the new informal logic courses, which their proponents think are even better at teaching argument assessment. So in many peoples' minds, either standard introductory logic courses or informal logic courses are identified as (also) critical thinking courses.

However, if critical thinking is understood more broadly as the assessment of any basis of belief or (other) attitude or action—and there seems no reason not to so extend its application—then such things as the assumptions underlying beliefs, decisions, and attitudes, observations and descriptions, information conveyed and indeed communications in general, will have to be included within its scope.<sup>6</sup> One can as well, it would seem, think critically about a work of art, a poem or novel, a play, a movie or a television show, a political speech or a political campaign, an advertisement, a prediction, or an artifact of any kind—consumer products, for example—also about services provided, such as medical diagnoses and treatments,<sup>7</sup> or university courses. Once the range of types of objects of critical assessment is made explicit, it becomes evident that the logic of arguments, formal *or* informal, hardly exhausts the criteria, procedures and strategies needed for informed critical thinking, and the assumption that a logic course, whether it includes just instruction in the rules of valid deduction or broader criteria for assessing arguments, can suffice as a critical thinking course, is exposed as narrow and naïve. So the degree of sophistication in conceptualizing critical thinking, and especially a sensitivity to the scope of critical thinking beyond argument analysis and assessment, is a fourth measure of the influence of theoretical developments on contemporary teaching.

## **5. Speech communication**

Another concurrent phenomenon was the flourishing of the empirical and normative study of argument and argumentation in the fields of speech communication and rhetoric in the United States, and in particular among debate coaches and ex-coaches and instructors of argumentation who began to theorize their subject. Around mid-century there emerged dissatisfaction with Aristotelian or class logic

as the critical tool then used in the evaluation of arguments in debates. As part of the new theorizing, all sorts of uses and functions of argument were studied, and because the field was a social science in the field of communication, empirical research into various communicative features of argument was carried out (in contrast to the *a priori* theorizing of the philosophers). The following summation indicates the diversity of interests and approaches:

[T]he study of argumentation in American speech communication is the province of rhetorical theorists and critics, students of public discourse, analysts of conversation, scholars of interpersonal communication, facilitators of negotiation, and teachers and directors of contest debate. Its most obvious common features are the dethronement of formal logic as the paradigm case of reasoning and the corollary insistence that argumentation relates to audiences and fits squarely within the rhetorical tradition. (Van Eemeren *et al.* 1996, 190-191.)

Scholars who did empirical research into the activities of arguers and the functions of arguments quickly found that arguments in fact have a wide range of functions. Argument does not just serve as justification of beliefs or actions. It can be a means of managing interpersonal relations. It can be a negotiating tool. It can be a means of maintaining distance and difference. It can be a way of establishing identity (see, e.g., Asen 2005). And so on. Moreover, arguers typically have more than one aim in mind on any occasion (e.g., both win the point and avoid insulting the interlocutor) (see, e.g., Hample 2005, Ch. 2, or Gilbert 1997, Ch. 5). In addition, its roles depend on the communication styles of arguers (see, e.g., B. O'Keefe 1988). Accordingly, the norms appropriate for the evaluation of arguments can no longer be viewed as exclusively those of logic, formal (i.e., deductive validity) *or* informal. It is, thus, a functional oversimplification to take the logical analysis and evaluation of argument to be exhaustive, leaving the impression that argument has a single purpose. The degree of functional sophistication can therefore be taken as a fifth measure of the influence of this literature on instruction in the courses in question.

Moreover, the rhetorical properties of argumentation, it becomes evident, do not reduce to non-rational or irrational means of persuasion. They have to do, rather, with establishing and maintaining contact between arguer and audience, so that through the argument the arguer speaks to the audience's capacity to understand and appreciate (thereby redressing ignorance and circumventing bias or hostility); it keeps the audience's attention and gains a sympathetic hearing; and it not only expresses the meaning of its premises clearly but also effectively conveys their probative force. Far from there being a conflict between rhetoric and logic, a principal function of rhetoric in argumentation is to ensure that the logical merits of a case are fully understood and appreciated by the reader or listener. A consequence of this deeper understanding of rhetoric in argumentation is that teaching logic alone can no longer be considered sufficient to train students to argue well, or to evaluate arguments sensitively. It really is logic chauvism to think that logic alone



can supply all the relevant rational norms for argument interpretation and assessment. Some, I suspect, overlook rhetoric out of ignorance; others probably do so out of a misinformed rhetoric phobia. The effect in either case is rhetoric deficiency. Accordingly, the extent and degree of rhetorical sophistication is a sixth indicator of the influence of theory on classroom instruction in argumentation.

## **6. Dialectics**

The third phenomenon I need to mention was the appearance (or reappearance) of dialectics. Nicholas Rescher's *Dialectics* (1977), was a dialectical approach to epistemology aiming at illuminating "the communal and controversy-oriented aspects of rational argumentation and inquiry—scientific inquiry in particular" (xiii). Like Perelman (whom he cited), Rescher saw himself in the rhetorical tradition tracing back through mediaeval disputation to Aristotle's *Topics*. Less than a decade later, the Dutch argumentation scholars van Eemeren and Grootendorst introduced their own version of a dialectics-based theory of argumentation, which they termed "Pragma-Dialectics" (see 1984 and 2004 for the earliest, and latest, comprehensive versions). They proposed modeling argumentation as, ideally, a distinctive kind of complex of speech acts exchanged between parties attempting to resolve a difference of opinion in a rational way, and so they modeled arguments as moves in such a dialogical activity, to be governed by the dialectical rules required for its success. Although critics think the Pragma-Dialectical theory over-emphasizes the centrality of disagreement resolution in the function of argumentation and resist modeling all argumentation as dialogue, the vigorous promotion of this theory has brought to wide attention the importance of procedural norms in interpersonal argumentation and, along with Rescher's book, has led informal logic theorists to appreciate the dialectical, "challenge and response," character of most, if not all, arguments used in argumentation. Thus, to teach a course in argument interpretation and assessment as if the monological model of formal deductive logic and probability theory are alone adequate for these purposes is to overlook a flourishing scholarly literature to the contrary.<sup>8</sup> A seventh indicator of informal logic's influence is therefore the extent and degree of dialectical sophistication in the courses under review.

## **7. Different senses of 'argument'**

The teaching about arguments and argumentation is liable to the risk of more than one potential ambiguity attaching to uses of the term 'argument,'<sup>9</sup> and I want to highlight one of these. I do not have in mind the possible confusion of argument as quarrel with argument as justification or proof that is noted in countless logic textbooks. Nor am I referring to the argument as act ("arguing that") vs. argument as interaction ("arguing about") distinction that D. O'Keefe (1977, 1982) noted with his "argument<sub>1</sub>" and "argument<sub>2</sub>" distinction.

On the one hand, if you examine a variety of textbooks on deductive logic you will see that an argument is typically asserted to be a set of statements or propositions one of which (called the “conclusion”) is supposed to be, or is presented as, or might be taken to be, supported by or to follow from the others (called the “premises”) (see, for instance, Carney and Scheer 1980, Churchill 1986, Copi and Cohen 2002, Hurley 1985, Georgarakos and Smith 1979). Many logicians take arguments thus understood to be representations of actual or possible reasoning or inferences (see Copi and Cohen 2002, 6; Lambert and Ulrich 1980, 4; Jeffrey 1981, 1). Although on this conception there is an implicit reference to some person who does or might do the reasoning (for the propositions must be “supposed” or “taken” by *someone*), and sometimes there is implicit reference to someone other than the reasoner (for propositions “presented as” must be presented to *someone*), it quickly becomes clear that these logicians are not interested in whose reasoning it is, in who makes or uses the arguments, or to whom or for what purpose the arguments might be addressed to others. What such logicians are interested in are the norms establishing when the one proposition “follows from” or “is supported by” the others. As Jeffrey succinctly puts the point, “[Logic] aims to provide systematic means for telling whether given conclusions do or do not follow from given premises, i.e., for telling whether inferences are valid or invalid” (1981, 1).

On the other hand, it is also easy to find textbooks in which an argument is asserted to be an attempt by one person rationally to persuade another person or others to accept or believe some proposition (or to make some decision or perform some action). On this view it is said that an argument is “giving reasons for or against some claim” or “providing reasons or evidence for some point to try to prove or establish it” (Feldman 1983); it is “information that is supposed to establish that some claim is true or worthy of acceptance” (Johnson and Blair 2006); it is “a set of claims a person puts forward in an attempt to show that some further claim is rationally acceptable” (Govier 2001, 3); it consists of “claims supported by reasons asserted with the intention of convincing an audience that a given claim is true or false, or that a proposed course of action is or is not justified” (Little, Groarke and Tindale 1989, 5); “The simplest possible argument consists of a single premise, which is asserted as true, and a single conclusion, which is asserted as following from the premise, and hence also true. The function of the argument is to persuade you that since the premise is true, you must also accept the conclusion” (Scriven 1976, 55-56). On this conception an argument is something used to persuade or justify, that is, to change someone else’s belief, attitude or disposition to act. It is thus importantly social, and who does the arguing, to whom the argument is addressed, and the context in which the argument is advanced, are all variables relevant to its interpretation and assessment. There is a connection to reasoning, since, as Pinto has put it (2001, 36-37), such an argument is an invitation to someone to draw an inference, and the premises are supposed to provide a rational justification of the conclusion, but the argument need not reflect the arguer’s own reasoning. In such arguments one argues from the premises and using the

“logic” that the audience initially accepts or can be convinced to accept and these need not be acceptable to the arguer.<sup>10</sup>

The distinction between these two senses of ‘argument’ is nicely captured by Woods, Irvine and Walton (2000, 2-3) in the line they draw between what they call “arguments in the broad sense” and “arguments in the narrow sense.” In the broad sense, “an argument is a presentation of reasons or evidence in support of some claim. It is an attempt to build a case in favour of a conclusion. Normally this means that arguments are social exchanges involving a series of speech acts uttered by two or more parties.” In contrast, they write, “[a]t the core of every argument in the broad sense is a set of propositions composed of the argument’s premisses and conclusion. We call this argument in the *narrow* sense. Arguments in the narrow sense are abstractions from arguments in the broad sense.” The logicians I referred to in describing the first sense of ‘argument’ are interested in the norms of deductively valid connections between premisses and conclusions of arguments in the narrow sense. The logicians I referred to in describing the second sense of ‘argument’ are interested in broad-sense arguments—in the norms governing the rational acceptance of a conclusion backed by particular premisses in a particular situation by a particular arguer. These are not the same thing.

One difference is that, unlike many narrow-sense arguments, broad-sense arguments tend to be non-monotonic. New information can force a reappraisal of an argument formerly judged cogent. Thus whether there are actual or possible objections to the reasoning that have not been refuted is relevant to their assessment. Argument in the broad sense is thus dialectical whereas argument in the narrow sense abstracts from the dialectical dimension. Another difference is that the context influences the analysis and evaluation of broad sense arguments, whereas it is set aside in the analysis and evaluation of narrow sense arguments. Who makes the argument (e.g., the person’s character, expertise, interests), to whom it is addressed (e.g., their knowledge and assumptions), the occasion for making the argument (e.g., constraints of time or of convention, the history of the situation), the objections that they or others have raised—all are relevant to understanding the argument and to assessing it appropriately. Argument in the broad sense is thus rhetorical and dialectical, whereas argument in the narrow sense abstracts from the rhetorical and dialectical situation.

The distinction between these two senses of ‘argument’ matters because the failure to be aware of it can result in an equivocation. The dominant “logic” of the past century and more has been the norms of the various kinds of deductive relationships between premisses and conclusions in narrow-sense arguments. If someone with a background only in this logic thinks that there is just one sense of ‘argument,’ it is natural for such a person to think that the norms of narrow-sense arguments are exhaustive of the norms of any argument. A natural next step would be to teach the norms of narrow-sense arguments as if they were (also) the norms of broad-sense arguments. The mistake of taking the properties of arguments in

one sense to be exhaustive of the properties of arguments in every sense thus rests on an “‘argument’ equivocation.” Sophistication about the complexities surrounding the concept of argument is therefore an eighth indication of the influence of informal logic.

## 8. Summary of indicators of the influence of informal logic

I have suggested that there are (at least) eight ways to measure the influence of 30 years of theoretical literature in informal logic (and critical thinking) on the instruction in the sorts of courses informal logic was initially developed to affect. If informal logic has had any influence, we can expect to find some or all of the following features exhibited in such courses as they are taught today. (1) *Inference sophistication*. The course will acknowledge the possibility of other kinds of good inference besides those that are deductively valid or inductively strong. (2) *Structural sophistication*. The course will teach the structure of arguments in such a way as to reveal the complexity of multiple lines and dialectical twists and turns. (3) *Fallacy theory sophistication*. If fallacies are taught, there is acknowledgement of the complexity of the concept of fallacy and of the difficulty students face in learning how to analyze and evaluate fallacious arguments and argumentation. For instance, the course will not attempt to teach “the informal fallacies” as a short unit among several others in the course. (4) *Critical thinking theory sophistication*. The course will acknowledge the scope of critical thinking. For instance, it will not take “critical thinking” to denote good thinking in general; nor will it take the teaching of argument analysis and evaluation as equivalent to teaching critical thinking. (5) *Functional sophistication*. Insofar as the course is about argument analysis and evaluation, it will exhibit sensitivity to the multifunctionality of arguments and argumentation, and hence to the fact that logical analysis alone cannot provide a complete appreciation of their roles. (6) *Rhetorical sophistication*. The course will acknowledge the rhetorical dimension of argument, and if it does not offer some instruction in that direction, will at least acknowledge that fact as a limitation of a course on argument analysis and evaluation. (7) *Dialectical sophistication*. The course will introduce such concepts as presumption and burden of proof, and will introduce the student to the different kinds of objections arguers anticipate and to how some parts of arguments function as dialectical rejoinders. (8) *Sophistication about the concept of ‘argument’*. The course will be clear about the distinction between ‘argument’ in the wide sense and in the narrow sense. It will explicitly avoid ‘argument’ equivocation. If a course exhibits none or very few of these forms of sophistication, it seems reasonable to assume that the research of the past 30 years in informal logic has had no influence on its designer, and if its designer is a young academic, it is reasonable to assume that this research has not had enough influence on the instructors in the graduate program in which he or she was educated for them to consider it worth transmitting.

## **9. Evidence of the influence on philosophy courses of informal logic theory**

Has the literature described above had much influence on instruction? Have the lessons been learned and are they being passed on to the next generation? In order to try to answer these questions in a preliminary way, I have chosen to review the 2006-2007 undergraduate calendar descriptions of introductory courses in logic, reasoning, argument, critical reasoning, and so on, offered by several leading philosophy departments with doctoral programs in the United States and Canada. The sample is small and unrepresentative, so this is at best a provisional study. It seemed of interest to see if informal logic research has penetrated some of the elite graduate schools in philosophy. For the American sample I chose the philosophy departments of the Ivy League universities: Brown, Columbia, Dartmouth, Harvard, Pennsylvania, Princeton and Yale. These seven are widely held to be among the best universities in America, and to possess some of the leading philosophy departments in that country, if not in the world. For the Canadian sample I chose a roughly equal-sized subset of the leading Canadian universities with philosophy doctoral programs, from west to east: British Columbia, Calgary, Western Ontario, Waterloo, York, Toronto, Queen's, Ottawa and McGill. I will discuss each university's course(s) in turn, as it is (or they are) described in the university or department calendar description.

An immediate objection to my methodology, apart from the limitations of the sample, is that a calendar course description is hardly to be taken to represent an accurate depiction of the course's contents. It contains the barest of descriptions of the material to be covered, and it has to be broad and general enough that different instructors favouring different approaches can teach the course under the same description. Moreover, since it is of necessity extremely brief, it cannot be expected to contain the qualifications and express the nuances that would be presented in the course itself. In addition, calendar course descriptions are often out of date, since the bureaucratic hurdles to making official changes are so great that changes in practice get registered in print only at long intervals. All of these are fair points. However, it is precisely when composing under the pressure of space constraints (and often of limited time, too) that habits of thought and assumptions taken to be completely unproblematic reveal themselves. If these course descriptions were thought to be "good enough" for the purposes at hand given the constraints, which presumably they were since they were published, then the kinds of assumptions they exhibit and the habits of thought they reflect can be taken to be regarded as unproblematic by their authors and editors. It is precisely these assumptions and habits of thought that I want to examine. And even if the calendar descriptions are out of date, already ten years ago most of the informal logic theoretical developments noted above were in place or well under way, so they might be expected to appear in course descriptions even if they have not been updated for several years. Moreover, as you will see, in some cases the descriptions

were personalized by the instructors who taught the courses.

Herewith, then, is the list, with brief comments.

### A. *The Ivy League*

#### (1) Brown University

*Critical Reasoning.* A study of the techniques and principles of correct reasoning and effective communication. Topics may include deduction and induction, meaning and definition, fallacies in reasoning, the basic logic of propositions and predicates, and the essentials of inductive reasoning.

The Brown outline has several problems. By mentioning deduction and induction only, it lacks inference sophistication. Also, by mentioning “fallacies in reasoning” as one of at least four items to be covered in a single semester, one needs to be suspicious that the fallacy theory assumed is unsophisticated. Granted, the topics listed need not all be covered in any particular variant of the course, but if “the techniques and principles of correct reasoning and communication” are to be covered, there cannot be much time left to treat fallacies, and so the (mistaken) presumption seems to be that not much time is needed to do so adequately. Another point is that, given the description, it seems to be assumed that the principles of effective communication are covered by some subset of the listed topics. But there is no mention of dialectics or rhetoric, which are essential, so the description lacks rhetorical and dialectical sophistication. There also seems to be a naïve ignorance of the field of communication revealed by assumption that the principles of effective communication can be taught (a) in a philosophy department and (b) alongside the teaching of the techniques and principles of correct reasoning in a one-semester course. Finally, Brown labels as “critical reasoning” what really seems intended to be course in elementary logic, even though, as noted above, logical skills are only part of the skill-set required for critical reasoning, so the conception of critical thinking at work is unsophisticated. As an aside, it might be added that the identification of correct reasoning with logic that the description exhibits faces the criticism of people like Harman (1986, Ch. 2) and, before him, Strawson (1952, Ch. 1, Part ii), who point out that the basic logic of propositions and predicates tells us only what follows deductively from what, but by itself not how to reason to a considered opinion. On the bright side, Brown deserves credit for keeping the term ‘argument’ out of its description, thereby avoiding appearing to conflate the teaching of logic with the teaching of broad-sense argument appraisal.

#### (2) Columbia University

*Elementary Logic.* Explicit criteria for recognizing valid and fallacious arguments, together with various methods for schematizing discourse for the purpose of logical analysis. Illustrative material taken from science and everyday life.

The adequacy of Columbia’s course depends in part on how the key terms in this description are defined. If “valid” is defined loosely, there can be no quarrel,

but if it is defined as “deductively valid”—which is the standard logician’s use of the term—then the assumption that any non-valid argument is fallacious is problematic, given strong inductive arguments and strong presumptive arguments. So there is the possibility that the inference sophistication and the fallacy theory sophistication are wanting. Otherwise, this description raises no red flags and it quite possibly avoids all problems discussed above. To be sure, by being so vague it permits individual instructors who have failed to learn the lessons of the literature to perpetuate mistakes and misrepresentations.

### (3) Dartmouth College

*Reason and Argument.* Text: *Understanding Arguments*, 6th Edition, by Fogelin & Sinnott-Armstrong Introduction: What is an argument? Conversational Acts and Implications, Evaluative Language, The Language of Argument, Close Analysis, Deep Analysis, Propositional Logic, Conditionals and Translation, Modern Categorical Logic, More Categorical Logic, Deep Analysis Revisited, Inductive Arguments, Necessary and Sufficient Conditions, Statistics: Up and Down Probability, Decision Theory, Fallacies of Clarity, Fallacies of Relevance, How to Construct Arguments.

The Dartmouth course material is the textbook authored by two Dartmouth professors, Fogelin (now emeritus) and Sinnott-Armstrong, so any comments about the course become comments about the book. The book has several virtues not evident from the description. It distinguishes reasoning and argument, as should be done. It treats arguments as objects of pragmatic analysis, and it has an expansive view of what reasoning covers (scientific explanation and decision theory, for example)—both of which are appropriate perspectives. Neither book nor description contains any mention of rhetoric, however. And not-so-deeply buried is an assumption that understanding the propositional calculus is central to analyzing and evaluating arguments, suggesting a lack of inference, rhetorical and dialectical sophistication. The implication of the description that fallacies can be taught and learned adequately in a relatively short time—in the time allowed if everything else on the ambitious list is included too—hints at an absence of fallacy theory sophistication.

The Dartmouth description is symptomatic of expectations in many philosophy departments: combine quite different topics in a bundle and (try to) do many disparate things in a single course under one rubric. It would be more accurate to label this course, “A collage of many different things it might prove useful to have in your intellectual kit bag to give you some (but far from complete) help in your own reasoning and arguing, and in responding critically to those of others.”

### (4) Harvard University

Harvard University handles matters differently. The only introductory course it offers in these regions is an introduction to deductive logic.

*Quantitative Reasoning 22, Deductive Logic.* The concepts and principles of symbolic logic: valid and invalid arguments, logical relations of statements and their basis in structural features of those statements, the analysis of complex statements of ordinary discourse to uncover their structure, the use of a symbolic language to display logical structure and to facilitate methods for assessing arguments. Analysis of reasoning with truth-functions (“and”, “or”, “not”, “if...then”) and with quantifiers (“all”, “some”). Attention to formal languages and axiomatics, and systems for logical deduction. Throughout, both the theory underlying the norms of valid reasoning and applications to particular problems will be investigated.

In this course Harvard seems to avoid the Dartmouth “collage” problem. Even so, the course description is unsophisticated about the ambiguity of ‘argument.’ The predicates “valid” and “invalid” apply to narrow-sense argument, whereas argument that is described as a “complex of statements of ordinary discourse” is broad-sense argument. So the description implies the problematic idea that a significant reason to learn the logic of narrow-sense argument is that it is useful for the analysis and assessment of the broad-sense argument of “ordinary discourse.” The identification of deductive logic with symbolic logic is perhaps a less serious offence. Note that the Harvard philosophy department offers no course for Harvard undergraduates in argument analysis, assessment or formulation, and no course in critical thinking.

#### (5) The University of Pennsylvania

*Critical Thinking Level: Introductory.* This course will provide the student with informal techniques for identifying and analyzing arguments found in natural language. Special attention will be paid to developing the ability to assess the strength of natural language arguments, as well as statistical arguments. Reference Words: arguments, fallacies, thinking.

The Pennsylvania description exhibits lack of sophistication about critical thinking, in that it reduces critical thinking to argument analysis. As we have seen, arguments are only one of the kinds of objects that can benefit from the scrutiny of critical thinking. Apart from that, it avoids mention of any particular approaches, techniques or theoretical perspectives in teaching what it promises, and thus it avoids building into the description any of the other mistakes catalogued above; but by the same token, we cannot be confident that it, or its instructors, possess the various kinds of sophistication that the influence of the informal logic literature would generate.

#### (6) Princeton University

*Introductory Logic.* A study of reasoning and its role in science and everyday life, with special attention to the development of a system of symbolic logic, to probabilistic reasoning, and to problems in decision theory.

The first clause of Princeton’s description might leave the student with the impression that the course is about how people in fact reason in science and



everyday life, which it isn't, since it is a course in symbolic logic, probabilistic reasoning and decision theory—all technical, normative subjects. The course title plus the second clause might leave the student with the impression that logic is the study of reasoning, which is problematic (as Strawson 1952 and Harman 1986 have argued). The description does have the merit of avoiding conflation of logic with argument analysis or critical thinking, although Princeton students, like those of Harvard, seem deprived of courses on the latter topics. However, in promising to teach the role of reasoning in everyday life by teaching symbolic logic, probabilistic reasoning and problems in decision theory the outline exhibits a lack of inference sophistication. It suggests a problematic account of moral reasoning or evaluative reasoning, or reasoning about classifications and predications, or analogical reasoning or appeals to testimony or expert authority—all common in everyday life.

#### (7) Yale University

*First-Order Logic.* An introduction to formal logic. Study of the formal deductive systems and semantics for both propositional and predicate logic. Some discussion of metatheory as well. (formerly Phil. 130)

Like Harvard and Princeton, Yale offers only a logic course, but at last we have a course that doesn't pretend to be other than what it is: an introduction to formal logic, pure and simple. It doesn't pretend, as does Harvard's introduction to deductive logic, to assist in the analysis or evaluation of arguments. So I have no quarrel at all with Yale's course description. One would not expect to find evidence of the influence of informal logic theory in such a course.

This is perhaps the place to state a worry about departments like Harvard's, Princeton's and Yale's which offer their undergraduates no course devoted to argument analysis and evaluation, and no course in critical thinking. There might be an assumption at work here that students will acquire these skills in the other philosophy courses they take. However, since the typical philosophical analysis of philosophical argumentation tends to focus on the logical or epistemological properties of the arguments, leaving unexamined their dialectical and rhetorical features, the skills of argument analysis and assessment picked up in philosophy courses will be incomplete. So it cannot be maintained that students will learn these skills adequately elsewhere in the philosophy offerings. And the critical thinking modeled in philosophy courses tends to focus on philosophical arguments, leaving underdeveloped critical thinking skills needed in other types of argumentation and in other domains. Furthermore, it is arguable that philosophical arguments ought ideally to be sound—that is, be deductively valid with true premises. On that assumption, the only logic required would be deductive logic. Unless their instructors have been influenced by the developments in informal logic theory and pass this influence along, philosophy students will thus be liable, due to lack of exposure to anything else, to lack sophistication about inference, the structure and functions of argument, critical thinking, rhetoric, dialectics, and the ambiguity of 'argument.'

## B. Some Canadian Universities (offering the Ph.D.)

## (8) University of British Columbia

*Introduction to Logic and Critical Thinking.* This course develops tools for dealing with both everyday and more technical arguments and concepts and requires no previous familiarity with either logic or Philosophy. Topics to be covered include the distinction between logic and rhetoric; the analysis and resolution of ambiguities; fallacies of reasoning; arguments and argument structure; the distinction between validity and inductive strength; the justification of belief; and several topics in elementary propositional logic. The course will be of interest both to Philosophy students and to others who are interested in sharpening their logical skills and in exploring the nature of reasoning.

*Symbolic Logic I.* Sentential and predicate logic. Translation from natural language; truth tables and interpretations; systems of natural deduction up to relational predicate logic with identity; alternative proof methods. Some sections may use computer-based materials and tests.

British Columbia clearly distinguishes between a course in logic and one in “logic and” critical thinking, which is a good thing. But a bad thing is that the logic and critical thinking course appears to conflate the teaching of logic and argument analysis and evaluation with the teaching of critical thinking. There is a lack of sophistication about the complexity of the concept of critical thinking. Another worry is that its list of topics is probably too ambitious. There is evidence of rhetorical and structural sophistication, though none of dialectical sophistication, and there is the possibility, if validity and inductive strength exhaust the types of inference presented, that inference sophistication is absent. The symbolic logic course, it should be noted, avoids any hint of the conflation of narrow and wide senses of ‘argument.’

## (9) University of Calgary

Calgary’s 2006-2007 on-line calendar gives no single description of its *Introductory Logic* course, opting instead to publish each instructor’s short description of the course as he or she intends to teach it. This approach has the virtue of avoiding the vague or the shopping-list features found in some single-description entries. In a recent catalogue, Calgary offered sections of *Introductory Logic* taught by three different instructors, as follows.

*Introductory Logic.*

*A’s section:* An introduction to deductive and inductive techniques used in appraising arguments. The course will contain some elementary formal logic, but its main focus will be on analyzing arguments as they occur in everyday life and ordinary language.

*B's section:* This course provides an introduction to some basic deductive and inductive techniques used in appraising arguments. The main focus of the course will be on elementary formal logic, but we will also consider informal techniques for the analysis and resolution of ambiguities, confusions, and fallacies that occur in everyday life and ordinary language.

*C's section:* The goal of the course is to improve students' understanding of arguments. Even though the study of arguments is nearly the exclusive province of philosophers, arguments appear in every discipline. It is therefore most beneficial to have some foundation in this area. This course will introduce students to the basics of informal reasoning including work on the fallacies and inductive reasoning. We will also study formal logic including categorical logic (both traditional and modern), propositional logic, and just a bit of predicate logic. Textbook: Stephen Layman, *The Power of Logic* (McGraw-Hill, 3rd edition, 2005).

A lack of sophistication about the ambiguity of 'argument' is evident in all three cases. All propose to blend the teaching of the logic of narrow-sense arguments with the teaching of the analysis and appraisal of broad-sense arguments. *B's* and *C's* descriptions, however, also allow a place for "informal" techniques and reasoning, and so might well incorporate some of the lessons of the literature listed earlier. *C's* claim that the study of argument is nearly the exclusive province of philosophers, overlooks the scores of rhetoricians, dialecticians, communication theorists and linguists who have made the study of argument and argumentation their lives' work, so one might reasonably predict lack of sophistication about rhetoric, dialectic, and argument function in *C's* course. The instructors here, *A*, *B* and *C*, are either doctoral students or recent Ph.D.s, so it doesn't seem unreasonable to project their limited sophistication about informal logic research back onto their instructors at Calgary, or elsewhere.

(10) University of Western Ontario

*Reasoning and Critical Thinking.* This course is an introduction to critical thinking. Students who complete this course should find that their ability to evaluate arguments and produce cogent arguments of their own is greatly improved, since it provides students with a procedure by which they can systematically read and evaluate complex arguments in both informal and academic contexts. These same techniques can be applied to their own writing, making the course an excellent foundation for virtually all intellectual work in any discipline. Students who plan to seek entry to professional schools will find the training given in this course particularly useful when they write standardized tests like MCAT, LSAT, GMAT, etc. The course covers four broad areas of critical thinking: determining argument structure and argument evaluation, classical syllogistic logic, the calculus of propositions, and probabilistic reasoning.

*Introduction to Logic.* An introduction to propositional logic and general quantification. Related problems in semantics and the philosophy of logic will be discussed. This course assumes no prior knowledge of logic.

Western Ontario separates its introductory instruction in logic from that in reasoning and critical thinking, which avoids a variety of mistakes and misrepresentations. Even so, the critical thinking course is unsophisticated about critical thinking, since it conflates the teaching of logic with the teaching of critical thinking. How sophisticated this course is in its reflection of informal logic research depends almost entirely on what is bundled into the area called “determining argument structure and argument evaluation,” and since no information about how the course unpacks this area is provided, no inferences can be drawn. I am worried that not a lot of sophisticated theory of informal logic and its applications can be taught if classical syllogistic logic, the propositional calculus and probabilistic reasoning are also all taught in a single semester in such a way that students really can get to understand them. Western’s Introduction to Logic course description deserves credit for avoiding conflating different senses of ‘argument.’

#### (11) University of Waterloo

*Critical Thinking.* An analysis of basic types of reasoning, structure of arguments, critical assessment of information, common fallacies, problems of clarity and meaning.

The Waterloo description is too brief to conclude much from it. Addressing problems of clarity and meaning and the assessment of information in addition to teaching reasoning and argument avoids at least partly the conflation of logic with critical thinking, so exhibits sophistication about critical thinking. The problem with this course as described is its over-ambitiousness. If all that is advertised in this brief description is taught and learned in a single semester, the instructor and students are remarkable. There’s a worry, therefore, that the concept of fallacy is unsophisticated. But the description is consistent with sophistication in all areas.

#### (12) York University

*Introduction to Logic.* This course is an introduction to the formal techniques of sentential and predicate logic. It assumes no prior knowledge of logic, philosophy or mathematics. Although logic is related to mathematics and utilizes minimal symbolization, LOGIC IS NOT A MATH COURSE. The central aim of the course is to impart a skill — the ability to recognize and construct correct derivations. Though much of the material is formal, heavy emphasis will be placed on applications to ordinary language. After introducing rudimentary logical notions and learning to translate some types of English sentences and arguments into symbolic notation, we will begin our study of valid inference by focussing upon arguments whose validity derives from the meaning of connectives, “if”, “not” and “only if”. Subsequently, we will extend our treatment of sentential connectives to include, “and”, “or”, “if

and only if” and their stylistic equivalents. We will examine and master semantic and deductive procedures for evaluating these kinds of arguments. Finally, we will study the monadic quantifier calculus, otherwise known as predicate logic. This will allow us to formalize inferences which are dependent upon the attribution of properties and relations to categories of things.

*Critical Reasoning.* A systematic study of practical argument, the analysis of techniques, formal and informal fallacies, the relationship between arguing well and winning an argument. When is argument propaganda? Methods of identifying and undermining specious arguments will be explored and tried.

York wisely separates its logic and critical reasoning courses. My only worry about *Introduction to Logic* is the clause, “heavy emphasis will be placed on applications to ordinary language,” since such an emphasis risks the inappropriate application of the apparatus of symbolic logic, which fits narrow-sense arguments, to broad-sense arguments. *Critical Reasoning*, although perhaps overly ambitious in its promise, raises no red flags with respect to the lessons to be learned from the literature, but is so succinct as to hide any lack of sophistication.

### (13) University of Toronto

*Modern Symbolic Logic.* The application of symbolic techniques to the assessment of arguments. Propositional calculus and quantification theory. Logical concepts, techniques of natural deduction.

*Probability and Inductive Logic.* The elements of axiomatic probability theory and its main interpretations (frequency, logical, and subjective). Reasoning with probabilities in decision-making and science.

*Critical Reasoning.* The area of informal logic—the logic of ordinary language, usually non-deductive. Criteria for the critical assessment of arguments as strong or merely persuasive. Different types of arguments and techniques of refutation; their use and abuse.

*Modes of Reasoning.* Students learn how to recognize, analyze and evaluate arguments, which are basic skills for success in many areas of university work, including the study of law. The course also examines ethical reasoning and legal reasoning with reference to the nature of these modes of reasoning and to the criteria for evaluating them, and with reference to a selection of contemporary social issues. No background in logic, ethics or law is required.

Toronto’s offerings have the great virtue of separating different topics into different courses. It separates the teaching of logic from the teaching of critical reasoning in general, and in the latter courses it exhibits sophistication about inference and seems to be sophisticated about the ambiguity of ‘argument.’ There is no reference to dialectic or rhetoric in the critical reasoning or modes of reasoning course, so it is not clear whether the courses are sophisticated in these areas.

## (14) Queen's University

*Critical Thinking.*

*A's section:* This course is an introduction to the basic skills required for reasoning and writing well. Some issues and ideas covered in this course include: meaning; definition; logic; language; inductive reasoning; deductive reasoning; moral reasoning; techniques of persuasion and media critique, among others. The overall objective is to provide a solid basis from which to assess, clarify and critique arguments from a wide range of sources and disciplines. While philosophical in nature, this course does not assume knowledge of any other philosophy course.

*B's section:* A discussion of the general principles of reasonable discourse, with a focus on persuasive and cogent writing.

Like Calgary, Queen's publishes each instructor's version of its *Critical Thinking* course. *A's* course is very ambitious, which suggests a lack of sophistication. Everything depends on how the "ideas covered" are taught. But even as described it treats argument analysis as critical thinking, so is unsophisticated about critical thinking. *B's* course seems to take persuasion as a species of reasonable discourse, whereas the converse is more likely true, so it seems to start from a fundamental mistake. And given the course title, *B's* description reveals a lack of sophistication about critical thinking.

## (15) University of Ottawa

*Reasoning and Critical Thinking.* Development of fundamental skills in reasoning and critical thinking through the study of argument types, logical structures, criteria used in the evaluation of arguments, and forms of fallacious reasoning.

*Logic I.* Provides foundations for formal treatment of argumentation and validity. Topics include formalized languages, interpretation, translation, sentential calculus and quantification theory.

Ottawa separates its introduction to logic and its reasoning and critical thinking courses, which again is a good initial move. However, the *Reasoning and Critical Thinking* course is unsophisticated about critical thinking, conflating argument analysis with critical thinking. Also, the reference to "forms of fallacious reasoning" is worrisome, and in the light of the latest thinking about fallacies alluded in the passage quoted from Tindale, above, one suspects unsophisticated fallacy theory. As for *Logic I*, as long as "argumentation" is restricted to narrow-sense arguments, all is well.

## (16) McGill University

*Introduction to Deductive Logic I.* Restriction: Not open to students who are taking or have taken MATH 318. An introduction to propositional and predicate logic; formalization of arguments, truth tables, systems of deduction, elementary metaresults, and related topics.

McGill, like Harvard, Princeton and Yale, offers just a formal logic course, so the comments about such courses made above apply here too.

## **10. Conclusions**

The philosophy departments examined in this unsystematic survey fall into two groups. One (Harvard, Princeton, Yale, McGill) consists of those that simply refrain from offering informal logic, argumentation or critical thinking courses, and thereby, either deliberately or by happenstance, avoid running into the problems associated with ignorance of the 30 years of literature on those topics. At the same time, to be sure, they forego offering the students in their universities any instruction in these areas.

The majority of departments, however, the second group, promise instruction in some set of these topics at the undergraduate level. The latter departments can be divided into those that combine introduction to logic with argument analysis and critical thinking in a single introductory course (Brown, Columbia, Dartmouth, Calgary, Queen's), and those that separate their critical thinking or critical reasoning, argument analysis course from their introductory logic course (British Columbia, Western Ontario, York, Toronto, Ottawa). (Almost every department in the last group offers a symbolic logic course at the second-year or sophomore level. I did not include these descriptions since the present survey is limited to first-year or freshman courses and because in every case the symbolic logic course, if it mentioned arguments at all—and not all did—clearly avoided any conflation of narrow-sense and broad-sense arguments. Such courses seem to be designed and taught by the departments' logician, which suggests that where problems occur, they are not due to logicians' misunderstandings of the scope and applications of logic.)

The most problematic courses are the multi-purpose ones. Apart from generally being overly ambitious, they tend to reveal assumptions that exhibit an ignorance of the informal logic, argumentation, critical thinking literature, and to make the mistakes and perpetuate the misrepresentations associated with such ignorance. However, even among those departments that separate their first-year or freshman logic course from the critical reasoning or critical thinking course, there is evidence that many course designers are unaware of the changes in theory to be found in the last 30 years' scholarly literature. It is probably not a coincidence that the departments with the least theoretically problematic course descriptions (Dartmouth, British Columbia, York and Toronto) are also the home departments of scholars who have contributed to this literature (R.J. Fogelin and W. Sinnott-Armstrong at Dartmouth, J. Woods and A. Irvine at British Columbia, M.A. Gilbert at York and D. Allen at Toronto).

A weakness of the methodology of this study is that the succinctness of the calendar course descriptions often left it impossible to tell whether items not mentioned were included or absent. Thus for the most part it was impossible to tell

whether the courses were sophisticated about inference, about argument structure and function, and about rhetoric and dialectic. Does absence of mention imply presence or absence? I suspect it implies absence, but that conclusion cannot be inferred with confidence. It also has to be noted that other kinds of departments in the United States, such as those in state universities and colleges, might offer quite a different picture of informal logic's influence. I have looked at some of these departments' offerings and found them disappointing, but I must admit that my study has not been extensive or systematic, so I am in no position to suggest any firm conclusions.

However, it is clear that in this sample there is scant positive indication of the influence of the theoretical sophistication that has emerged in the informal logic literature of the past 30 years. If the findings of this very limited survey are suggestive, then from the perspective of those who see value in the theoretical developments in informal logic, argumentation theory and critical thinking theory, which the present author shares, they are rather disappointing findings if they indicate the influence of the field on philosophy education in the United States and Canada. They suggest that this literature has not penetrated the discipline of philosophy to any great extent.

To be sure, that conclusion assumes that this literature has not been followed, judged and dismissed as mistaken or unimportant. It might be that the pejorative assessments of Massey (1981) and Hintikka (1989), for example, have been heard and accepted as authoritative. Either way, if the findings of this small survey can be generalized, those who believe that the literature in question does contain valuable insights about the analysis and evaluation of arguments and argumentation, and about the constitutive elements of critical thinking, face a rhetorical challenge. How can they get themselves heard by their colleagues in the mainstream of philosophy?

I suggest that this challenge includes coming to grips with some sociology of knowledge. I earlier alluded to the self-perpetuation of ignorance—philosophers unaware of the literature teaching the next generation of philosophers, who as a result inherit and transmit the same ignorance. There is also an economic factor at work—a vicious circle in the market of textbooks for the sorts of introductory courses I am discussing. These courses tend to be taught by graduate students or junior faculty who, for the reasons just mentioned, get little to no exposure to the informal logic literature in their training in philosophy. Their sole exposure is to similar courses they took as undergraduates and to the deductive and inductive logic courses they have taken as seniors or graduate students. When they come to choose a textbook, what they want is one with whose contents they are familiar, which will be one that embodies all the mistakes and misrepresentations that they have learned. Any textbook author who fails to write for this market will either not get published or, if by chance published, will not get sales. Judging by the 100 or so textbooks for such courses on my shelves, very few textbooks avoid this trap,



and it is not in the economic interest of the textbook publishers to risk breaking out of the Catch-22 cycle. So it appears that some means is needed to break the cycle of self-reinforcing ignorance imbedded in the textbook industry.

I conclude with two comments. The first is that the results of the limited scan of philosophy courses carried out in this study are sufficiently worrisome to warrant a more extended, thorough, and representative study. The second is that even while awaiting the results of such a study, proponents of informal logic theory who believe that it should penetrate the classroom need to address the rhetorical problem of influencing the philosophical community at large.<sup>11</sup>

## Endnotes

<sup>1</sup> University of Windsor (1978, 1983, 1988, 1997, 1999, 2001, 2003), Sonoma State University (annually since 1981), Christopher Newport College [now University] (1984, 1985, 1986, 1986, 1987, 1988), Oakton Community College (1988, 1999, 1990, 1991), McMaster University (1988, 1991, 2005), University of East Anglia (1988), George Mason University (1995), and sessions at University of Amsterdam (1986, 1990, 1994, 1998, 2002, 2006). I am sure to have overlooked others, for which I apologize.

<sup>2</sup> Only towards the end of the 1970s and the beginning of the 1980s did the informal logicians turn their attention to the theoretical assumptions of their pedagogy and become aware of the work of Perelman and Olbrechts-Tyteca, Toulmin, and others.

<sup>3</sup> The term 'inferential link' is due to Pinto (1991, 26-31); 'consequence relation' is found in Woods, Irvine and Walton (2000, 3-4).

<sup>4</sup> Skyrms's classification is indeed exhaustive if the alternative to deductive validity, namely some degree of inductive strength, is taken to be simply some degree of non-deductive strength. But Skyrms had in mind a more robust concept of inductive strength, and thus overlooked the class of cogent inferences that are neither deductively valid nor inductive strong.

<sup>5</sup> Sometimes on educational grounds, but also, because such courses were popular with students, sometimes just to attract students to low-enrolment departments.

<sup>6</sup> See Fisher and Scriven (1997) for arguments in support of extending the concept in this way.

<sup>7</sup> See Jerome Groopman, *How Doctors Think* (2007) for an excellent example of extended critical thinking about physicians diagnostic practices and assumptions.

<sup>8</sup> For an early example of a dialectical approach to justification in ethics, see Carl Wellman's *Challenge and Response* (1971); for an example of a dialectical approach to academic inquiry and writing, see Jack W. Meiland's *College Thinking* (1981),

<sup>9</sup> As I understand ambiguity, only words in use can have that property. Hence a word with two meanings that might be confused is only potentially ambiguous.

<sup>10</sup> I have in mind the holder of a doctrine being taxed with its implications by an arguer who does not accept the doctrine.

<sup>11</sup> My thanks are due to two anonymous referees for very helpful comments, and to CRRAR members for their critiques of an earlier draft.

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