What Is Informal Logic?

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1   Introduction

Considering the 2014 ISSA conference keynote speakers, one gets the impression of a kind of Aristotelian trivium of argumentation theory—rhetoric, dialectic and logic. Professor Fahnestock represents rhetoric, Professor van Eemeren represents dialectic, and Professor Blair represents logic. However, since I am not a logician, I cannot fill that role. What I can and will do is represent informal logic, which is a somewhat different kettle of fish.

What motivated my topic—"What is Informal Logic?"—is my difficulty in coming up with a one or two sentence answer whenever someone asks me, "What IS informal logic, anyway?" or "What *exactly* is informal logic?"

It is not easy to say what informal logic is. I'm not entirely happy with the latest definition by Johnson and me that is quoted in the chapter on informal logic in the *Handbook of Argumentation Theory* (van Eemeren et al. 2014)[1]: "Informal logic designates that branch of logic whose task it is to develop non-formal$_2$ [i.e., not restricted to logical form] standards, criteria, procedures for the analysis, interpretation, evaluation, critique and construction of argumentation in everyday language" (van Eemeren et al. 2014, pp. 373–374). I would today drop 'standards,' and say "*arguments and* argumentation" and "*natural* language"; but the main point is that this is a very general definition, and so not very informative. Also, I'm quite unhappy with several features of the informal logic entries in the on-line *Stanford Encyclopedia of Philosophy* (Groarke 2013). It strikes me as over-emphasizing themes not central to informal logic, such as visual argument and the debate over

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[1]*HAT* is the successor to *FAT*, *Fundamentals of Argumentation Theory* (van Eemeren et al. 1996).

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so-called natural language deductivism[2] and underemphasizing the prominence of argument scheme theory and of non-deductive and non-inductive criteria; and it employs prominently and without explication the (to me) puzzling terms 'informal reasoning', 'informal inference' and 'informal argument' (—what would count as *formal* reasoning, inference or argument?). The accounts in *The Cambridge Dictionary of Philosophy* (Walton 1995) and *The Oxford Companion to Philosophy* (Tully 1995) are in my view subject to similar kinds of criticism, and in any case are now out of date. However, rather than defending my differences with these accounts, I will use this occasion to spell out what I take informal logic to be.

I will do this by telling the story of two themes that feature in its development and that I think are central to what constitutes informal logic.

A word of warning before I begin. You need to be wary of the notion that in the term "informal logic," the word 'informal' means "informal" and the word 'logic' means "logic." It is like the use of the term 'football' north of Mexico. In the USA and in Canada, the games called "football" don't much call for the players to control a ball with their feet. Informal logicians use variables, and talk about argument schemes, which are quasi formal. So informal logic is not strictly-speaking informal. And if you understand by logic the study of axiomatized deductive systems, informal logic is not logic. No one seems to know for sure how the term originated. Perhaps it derived from the fact that the informal fallacies were a tool used for appraising arguments in natural languages. Some of us used it to signify that we were not studying the logical norms of argument from the perspective of formal (a.k.a. symbolic or mathematical) logic, that is, it meant "not formal logic."

2 Background

Let me start with a bit of background.

Informal logic, from its beginnings in the 1970s and 1980s, has been motivated by goals of philosophy classroom instruction. Its subject matter was reasoning and arguments. And the enterprise was normative. The objective might be to improve reasoning or critical thinking skills, or to be able to assess the logic of everyday discourse. Reasoning and critical thinking skills were seen to be skills in judging the probative value of one's own reasoning and of others' arguments. Assessing logic was seen as recognizing, interpreting and evaluating the probative value of arguments. The telos of the enterprise was the formation of justifiable cognitive and affective attitudes such as beliefs or value judgments, and the assumption was that understanding the norms of cogent reasoning and arguments, and acquiring some skill in their application, will contribute to that end.

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[2]"Natural language deductivism" is the thesis that all arguments [in natural languages] should be interpreted as attempts to create deductively valid arguments.

The value in question was and is epistemic or probative merit—not communicative or rhetorical merit. A logically good argument, on this view, contributes to justifying adopting the attitude in question—be it a belief, a judgement, a disposition to act, an emotion, or whatever. Whether such justification is in some cases—or always—relative to audiences or circumstances was and is an open question.

We focused, in the beginning, on the arguments found in the print media: in newspapers and magazines. We did so for several reasons. For one thing, these were not the artificial arguments of traditional logic textbooks—arguments that were designed to illustrate elementary valid argument forms or for practicing the use of truth tables—like this one from Irving Copi's *Symbolic Logic* (1954, p. 25):

> If I work then I earn money, and if I don't work then I enjoy myself. Therefore if I don't earn money then I enjoy myself.

Those examples sent the wrong message to the students, who wanted to improve their ability to understand and assess the arguments used in public life. So the arguments we used for teaching purposes were about the topical issues of the day. They thereby served to demonstrate that arguments are thought to make a difference. Their content might be expected to be familiar to students and of interest to them, and the course would not have to presuppose technical background knowledge. Short examples could be found in letters to the editor; slightly longer ones in editorials; and even longer ones in opinion columns. One wag said we were teaching "newspaper logic."

If you need a label for such writings, you might call them "non-interactive" (see Govier 1999). While targeting some set of readers, the writer is usually not engaged in a face-to-face dialogue with anyone in particular. The writer might be responding to previous comments and the arguments might anticipate and respond to various kinds of objections. So the text can be dialectical. However, any direct interplay is between the writer and that commentator or objector, not between the writer and every reader. In the early days, informal logicians did not think to take these non-interactive pieces to be conversations or dialogues. Later, some were attracted to the view that such texts might fruitfully be modeled as having the salient properties of two-party conversational interactions (e.g., Walton 1998). Others, however, resisted that model as misleading for non-interactive contexts (e.g., Govier 1999, Chap. 11; Blair 2012, Chap. 17).

As teachers of what we originally thought of as practical or applied logic, we were interested in guiding our students in assessing the logic of the reasoning employed in the arguments expressed in these non-interactive writings. To do so required recognizing the presence of arguments and getting at their features. Hence, the first task was to devise guidelines to aid in finding and extracting arguments, and then displaying them for critical examination. The second task was to assess their cogency, either from the point of view of an onlooker or from the point of view of the target audience.

3   Analysis

I first say a few words about what we came to see as required to "get at" the arguments. This is the first theme in informal logic's development. Later, I turn to the second theme, the question of the logical norms to be used in judging the arguments' cogency.

We quickly learned that sending students off to find examples of non-interactive arguments requires them to recognize that a communication might well be serving other purposes than arguing. Often it will consist of just a report or a description or a non-argumentative narrative. Sometimes the text is confused or confusing, so that it's unclear whether its author intends to be arguing. Sometimes the text makes some gestures in the direction of arguing, but on any interpretation the author's reasoning is muddled.

So it turns out that the interpretive tasks of argument recognition and identification, on the one hand, and argument assessment, on the other hand, while they're distinguishable, are not independent. That is because whether the author may be taken to be presenting an argument can depend on whether an at-least plausible argument can be attributed to what he or she has written. And that in turn can depend on whether there are sentences that may plausibly be taken to be functioning in probative support relationships with other sentences. So the recognition and identification of arguments in such writings can require the logical assessment of argument candidates.

To recognize the presence of argument in non-interactive texts, we found that it helps to identify what might be called the rhetorical situation of the text. Doing so includes, when possible, noting such features as the identity of the author, the author's ethos, the intended audience, the occasion, the venue, the surrounding circumstances, the author's objectives, any applicable institutional norms, and the function of the discourse. It also helps, we found, to identify what might be called the dialectical environment of the text. Here I have in mind such things as debates, disagreements, controversies and so on surrounding the author's topic; alternative positions to the author's view; and any particular opponent with whom the author has a history of dispute.

It also helps to have some knowledge of the habitats of arguments in general, such as locations of controversies or other contexts where burdens of proof arise. It requires knowing the signs of arguments, such as illation-indicator terms, qualifiers and hedging expressions, plus an appreciation of their fickleness. And it can help to have a sense for what counts as a reason in the subject-matter in question.

(By the way, speaking of fickle illative terms, notice the non-illative use of 'so' that has become widely used by experts interviewed in the media. They'll start off their explanations with a "so": "So, our study shows that … ." It seems to function like taking a breath before speaking.)

"So", having recognized the presence of argument, the next task is the identification of the argument. We've established that it's a bird making those noises in the bushes, but what kind of bird is it? Identifying the argument means identifying

its parts and their functions, and identifying its structure. Here are to be set out the reasons, broken down into premises, and the claims, identified as their conclusions. Qualifications and hedging are to be noticed. We debated the distinctions among patterns of direct support such as linked, convergent, cumulative, and chained or serial.[3] Also, aside from direct support for the main conclusion, what various defensive supporting functions might be being served? We distinguished among defending a premise against an objection, defending a premise-conclusion link against an objection, arguing against alternatives to the conclusion, and defending the conclusion against arguments directly opposing it (see, e.g., Johnson 2000; Finocccchiaro 2013). Many called for, or allowed for, the reformulation of parts of the author's original text so that the roles of given sentences in the argument can be made more evident. And many argued that unexpressed but assumed or needed components have to be identified and inserted. It also helps here to have some familiarity with the subject matter.[4]

Having developed guidelines to help understand the argument, we sought ways to portray that understanding so the argument could be methodically assessed. Many developed premise and conclusion numbering conventions that designate any sentence's place in the structure of the argument and/or its function in the argument. As well, many developed tree diagram conventions that do the same jobs. In my experience, students who can easily master the numbering conventions can have trouble working with tree diagrams, and vice versa, so having both seems pedagogically useful.[5]

These tasks of recognition, identification, and display lead up to the assessment of arguments in non-interactive texts. The guidelines help any assessor to gain an understanding of the arguments and so be in a position to judge their probative merits.

By the way, the need to formulate such guidelines does not belong to informal logic in particular. It belongs to any approach that undertakes to analyze the arguments in non-interactive texts. Still, one thread in informal logic is the generation of practical advice for the recognition, identification and display of arguments in non-interactive discourse. This thread was and is practice-driven; and workable and economically teachable guidelines were and are its objective.

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[3]On these distinctions see, e.g., Govier (1985), Thomas (1986), Yanal (1991, 2003), Freeman (1993), Ennis (1996), LeBlanc (1998), Fisher (2001), Goddu (2003), Bailin and Battersby (2010), Vaughn and MacDonald (2010), Groarke and Tindale (2013), Hitchcock (2015).

[4]The developments described in this and the next paragraph are found in Thomas (1973), Scriven (1976), Johnson and Blair (1977) and Govier (1985), among many others.

[5]Some seem to conceptualize better visually, others, numerically. I don't know whether this difference has occurred to others and been investigated. The current fashion of developing computer-generated tree diagrams might be disadvantaging part of the student population.

4   Appraisal

I now turn to the second theme that I claim characterizes informal logic, namely the logical appraisal of these arguments.

To judge the logical merits of an argument, two kinds of decision are needed: (1) how acceptable are the reasons? And (2) how well justified are the inferences from the reasons to the claims?

Some informal logicians, me among them,[6] have thought that these questions can be asked from at least the following two perspectives. One perspective is that of an addressee or target of the argument. This can be a person or group to whom the author is directing his or her argument. Or it can be anyone who is interested in the argument because he or she wants to decide whether to accept its conclusion. An addressee could be someone trying to decide on a course of action, such as how to vote, whom the arguer is trying to win over, or she could be a scientist presented with evidence for a novel theory in her field, who wants to decide whether to give it credence. The other perspective is that of an onlooker. By an onlooker I mean someone not targeted by the arguer, who can detach himself or herself from interests or commitments touched by the argument, and who is in the position of judging how well the arguer makes his or her case to the audience in question. An onlooker would be a teacher grading a student's essay or a referee for a submission to an academic journal, each of whom has to decide how well the author has made his or her case relative to the burden of proof that is appropriate in the circumstances.

4.1   Premise Acceptability

Let me first say a word about the informal logic criterion for the appraisal of reasons.

Any inference made in reasoning, or invited in an argument, is clearly only as good as what it starts from: namely, its reasons, expressed through its premises. Now, you must understand that most nascent informal logicians had been trained in the analytic philosophy of the mid-twentieth century, according to which good premises are *true* premises. So it required a break with our upbringing to abandon this tradition and follow some of Charles Hamblin's arguments in his 1970 monograph, *Fallacies*. Hamblin proposed that, for cogency, the truth of premises alone is not sufficient, since premises would have to be not only true but also known to be true. And truth is not necessary, either, he said, since "reasonably probable" premises would be good enough (see Hamblin 1970, Chap. 7). However, not many informal logicians went all the way with Hamblin's dialectical conception.

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[6]Among others I would include here Hitchcock (1983), Govier (1987), Biro and Siegel (1992), Johnson (2000), Pinto (2001), Freeman (2005), Allen (2013).

According to it, the appropriate criterion (both necessary and sufficient) for premises is that they be accepted, in the sense that they be commitments of the addressee of the argument. But there is a problem for non-interactive arguments addressed to a diverse or unknown audience: *whose* commitments are we talking about? Furthermore, in some cases there are propositions available for use as premises that are obviously true and known by all concerned to be true. But in the absence of obvious truth, many informal logicians opted instead for the criterion that the premises at least must be worthy of acceptance, that is, be acceptable. Of course, then the question is, "What counts as acceptability? That is, what makes claims that are used as premises in reasoning or arguments worthy of acceptance, and by whom?" Informal logicians have made serious, even book-length, attempts to answer that question (see Freeman 2005).

4.2 Logical Assessment: Deductive Validity and Inductive Strength

In addition to the assessment of the acceptability of the reasons, there is the assessment of the consequence relations—the premise-conclusion links—of reasoning and arguments to be considered.

Our thinking about premise-conclusion relations developed along the following lines. Our education in analytic philosophy meant that our basic training in logic, a training almost everyone shared, was in the symbolic logics of the day—at a minimum, formal propositional logic and predicate logic. These are logics of the deductive inference relation called "validity."[7] To use formal methods to test the inference relations of arguments in a natural language for deductive validity requires that the arguments be translated into standard logical form. However, doing so requires an understanding of standard logical form. We would have to teach our students some propositional and predicate logic before they could even begin to interpret these newspaper arguments. Moreover, we discovered that reformulating the newspaper texts into standard logical form usually required simplifying their sentences and thus changing the sense of the arguments. And, finally, when inspected for conformity to the established rules of inference of deductive logic, such arguments often proved to be deductively invalid, even when, independently, they seemed to be cogent.

One hypothesis suggested to explain this last anomaly was that the arguer was making unexpressed assumptions, which, once added to the stated argument as additional premises, would render it deductively valid (see Groarke 1995, 1999, 2002). The trouble is that, in many cases, the candidates for such needed missing

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[7]Logicians gave their use of 'validity' a special, technical sense. In that sense, expressed in one of several possible ways, an inference from a set of premises to a conclusion is "valid" just in case the conclusion could not possibly be false if the premises were true.

premises are patently false (see Godden 2005). Often, a plausible argument's deductive validity could be saved only by adding problematic or false assumptions to it.

Of course many of these arguments were intended, not to be deductively valid, but instead, to be inductively strong. Thus arguments in support of causal explanations, statistical generalizations from samples to populations, inductive analogies, and so on, could have their conclusions well-supported by their premises even though they were deductively invalid. So the options became that an argument with acceptable premises would be logically cogent if it were either deductively valid or else, if deductively invalid, if it were inductively strong.

4.3   The Deductive/Inductive Dichotomy Challenged

An early question debated in the informal logic community was whether deductive validity and inductive strength are the only criteria for logically respectable inferences from reasons to claims. Put another way, it is the question whether all arguments are either deductive or inductive. Is the deductive-inductive dichotomy exhaustive—be it a dichotomy of criteria for inference adequacy or a dichotomy of inference types? (See Weddle 1979, 1980; Fohr 1979, 1980; Govier 1979, 1980a, b; Hitchcock 1980; Johnson 1980.)

To be sure, that dichotomy can be made exhaustive by definitional fiat. Inductive reasoning can be *defined* as any reasoning that is not deductive. But the plausibility of this dichotomy relies on assuming a very broad conception of induction. For logicians, however, inductive reasoning provides support for its conclusions in degrees of probability specifiable numerically, or it is reasoning that relies on the assumption that experienced regularities provide a guide to un-experienced regularities. Here, for instance, is a passage from the introduction of the article on inductive logic in the *Stanford Encyclopedia of Philosophy* (Hawthorne 2014):

> This article will focus on the kind of … approach to inductive logic most widely studied by philosophers and logicians in recent years. These logics employ conditional probability functions to represent measures of the degree to which evidence statements support hypotheses. This kind of approach usually draws on Bayes' theorem, which is a theorem of probability theory, to articulate how the implications of hypotheses about evidence claims influences the degree to which hypotheses are supported by those evidence claims.

The notion of induction that Hawthorne describes here is a not a broad conception of induction. It leaves out reasoning in which probability in the sense of plausibility or reasonableness is the appropriate qualifier or where it makes no sense to express the strength of support as a numerical probability. It leaves out reasoning that relies on reasons other than experienced regularities. Denying that the deductive-inductive dichotomy is exhaustive implies that there can be reasoning that both is deductively invalid and also to which the norms of induction narrowly defined do not apply, yet it is logically good reasoning.

Two examples were proposed early on in the informal logic community to show that some reasoning doesn't seem to fit either the deductive or the narrow inductive category. One example, due to Wisdom (1991), was the reasoning or the argument that Govier (1999) has called "a priori analogy." Here is an example:

> Ellen's essay merits a high grade by virtue of the lucid clarity of its organization and expression, the thoroughness of its argumentation and the cogency of its arguments. Jay's essay is similarly clearly organized and expressed, its argumentation is similarly thorough and its arguments similarly cogent. So Jay's essay merits a similarly high grade.

Generalized, this is the reasoning that, when a certain property belongs to something by virtue of that thing's satisfying certain criteria to a given extent, and another thing of the same sort as the first one is judged also to satisfy those criteria to a similar extent, then one may (i.e., is entitled to) infer that the property in question belongs to the second thing as well.

The premises of cogent reasoning or arguments from a priori analogy do not deductively entail their conclusions, because the second thing might have, besides the stated qualifying properties, others that disqualify it from having the feature in question. (Maybe Jay's essay was submitted well after the due date, and was not on the assigned topic.) Since it can't be known in advance what all the possible disqualifiers are, a list of them cannot be built into the criteria. Moreover, such reasoning or arguments are not narrowly inductive either, for there is no basis for assigning a numerical probability to their conclusions. Nor are they arguments from known regularities.

The other example, due to Wellman (1971), is what he called "conductive" reasoning. It is also known as balance-of-considerations reasoning. Here is an example.

> The blueberries for sale today are ripe, fresh and wild; blueberries are supposed to be good for you; and I adore wild blueberries. So I should buy them. On the other hand, they're outrageously over-priced and I don't really need them. So I shouldn't buy them. But I can afford them, and I need to indulge myself just now. So, everything considered, I should buy them.

In such reasoning, the reasoner takes one set of considerations to favour a claim, and at the same time takes another set of considerations to tell against that claim. The reasoner judges one set to outweigh the other, and on that basis judges the claim to be acceptable or unacceptable.

The premises of cogent balance-of-considerations reasoning or arguments don't entail their conclusions, because new information can tip the balance in the other direction, thereby affecting the legitimacy of the inference to the main conclusion. (For example, my wife tells me that there is no room in the refrigerator for the blueberries, or that she has already bought some.) But these are not narrowly inductive arguments either. There is no basis for assigning a numerical probability to the reasonableness of my decision to buy the blueberries. And again, there is no argument from known regularities here.

Based on examples like these two, many informal logicians concluded that it is false that all reasoning is either deductive or narrowly inductive. Some reasoning requires other criteria of inference appraisal than deductive validity and, for instance, statistical probability.

4.4 General Tools for Assessing Inference Strength

Most informal logicians did not address the question of what this other kind of reasoning is, beyond the judgment that it is not deductive and not narrowly inductive. Their motivation was classroom instruction, and the immediate need was useful teaching tools. So they adopted, adapted or invented various general methods of inference appraisal. These supposedly apply to reasoning and arguments of any sort, whether they are intended to be deductively valid, or inductively strong, or to belong to neither of these two categories.

At least five such methods turn up in the informal logic literature. I will describe each of them briefly.

4.4.1 Fallacy Theory

One early proposal was that an argument free of fallacies is probatively sound, and in particular, its consequence relation is fine so long as it is free of inferential fallacies. This answer leads straight to fallacy theory, and that was an early pre-occupation of informal logicians. That fact led some people, understandably but mistakenly, to identify informal logic with the study of informal fallacies. (For examples of early fallacy approaches, see Kahane 1971; Johnson and Blair 1977).

A broad consensus emerged that fallacies are not patterns of mistaken reasoning. Rather, they are errors in the sense of misfires or misuses of otherwise legitimate patterns of reasoning. What distinguishes the informal logic approach to fallacies is that not all fallacies are viewed as dialectical or rhetorical misdemeanors: many are seen as particular errors of reasoning. Some are confused deductions, some hasty inductions, and some other types of malfunctioning reasoning (e.g., Walton 1992, Chap. 7). I need to add that there are some informal logicians who seem to either question whether, or else deny that, the concept of fallacy has any legitimate application (see Finocchiaro 1981; Woods 2013).

4.4.2 Acceptability, Relevance, Sufficiency

Another general method of assessment is to use the triad of Acceptability, Relevance and Sufficiency—"ARS." Acceptability, as I have already noted, is a criterion for premises. Relevance and sufficiency are criteria for the adequacy of the link between premises and conclusion: the reasons offered must be probatively

relevant to the conclusion, and they have to supply enough of the right kinds of evidence to justify accepting it.[8]

It's been argued that relevance is redundant, since sufficiency already presupposes it. You can't have enough evidence unless what you count as evidence is already relevant (Biro and Siegel 1992). That is true. However, people's arguments sometimes include irrelevant premises. Those have to be identified and set aside before judging the sufficiency of the relevant ones that remain.

Sufficiency has become seen to require not only reasons that directly support a claim but also those that support it indirectly, by way of refuting or weakening objections or criticisms of various kinds (see Johnson and Blair 1983, 1987; Johnson 1996, 2000). How far that indirect support should go is a matter that continues to be debated (e.g., see Govier 1999).

The ARS criteria are general, in that deductively valid and inductively strong reasoning and arguments, as well as those with other kinds of good consequence relations, all will pass their test. They, or variants of them, have been widely adopted as teaching tools (see, e.g., Johnson and Blair 1977; Govier 1985; Damer 1987; Freeman 1988; Seech 1988; Groarke and Tindale 2004) and their introduction has led to scholarly reflections on all three concepts.

Some people, again mistakenly, identify informal logic with the ARS method of argument assessment.

4.4.3 Inference Warrants

Some informal logicians have been attracted to Toulmin's (1958) concepts of warrant and backing as an account of what justifies reasoning and argument inferences in general. The idea is that any particular inference relies on a general rule or warrant that licenses inferences of that sort. An inference is justified provided that its warrant is itself defensible, that is, can be backed up if questioned. Although Toulmin did not emphasize this point, a warrant can be a deductive rule of inference, such as modus ponens, or an inductive principle, as well as such things as rules of practices. So warrant justification is general too. (On warrants entitling inferences, see, e.g., Freeman 2011.)

An obvious objection to this approach is that the backing of a warrant is itself an argument, thereby involving an inference that must rely on another warrant that can be backed up if questioned—and so there begins an infinite regress. A reply to this objection is that, while an infinite regress of warrants and backings is in principle possible, in practice, in short order one arrives at backing that is either clearly solid or obviously dubious.

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[8]The terms 'acceptability,' 'relevance' and 'sufficiency' were originally introduced as names for the three criteria for logically good arguments by Johnson and Blair (1977).

4.4.4 Testing by Possible Counterexamples

A fourth general method that informal logicians have used for evaluating the inferences of reasoning and arguments is testing them by means of counterexamples.

The method is to think of considerations that are consistent with the given reasons but inconsistent with the claim being inferred or argued for. Depending on whether any such counterexamples are conceivable, and if so, either probable or plausible to some extent, the reasoning can be determined to be deductively valid, or invalid but with some degree of inductive strength, or invalid but more or less reasonable (see, e.g., Fisher 1988; Pinto et al. 1993).

This method is only as good as the assessors' ability to imagine possible counter-examples and the accuracy of their judgements of the possibility, probability, or plausibility or reasonableness of such counter-examples. This ability often depends on subject-specific knowledge about the topic of the reasoning or argument in question.

4.4.5 Reasoning Scheme/Argument Scheme Theory

I call the fifth method, "argument scheme theory." Douglas Walton is one theorist who has proposed an account of non-deductive, non-inductive kinds of reasoning. According to Walton (1996), such reasoning is presumptive. That is, it is reasoning that establishes, or shifts, a burden of proof. A general approach for assessing deductive, inductive and presumptive reasoning, according to Walton and others, is the use of reasoning or argument schemes.

A reasoning or argument scheme is a generalization of a token of reasoning or argument. I gave examples of two such schemes earlier—the schemes for reasoning by a priori analogy and the scheme for balance-of-considerations reasoning.

Such generalizations can be deductive, inductive or presumptive. Scheme theorists think it is reasonable to accept the conclusion of an instance of such a scheme as the consequence of its premises, so long as the use of that scheme in the situation is appropriate and the questions that test its vulnerable features—the so-called "critical questions"—are answered satisfactorily in the given case (see, e.g., Walton et al. 2008).

These five methods—freedom from inferential fallacy; the sufficiency of relevant offered reasons; justification by an adequately-backed warrant; passing the test of counter-examples; and being an acceptable instance of a reasoning scheme—are all general methods of assessing the inferences of reasoning or arguments. That is, they apply to reasoning or arguments with supposed deductive validity, or inductive strength, or other kinds of cogency. Whether these five initiatives are compatible, equivalent or otherwise related, whether they are correct, and whether the list is exhaustive, all remains to be seen.

5 Other Developments, and Conclusion

So far I have described two themes that have animated informal logic. One is the development of guidelines for the analysis of the reasoning in non-interactive arguments. The other is the articulation of generally applicable methods for evaluating the reasoning—that is, the reasons and the inferences—exhibited in arguments. My contention is that these are the principal defining threads of informal logic. I have omitted many details, some of which I want to acknowledge with a few closing notes.

One thing to note is that informal logicians came to realize that, although they had started out analyzing arguments in non-interactive texts for teaching purposes, what they are also interested in is the logic of the non-deductive, non-narrowly-inductive reasoning employed in any arguments, in whatever setting they are communicated (whether a dialogue, a group discussion, or a speech), by whatever mode they are communicated (whether orally or in writing, visually, or mixed-modally), for whatever purpose they are communicated (whether for persuasion, or disagreement resolution, or communication repair, or justification, or any other purpose), and with whatever subject-matter they are concerned.

A second thing to note is that at least some informal logicians (e.g., Tindal 1999, 2004), in some cases, belatedly (e.g., Blair 2012, Chaps. 18, 23), have come to appreciate the need to understand the rhetorical functions of communication in order to recognize and identify arguments, and in order to understand the nature and force of the reasoning expressed in them.

A third thing worth noting is that some informal logicians have taken up the study of historical exemplars of argument and argument analysis to both illustrate the reach of the informal logic approach to argument analysis and assessment and to find historical antecedents of this approach (e.g., Finocchiaro 2005; Hansen 2014a, b, c).

And a final note: I hope it is clear that informal logic does not aim to account for all the pragmatic and communicative properties of arguments. Nor is it a theory of argumentation, understanding by such a theory an account of the dynamics of, and the norms for, various kinds of exchanges of arguments for various purposes. It does not address the psychology, sociology, or politics of exchanges of arguments. If informal logicians happen to take up such topics, as some do, they do so flying other colours, such as "argumentation theorist."

By now I hope you can see why I have difficulty conveying an understanding of what informal logic is in a couple of sentences. If you will allow the above presentation to stand as a long footnote, my summary would run as follows. Informal logic is the combination of two related things. It is the development and justification of practical guidelines for recognizing, identifying and displaying the reasoning expressed and invited in arguments, especially arguments found in non-interactive discourse or other modes of non-interactive communication. And it is the development and justification of the probative norms applicable to the reasons, and applicable to the non-deductive, non-inductive inferential links, employed in the reasoning that is expressed or invited in any argument. The two are connected in

that the tools for natural language argument recognition, identification and display are developed to enable and facilitate the assessment of the natural language arguments.

References

Allen, D. (2013). Trudy Govier and premise adequacy. *Informal Logic, 33*(2), 116–142.

Bailin, S., & Battersby, M. (2010). *Reason in the balance: An inquiry approach to critical thinking*. Toronto: McGraw-Hill Ryerson.

Biro, J., & Siegel, H. (1992). Normativity, argumentation and an epistemic theory of fallacies. In F. H. van Eemeren, et al. (Eds.), *Argumentation illuminated* (pp. 85–103). Amsterdam: SicSat.

Blair, J. A. (2012). *Groundwork in the theory of argumentation, Selected papers of J. Anthony Blair*. Dordrecht: Springer.

Blair, J. A., & Johnson, R. H. (1987). Argumentation as dialectical. *Argumentation, 1*(1), 41–56.

Copi, I. M. (1954). *Symbolic logic*. New York: The Macmillan Company.

Damer, T. E. (1987). *Attacking faulty reasoning* (2nd ed.). Belmont, CA: Wadsworth.

Ennis, R. H. (1996). *Critical thinking*. Upper Saddle River, NJ: Prentice-Hall.

Finocchiaro, M. A. (1981). Fallacies and the evaluation of reasoning. *American Philosophical Quarterly, 18*, 13–22.

Finocchiaro, M. A. (2005). *Arguments about arguments, systematic, critical and historical essays in logical theory*. Cambridge: Cambridge University Press.

Finocchiaro, M. A. (2013). *Meta-argumentation, an approach to logic and argumentation theory*. London: College Publications.

Fisher, A. (1988). *The logic of real arguments*. Cambridge: Cambridge University Press.

Fisher, A. (2001). *Critical thinking: An introduction*. Cambridge: Cambridge University Press.

Fohr, S. D. (1979). The deductive-inductive distinction. *Informal Logic Newsletter, 2*(2), 5–8.

Fohr, S. D. (1980). Deductive-inductive: Reply to criticisms. *Informal Logic Newsletter, 3*(1), 5–10.

Freeman, J. B. (1988). *Thinking logically: Basic concepts for reasoning*. Englewood Cliffs, NJ: Prentice Hall.

Freeman, J. B. (1993). *Thinking logically: Basic concepts for reasoning*. Englewood Cliffs, NJ: Prentice Hall.

Freeman, J. B. (2005). *Acceptable premises, an epistemic approach to an informal logic problem*. Cambridge: Cambridge University Press.

Freeman, J. B. (2011). Evaluating conductive arguments in light of the Toulmin model. In J. A. Blair & R. H. Johnson (Eds.), *Conductive argument, an overlooked type of defeasible reasoning* (pp. 127–144). London: College Publications.

Godden, D. (2005). Deductivism as an interpretive strategy, reply to Groarke's recent defense of reconstructive deductivism. *Argumentation and Advocacy, 41*, 168–183.

Goddu, G. (2003). Against the 'ordinary summing' test for convergence. *Informal Logic, 23*(3), 215–236.

Govier, T. (1979). Critical review of Carl Wellman's Challenge and response. *Informal Logic Newsletter, 2*(3), 10–15.

Govier, T. (1980a). More on deductive and inductive arguments. *Informal Logic Newsletter, 2*(3), 7–8.

Govier, T. (1980b). Assessing arguments, what range of standards? *Informal Logic Newsletter, 3* (1), 2–4.

Govier, T. (1985). *A practical study of argument* (1st ed.). Belmont, CA: Wadsworth.

Govier, T. (1987). *Problems in argument analysis and evaluation*. Dordrecht: Foris.

Govier, T. (1999). *The philosophy of argument*. Newport News, VA: Vale Press.

Groarke, L. (1995). What pragma-dialectics can learn from deductivism, and what deductivism can learn from pragma-dialectics. In F. H. van Eemeren, R. Grootendorst, J. A. Blair, & C. A. Willard (Eds.), *Proceedings of the third ISSA conference on argumentation* (Vol. 2, pp. 138–145). Analysis and evaluation Amsterdam: Sic Sat.

Groarke, L. (1999). Deductivism within pragma-dialectics. *Argumentation, 13*, 1–16.

Groarke, L. (2002). Johnson on the metaphysics of argument. *Argumentation, 16*, 277–286.

Groarke, L. (2013). Informal logic. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy,* Spring 2013 Ed. http://plato.stanford.edu/archives/spr2013/entries/logic-informal/.

Groarke, L. A., & Tindale, C. W. (2004). *Good reasoning matters: A constructive approach to critical thinking* (3rd ed.). Don Mills, ON: Oxford University Press.

Hamblin, C. L. (1970). *Fallacies*. London: Methuen.

Hansen, H.V. 2014a. Mill, informal logic and argumentation. In A. Loizides (Ed.), *John Stuart Mill's a system of logic: Critical appraisals* (pp. 192–217). Routledge.

Hansen, H. V. (Ed.). (2014b). *Riel's defence: Perspectives on his speeches*. Montreal: McGill-Queen's University Press.

Hansen, H. V. (2014c). Narrative and logical order in Riel's address to the jury. In H. V. Hansen (Ed.), *Riel's defence: Perspectives on his speeches* (pp. 135–164). Montreal: McGill-Queen's University Press.

Hawthorne, J. (2014). Indouctive logic. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*, Summer 2014 Ed. (forthcoming). http://plato.stanfrd.edu/archives/sum2014/entries/logic-inductive/.

Hitchcock, D. (1980). Deductive and inductive: Types of validity, not types of argument. *Informal Logic Newsletter, 2*(3), 9–10.

Hitchcock, D. (1983). *Critical thinking: A guide to evaluating information*. Toronto: Methuen.

Hitchcock, D. (2015). Freeman's syntactic criterion for linkage. *Informal Logic, 35*(1), 1–31.

Johnson, F. (1980). *Deductively-inductively. Informal Logic Newsletter, 3*(1), 4–5.

Johnson, R. H. (1996). *The rise of informal logic*. Newport News, VA: Vale Press.

Johnson, R. H. (2000). *Manifest rationality, A pragmatic theory of argument*. Mahwah, NJ: Lawrence Erlbaum Associates.

Johnson, R. H., & Blair, J. A. (1977, 1983, 1993). *Logical self-defense.* Toronto: McGraw-Hill Ryerson.

Kahane, H. (1971). *Logic and contemporary rhetoric* (1st ed.). Belmont, CA: Wadsworth.

LeBlanc, J. (1998). *Thinking clearly: A guide to critical reasoning*. New York: W. W. Norton.

Pinto, R. C. (2001). *Argument, inference and dialectic, collected papers on informal logic*. Dordrecht: Kluwer.

Pinto, R. C., Blair, J. A., & Parr, K. E. (1993). *Reasoning, a practical guide for Canadian students*. Scarborough, ON: Prentice-Hall Canada.

Scriven, M. (1976). *Reasoning*. New York: McGraw-Hill.

Seech, Z. (1988). *Open minds and everyday reasoning*. Belmont, CA: Wadsworth.

Thomas, S. N. (1973, 1986). *Practical reasoning in natural language* (3rd ed. 1986) Englewood Cliffs, NJ: Prentice-Hall.

Tindale, C. W. (1999). *Acts of arguing, a rhetorical model of argument*. Albany: State University of New York Press.

Tindale, C. W. (2004). *Rhetorical argumentation*. Thousand Oaks, CA: Sage.

Toulmin, Stephen. (1958). *The uses of argument*. Cambridge: Cambridge University Press.

Tully, R. E. (1995). Logic, informal. In T. Honderich (Ed.), *The Oxford companion to philosophy* (p. 500). Oxford: Oxford University Press.

van Eemeren, F. H., et al. (Eds.). (1996). *Fundamentals of argumentation theory*. Mahwah, NJ: Lawrence Erlbaum Associates.

van Eemeren, F. H., et al. (Eds.). (2014). *Handbook of argumentation theory*. Dordrecht: Springer.

Vaughn, L., & MacDonald, C. (2010). *The power of critical thinking* (2nd Canadian ed.). Don Mills, ON: Oxford University Press.

Walton, D. N. (1992). *Plausible argument in everyday conversation*. Albany, NY: State University of New York Press.

Walton, D. N. (1995). Informal logic. In R. Audi (Ed.), *The Cambridge dictionary of philosophy* (p. 376). Cambridge: Cambridge University Press.

Walton, D. N. (1996). *Argument schemes for presumptive reasoning*. Mahwah, NJ: Lawrence Erlbaum Associates.

Walton, D. N. (1998). *The new dialectic*. Toronto: University of Toronto Press.

Walton, D., Reed, C., & Macagno, F. (2008). *Argumentation schemes*. Cambridge: Cambridge University Press.

Weddle, P. (1979). Inductive, deductive. *Informal Logic Newsletter, 2*(1), 1–5.

Weddle, P. (1980). Good grief! More on induction/deduction. *Informal Logic Newsletter, 3*(1), 10–13.

Wellman, C. (1971). *Challenge and response, justification in ethics*. Carbondale: Southern Illinois University Press.

Wisdom, J. (1991). *Proof and explanation, The Virginia lectures* (ed. by S. F. Barker). Lanham, MD: University Press of America (Originally delivered at the University of Virginia in spring 1957).

Woods, J. (2013). *Errors of reasoning, naturalizing the logic of inference*. London: College Publications.

Yanal, R. J. (1991). Dependent and independent reasons. *Informal Logic, 13*(3), 137–144.

Yanal, R. J. (2003). Linked and convergent reasons—again. In J. Anthony Blair, et al. (Eds.), *Informal logic at 25: Proceedings of the Windsor conference*, CD-ROM. Windsor, ON: OSSA.