

Informal Logic and Argumentation: An Alta Conversation

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Abstract: Informal logic is both a pedagogical and a theoretical endeavour. It began as a response to formal logic which attempted to provide an analysis and assessment of argument which is better suited to the study of informal arguments -- often described as "natural language" or "everyday" arguments. "IL" (as it is sometimes designated) is a field rather than a school of thought, and characterized by many different and sometimes contrary approaches and perspectives. While its development is characterized by an ever broadening interest in informal argumentation in all its forms, it maintains a focus on inference understood in terms of the relationship between premises and conclusions, and on the normative analysis of arguments in this sense. In the course of its development it has been influenced, and continues to interact with dialectical and rhetorical approaches to argument. This paper is intended as catalyst to further discussion and debate.

Introduction

To understand informal logic's relevance to the study of argumentation, one must first understand its scope and content. As a field, it emerged from an assortment of disparate concerns -- both pedagogical and theoretical, normative and empirical -- about the fitness of existing logical tools to represent and evaluate everyday argumentative discourse. From these beginnings, the informal approach to argumentation has remained markedly heterogeneous. While it is not characterized by a single school, method or theory of argument, it can be unified under the basic idea that the tools of formal deductive logic (at least to the extent that they are circumscribed by basic accounts of propositional logic and the predicate calculus) are neither sufficient nor appropriate for the proper analysis and evaluation of argument as it occurs in ordinary discourse.

In 1977, two years after Wayne Brockriede's observation that "people will find arguments in the vicinity of people," in the same year that Daniel O'Keefe (1977) published *Two Concepts of Argument*, Ralph Johnson and Tony Blair characterized the new field of informal logic as follows:

By "informal logic," we mean to designate a branch of logic whose task is to develop non-formal standards, criteria, and procedures for the analysis, interpretation, evaluation, critique and construction of argumentation in everyday discourse. (1977, p. 148)¹

This characterization, together with the fact that it was offered in their newly published textbook, *Logical Self-Defense*, highlights some distinctive features of the informal logic approach to the study of argument.

First among these features is IL's focus on "argumentation in everyday discourse" – "arguments on the hoof," as John Woods calls them – rather than in the abstract and rarefied contexts of the *a priori* sciences like mathematics and logic, or rigidly quantified empirical sciences like physics or sociology. A second feature of informal logic is its emphasis on arguments understood as collections of premises and conclusions. This "product-centered" conception of argument does not mean that informal logicians have no interest in the processes and interactions that produce arguments in this sense – a greater emphasis on the context of argument has been one of the defining features of the evolution of the field – but it does mean that IL's ultimate goal is the normative evaluation of arguments in the premise and conclusion sense. As Johnson (2000) puts it in his *Manifest Rationality*, informal logic is concerned with "the product of the practice [of argumentation]" (p. 31).

IL's emphasis on arguments understood as premises and conclusions is tied to a third defining feature of the field, which is its ineliminable normative character. The goal of informal logic is the assessment of arguments as strong or weak, good or bad, reasonable or unreasonable, plausible or implausible, valid or invalid, and cogent or not. In early work in the field, this situated the practitioner as a consumer of (usually written) argument texts who adopted the role of third party judge or critic. Since then, the field has expanded in a manner that places more emphasis on the construction of arguments. In the latter case, the aim is a theory that will guide one in the production of arguments that are strong rather than weak, good rather than bad, and so on.

Applied Logic

The rise of informal logic is tied to developments at the University of Windsor in the late 1960's, where Johnson and Blair took the lead reacting to the pedagogical shortcomings of formal logic and its place in the undergraduate curriculum. In recent writings (2002, pp. 340-352) they have identified three critiques of the academic logic program which served to motivate and guide the development of informal logic.

1. The **pedagogical critique** challenged the idea that the tools of formal, symbolic logic were pedagogically useful – that they adequately equipped students to understand, analyse and critically evaluate the kind of persuasive argumentation that occurs in everyday discourse.
2. The **internal critique** challenged the idea that the standards of formal logic, namely premise truth, deductive validity and argument soundness, are the best standards for the meaningful and informative evaluation of ordinary reasoning and argument.
3. The **empirical critique** challenged the idea that the norms of formal logic provided a regulative and prescriptive ideal which are capable of improving ordinary reasoning and argument.

By way of response, Johnson designed a course, called "Applied Logic," which was introduced to the University of Windsor undergraduate curriculum in the 1971-72 academic-year. Johnson explained,

The aim of this course is to teach the student how to discriminate good arguments and bad ones. Among the topics to be considered are: the basic principles of deductive inference, the

different kinds of fallacy; the nature of inductive inference; the difference between proof and persuasion. Examples will be taken not only from philosophical writings, but also from political speeches, advertising, newspapers and periodicals. (cited in Konishi, 2009, p. 4)

At least with students, applied logic succeeded where formal logic faltered. They demonstrated their interest with their feet, turning it into an enormously popular course which the students saw as relevant to their own concerns. Enrolments doubled, and Ralph quickly conscripted Tony Blair into teaching additional sections of the course. And thus a key partnership was born.

Logical Self-Defense

Blair and Johnson initially selected Kahane's *Logic and Contemporary Rhetoric* as the text for Applied Logic. This was a text that had already established the notion that introductory logic courses should focus on arguments relevant to the students who enrolled them. As their thinking about the course developed, they began to supplement Kahane's text with additional material which eventually formed the basis for their own text *Logical Self-Defense*. As the title indicates, they adopted an approach that saw logical skills as a way to defend oneself against the onslaught of argument (much, perhaps most of it, bad) that surrounds us in day to day discourse.

Konishi (2009) finds two especially telling remarks that reflect this approach. The first comes from "the notes of organizational meeting for applied logic text, October 1, 1974":

Our angle will be that we are treating that part of critical thinking that might be called "defensive thinking." This angle provides a (rough) principle of unity: everything in the text can (more or less) go under the rubric of "something you need to know to be able to think well defensively." (cited in, Konishi 2009, p. 9)

The second comes in 1975 from a letter to the initial editor of *Logical Self-Defense* following two unsympathetic reviews:

To discuss it [the method of counterexamples] would get us into territory we've deliberately avoided: strategies of logical offense. We've designed the whole text around what might be called "defensive logic" – how to avoid being taken in by others' bad logic. It would call for an entirely new section – and in fact a different orientation; a different book – to catalogue and teach the methods of logical attack. (cited in Konishi, 2009, p. 12).

Though many informal logicians do not approach the IL enterprise in this same spirit, two aspects of the Blair and Johnson approach have had a significant impact on the field. One is an approach to argument cogency which judges cogency in terms of the "R.S.A." criteria: i.e. relevance, sufficiency and acceptability.² It defines a good argument as an argument which has (1) premises that are relevant to (i.e. increase the likelihood of) the conclusion, (2) premises that provide sufficient evidence to establish the conclusion as true, probable or at least plausible, and (3) acceptable premises.

A second aspect of *Logical Self-Defense* which was formative for subsequent developments was an account of fallacies proposed as a way to analyze ordinary argument. The fallacy approach that this implied can be seen as a natural outcome of the search for a theoretical alternative to formal logic that could cope with the complexities, ambiguities and vagaries of natural language argument. Especially in the context of an attempt to defend oneself against the woolly reasoning that characterizes ordinary discourse, the result was a method with an impeccable pedigree that could be traced to Aristotle's list of fallacies in the *Sophistical Refutations*, already used by Copi (1961) in his attempt to broaden the standard introductory logic course.

The Methods of Informal Logic

As significant as they are, it would be a mistake to think that the R.S.A. criteria and fallacy theory constitute informal logic. There is no consensus that establishes them as the key components of the field and both methodologies have been criticized. In an important survey of IL methods, Hansen (2011) has suggested that the R.S.A. criteria places too much emphasis on premise acceptability, and that informal logic, like formal logic, should consist of methods of judging the relationship between premises and conclusions (what he calls "illative evaluation"). Certainly it must be said that this remains the core concern of informal logic for many practitioners who study and teach IL.

The criticism of standard accounts of fallacies began with Hamblin (1970) and has gained momentum ever since. From a pedagogical point of view, fallacies have been criticised on the grounds that they emphasize the identification of poor arguments and the mistakes inherent in them, rather than the principles of good arguments and the skills needed to construct them. In theoretical discussion, a long series of commentators have demonstrated that many instances of traditional fallacies are paradigm examples of good reasoning. There are, for example, occasions when *ad hominem* arguments are reasonable (imagine that someone is a notorious liar and we are asked to accept a claim on the basis of their say-so), when appeals to ignorance are legitimate (imagine that a dedicated search for evidence in favour of a position has turned up none), and so on. Groarke and Tindale (1986,1989, 2012) have turned fallacies inside out, using them as the basis for the definition of positive, cogent forms of argument.

This does not mean that fallacies have no role to play in IL – fallacies like equivocation and many questions remain an integral component of its account of argument – but "argument schemes" have supplanted fallacies in many versions of the discipline. As fallacies are conceived of as a list of *topoi* or commonplaces – stereotypical ways in which arguments can fail or be deceptive – argument schemes provide a similar list of positive *topoi* – an inventory of positive patterns of defensible reasoning that frequently occur in everyday arguments. An illustrative example is the scheme for argument from expert opinion, which can be given as follows (Godden & Walton, 2006).

Major Premise: Source E is an expert in subject domain S containing proposition A.

Minor Premise: E asserts that proposition A is true (false)

Conclusion: A is true (false)

Instances of this scheme are typically described as presumptive, meaning that their force, if cogent, is to create a presumption in favour of their conclusion thereby shifting the burden of proof to any objectors or respondents.

In any attempt to understand the differences that distinguish different instantiations of informal logic (defended in the scholarly literature and/or developed in textbooks), it is helpful to distinguish the *analysis* and the *evaluation* of argument it encompasses. Evaluation is IL's ultimate goal but evaluation must be built upon a prior analysis that first identifies the key (explicit and implicit) components of an argument and in doing so prepares the way for criticism. Categorizing arguments as instances of fallacies or common argument schemes are, for example, modes of analysis that can establish the standards of evaluation that apply.

An argument which is categorized as an instance of a scheme is a good argument if its premises (assuming they are acceptable) establish a presumption that its conclusion is acceptable. In such a situation, we might say that the argument is "presumptively valid." Each scheme is characterized by a particular set of "critical questions" can be used to evaluate the argument. In the case of appeal to expert opinion, for example, one might identify the following critical questions (Godden & Walton, 2006).

1. Expertise Question: How credible is E as an expert source?
2. Field Question: Is E an expert in the field that A is in?
3. Opinion Question: What did E assert that implies A?
4. Trustworthiness Question: Is E personally reliable as a source?
5. Consistency Question: Is A consistent with what other experts assert?
6. Backup Evidence Question: Is E's assertion based on evidence?

Looked at in a different way, these critical questions identify the kinds of premises needed to strongly establish a conclusion of the sort in question. In discussing the role of critical questions, Godden and Walton (2007) argue that they function as commonplaces, or general guidelines to test schematic presumptive arguments in ways that they commonly fail or go wrong, each question serving to test arguments against one or more of the three R.S.A criteria.

Argument schemes are a tool of analysis that informal logic shares with pragma-dialectics. Other tools it has endorsed have been borrowed from classical and contemporary rhetoric. In analyzing and evaluating arguments, some informal logicians do so in terms of its threefold criteria for argument – *êthos*, *pathos*, and *logos* (see, e.g., Tindale (2004)). In keeping with Aristotle's own view, this suggests that successful arguments in day to day affairs must be judged strong from the point of view of *êthos* and *pathos* as well as *logos*. Such a view significantly broadens the scope of traditional logic.

Within the realm of argument analysis, the evolution of informal logic has been characterized by an interest in an increasingly expanded the realm of argument. Pinto (2001) has, for example, broadened the standard account of argument, which sees premises and conclusions as propositions, suggesting that the aim of many arguments is not assent to a proposition but a particular attitude or emotion, or the withholding of assent. As he points out, arguments may, for example, function not as a means of establishing which propositions are true, but as a means of instilling fear or hope.

Other commentators have pointed out that there are arguments that do not fit the verbal (typically written) paradigm that IL (and two thousand years of logic) initially assumed. A “visual” argument is an argument which is conveyed with non-verbal visual images (see, e.g., Blair (1996), and Birdsell and Groarke (1996, 2007)). The latter include graphs, photographic evidence (used in courts, for example), documentary films, art, cartoons, and architecture. One might speak of “musical” arguments. As commentators have pointed out, arguments of this sort can be readily analyzed in terms of the account of speech acts and argumentative communication developed by pragma-dialectics.

In its attempt to understand the elements of an ever expanding conception of argument, IL has increasingly concerned itself with the process of argument and the broader context of disagreement in which argument occurs. IL still looks to evaluate arguments in the premise and conclusion sense, but has recognized that doing so requires an understanding and analysis of the contexts in which argumentation occurs. In trying to develop this analysis, the field has borrowed from, debated and discussed the theoretical tools offered by other fields of argumentation studies – notably rhetoric, dialectic, speech communication, and cognitive psychology.

Gilbert (1997), and following him Carozza (2007), proposes a radical move in this direction, understanding argumentation as an attempt to overcome disagreement, propounding a theory of “coalescent argument” which sees arguments as clusters of attitudes, beliefs, feelings and intuitions associated with the arguers. Against this background, argumentative exchange is viewed as an attempt to identify the points of agreement that can characterize different (and possibly opposed) arguers, fostering the “coalescence” of their points of view.

On the basis of this account, Gilbert expands the scope of argument to include whatever can be used to bring about the coalescence which is its aim. This means that the substance of argument can be, not only reasons in the traditional sense, but also emotional or physical means of coalescence. Sometimes the latter are the most effective means of reconciling disagreement. While he recognizes the traditional “logical” mode of argument, this means that Gilbert adds other modes, proposing that there can be “emotional,” intuitive (“kisceral”), and physical (“visceral”) modes of argument. According to this account, a hug, a forlorn look, or tears may count as argument.

Others have expanded IL’s analysis of argument in other ways. Walton has embraced a dialectical account of argument that sees arguments as complex speech acts – dialogues comprised of a series of individual speech acts – engaged in by (in the basic case) two individuals. These dialogues can be categorized by type, and the type of dialogue serves to establish an overall context of argument which, by setting features such as the goal of the dialogue, contributes to fixing the norms relevant to the argument. Initially six primary types of dialogue were proposed: Persuasion, Inquiry, Negotiation, Information-seeking, Deliberation and Eristic (Walton, 1998), to which a seventh, Discovery, was added (Walton, 2010) on the basis of work by McBurney & Parsons (2001). Following Walton (2010) these dialogue types are given in the table below.

TABLE 1 – Types of Dialogue

| <i>Dialogue Type</i> | <i>Initial Situation</i> | <i>Dialogue Goal</i> | <i>Participant Goal</i> |
|------------------------|---|--|---|
| I. Persuasion | Conflict of opinion | Resolution of difference of opinion | Persuade other |
| II. Inquiry | Ignorance; require proof or demonstration | Prove (disprove) hypothesis | Find and verify evidence |
| III. Discovery | Ignorance; require explanation | Select best hypothesis for testing | Find and defend a suitable explanation |
| IV. Negotiation | Conflict of interests | Reasonable settlement | Get what you want most |
| V. Information-Seeking | Ignorance; require information | Exchange information | Acquire or provide information |
| VI. Deliberation | Dilemma or Practical Choice | Decide of best available course of action | Co-ordinate goals and actions |
| VII. Eristic | Personal Conflict | Reach accommodation in relationship; reveal deeper basis of conflict | Verbally strike-out at opponent; win in eyes of onlookers |

Such views suggest that dialogues are a key component of arguments, and that the standards of good and bad reasoning vary depending on the dialogue. One might describe the dialogue as a frame which determines how one should proceed in the process of evaluation. The key point is that different standards apply in the context of different dialogues. To take a simple example, an argument forwarded in the context of collective bargaining (a specialized kind of negotiation dialogue) is not governed by the same norms as those that apply in an attempt to predict the extent of climate change over the next decade (a case of inquiry). In the former, but not the latter, situation arguments can legitimately be understood as attempts to further one's own interests (and not an attempt to establish some objective truth).

Informal Logics

The many different ways in which different informal logicians approach their subject make it a mistake to speak or write as though there was a single informal logic. Like formal logic, which studies and constructs many different kinds of formal logic, there are many different informal logics that focus on particular methods or couple together different tools within the field.

In addition to the methods we have already noted, one might recognize the following extant approaches to argument evaluation as significant methods in the informal logic literature: traditional propositional and syllogistic (or predicate) logic used as a method for understanding informal arguments; a deductivist approach which treats informal arguments as deductive arguments, championed by Whately (1828) at the beginning of the nineteenth century, and still favoured by the brothers Groarke (1999, 2009); a logical analogies approach urged by Burbidge (1990); the warrant approach, central to Mill's logic (1843), promoted by Toulmin (1958); and a method used in teaching we might call "the thinking about it" approach, advocated by Fisher (1988), and also by Pinto and Blair (1993). The latter judges the relationship between the premises and conclusion in an argument by invoking a thought experiment that considers what would be the case if the premises were true.

We might identify a particular informal logic as a concatenation of the tools and methods that make it up. Many variations are possible. One might, for example, roughly construe the informal logic in Johnson and Blair's *Logical Self-Defence* as "The R.S.A. criteria + Fallacies," the logic in Groarke and Tindale (2012) as "The R.S.A. criteria + Rhetorical Conceptions + Argument Schemes;" and that in Walton (1999) as "Dialogues + Argument Schemes." Of course, a precise identification is a more complex endeavour than this suggests, for a precise account of different informal logics would have to recognize that different logics employ different sets of fallacies, argument schemes, and dialogue types. In the present context, it is enough to note this caveat and the possibility of defining different informal logics in terms of the tools and methods they employ. The key point is that there are informal logics, not one informal logic, and that they can be individually analysed in a way that allows them to emerge as distinct approaches to informal argument, complete with standards, tests, concepts and techniques. One might easily compare formal logic and the families of logic it incorporates.

Evaluating Informal Logic

The various techniques and methods of informal logic have been developed as a means of allowing and promoting the evaluation of ordinary arguments. In this way, the field aims to improve the reasoning skills of the students who study it, and to in this way improve the quality of argument in such contexts. In view of this telos it is natural to ask whether and to what extent informal logic has, in its various instantiations, achieved this end. Two developments within informal logic merit comment in this regard.

The first is the attempt to empirically test the results of studying informal logic with the goal of establishing whether it successfully improves students' argument skills (see Sobocan & Groarke, 2007). This is an active area of research which is frequently tied to educational attempts to develop critical thinking tests that can be used to assess students thinking and reasoning skills. The key point to note in an overview is that such investigations are a complex endeavour, in view of the different methods featured in different informal logic courses and serious criticisms of the validity of some of the instruments used to test reasoning skills in this context (e.g., the California Critical Thinking Test). Ideally, further research will yet yield a way to judge, not only the efficacy of informal logic, but the comparative efficacy of different informal logics.

Hansen (2011) has initiated another project that would evaluate different informal logics (in particular, their methods of judging inferences) from the point of view of their characteristics, their

content and their functional adequacy. Under “characteristics” he considers the kind of standard a particular method embodies (is it an ideal? a precise standard? a minimum that must be met? one that can be directly applied? and/or one that allows a spectrum of inference strengths from weak to strong?). In comparing the content of different logics, he considers the concepts, techniques, and standards that they use. The chart below contains his comparison of the fallacy approach and the “thinking about it” method which employs thought experiments.

TABLE 2 – Methods of Informal Logic: Fallacy Method vs. “Thinking about it”

| | <i>Fallacy method</i> | <i>‘Thinking about it’ method</i> |
|-----------------------------|--|---|
| <i>Operational Standard</i> | An argument is premiss sufficient if it commits none of the fallacies on the A-list. | An argument is premiss sufficient if, judging by appropriate standards of evidence, it is not possible that the premises are true and the conclusion false. |
| <i>Concepts</i> | - identifying conditions of the fallacies; - syllogistic validity. | - argument field; - assertibility question. |
| <i>Techniques</i> | - careful reading of argument; - comparing argument with each of the fallacies on the list. | - finding field-relative standard; - performing thought experiment. |
| <i>Comment</i> | - requires interpretation. | - requires imagination. |

In comparing the functional adequacy of different methods of informal logic, Hansen distinguishes two aspects of reliability. The first is suggested by Govier, who holds that a method of testing for premise sufficiency is reliable to the extent that “it can be used by different people to get the same result” (1999, pp. 108-109). This is called subjective reliability, and is a matter of degree: some methods may have a high level of subjective reliability, other methods a lower level. A second kind of reliability is a reflection of the actual results that they produce. An informal logic could have a high degree of subjective reliability when rightly used – that assessors using the method tend to agree in their judgments – and still sometimes or even frequently result in mistaken judgments, or even consistently misjudge certain kinds of arguments. Polling methods that fare better at predicting election winners are more reliable methods than those that aren’t right as often. This is called “objective reliability.”

Informal logics can be judged in a variety of other ways. A logic is “learner-efficient” to the extent that its content – its operational standard, concepts and techniques – can be learned fairly easily

by argument assessors. Once learned, however, the method may not be easy to apply. In addition to questions of learner-efficiency, there are questions of “user-efficiency.” The more kinds of arguments a method can be used to evaluate, the greater an informal logic’s scope, and the greater its scope the more useful the method is.

The table below compares the “thinking about it” method to argumentation schemes from these different points of view.

TABLE 3 – Methods of Informal Logic: “Thinking about it” vs. Argumentation Schemes

| | <i>“Thinking about it”</i> | <i>Argumentation schemes</i> |
|-------------------------------|--|---|
| <i>Learner efficiency</i> | HIGH: not concept heavy and hardly any technical concepts. | LOW TO MEDIUM: many schemes; even more associated questions; Qstns contain difficult concepts. |
| <i>User efficiency</i> | MEDIUM TO HIGH: b/c it requires some knowledge of field relative standards. | MEDIUM TO HIGH: many arguments and schemes fit easily together. |
| <i>Subjective reliability</i> | DEPENDS on extent of shared field-relative knowledge of assessors; and parity of imaginative powers. | MEDIUM TO HIGH: b/c the questions will direct the assessors to consider the same issues. |
| <i>Objective reliability</i> | DEPENDS on assessors identifying the correct field-relative standards; and powers of imagination | MEDIUM: b/c of scope restrictions. |
| <i>Scope</i> | WIDE: can be applied to all kinds of arguments. | MEDIUM: b/c restricted to presumptive reasoning (leaving out deductive and inductive); varies directly with the number of schemes in use. |

The Future of Informal Logic

Informal logic has successfully established itself as a field for teaching and inquiry. There is every reason to expect that it will continue to develop an expanded account of ordinary argument and the means of analyzing and evaluating them. IL’s interactions with other fields of argumentation studies have already proved fertile and are likely to continue. The amalgam of theories, methods and resources

they have jointly produced are an active area of research and teaching which is having a profound impact on the way we understand argumentation (and on cognate fields like Artificial Intelligence and Computational Modeling).

Inevitably, the field of informal logic will continue to evolve. One aspect of this evolution will be the development of new informal logics and clearer accounts of those that have already been developed. The comparison and assessment of different logics is in its early stages, but it points the way to a new stage in the evolution of the field, which will allow it to continue to develop in a manner which is more critical and circumspect when it considers claims about its adequacy, reliability and effectiveness. This is a new development which should be welcomed. It is entirely appropriate that a field which is so committed to the evaluation of argumentation should ultimately apply standards of evaluation to itself.³

Notes

1. See Johnson and Blair (1994, pp. 10-11) for a brief reflection on their developing conceptions of IL, and Johnson and Blair (2002, pp. 356-358) where they reject a variety of alternative conceptions of informal logic.
2. Johnson and Blair (1977, 1994) call this the R.S.A. test, while Govier (2005, pp. 63-76) calls it the A.R.G. (acceptability, relevance and good grounds) condition of argument cogency.
3. For a more complete account of the history and development of informal logic, see the Stanford Encyclopedia of Philosophy entry on informal logic, at <http://plato.stanford.edu/entries/logic-informal/>

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