CHAPTER 5.

ARE THERE METHODS OF INFORMAL LOGIC?

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Abstract: This paper addresses one of the practical problems that arise in connection with the evaluation of natural language arguments, namely, how to determine their logical strength. Pursuing this problem will invite a comparison between formal and informal logic. Which of these two approaches is best for evaluating the logical strength of natural language arguments (NLA's)? The claim has been urged that informal logic is best suited to the job or that it is at least just as well suited to it as formal logic is. That may well be so, but how are we to decide? A framework is developed that will give us some guidance in answering these questions.

Imagine that you have received a grant to study the argumentation surrounding a topic of current interest, the arguments about whether there should be unrestricted building of energy-producing windmills, for example, or whether your country should be involved in an overseas war, or whether we should eat genetically modified foods. You want to know all the different arguments that have been given on this topic, for and against, over a given period of time in such-and-such sources (these newspapers, these web-sites, those radio programmes). Not only do you want to know what arguments have been given, you also want to know which ones are good arguments and which ones are not good. But you can't do all this work yourself. You need others to help you.

Enter at this point: the graduate students. One of them is writing a thesis on Kierkegaard, another on the concept of social justice, and the third on the private-language argument. Being graduate students there can be no doubt about their intelligence and commitment; however, none of these students has had any special training or background in the analysis or evaluation of natural language arguments, at least not those that are found outside the philosophy seminar room. So, since the Dean has told you that these are the helpers you must use if you want your grant, you now have a practical problem: how do you prepare these people to help you with your research?

I will use this story as a way of motivating and orienting a discussion about one of the practical problems that arise in connection with the evaluation of natural language arguments, namely, how to determine their logical strength. Pursuing this problem will invite a comparison between formal and informal logic. Which of these two approaches is best for evaluating the logical strength of natural language arguments (NLA's)? The claim has been urged that informal logic is best suited to the job or that it is at least just as well suited to it as formal logic is. That may well be so, but how are we to decide? What would justify our answer that the one approach is better than the other? Below, a framework is developed that will give us some guidance in answering these questions.

The concept of 'logical evaluation' is ambiguous because some people use it broadly to include both the evaluation of premisses and the evaluation of the premiss-conclusion relationship, whereas others use 'logical evaluation' narrowly to refer only to the evaluation of the premiss-conclusion relationship – that is, to the evaluation of the extent to which premisses are sufficient for their conclusions on the assumption the premisses are acceptable. To avoid confusion, I use the term *illative evaluation* to refer to the evaluation of the premiss-conclusion relationship in an argument or inference. The general problems that concerns us, then, is, how to determine the *illative strength* of arguments, and how to justify our illative judgments. The practical

and more immediate problem facing us is to decide on a serviceable method of illative evaluation that will be easy for our new-found assistants to learn, and enable them to report back in fairly short order on the illative strength of the arguments they are studying.

1. IN PRAISE OF FORMAL LOGIC

The virtues of formal logic are many. One of them is that it focuses on the premiss-conclusion relationship, ignoring the question of premiss acceptability. True, formal logic texts introduce the concept of a *sound argument* as one which is deductively valid and has true premisses. But the introduction of this concept usually comes at the point where the author(s) wants to distinguish logical pursuits from extra-logical ones. The truth is that formal logic doesn't have much to say about premissary questions except to offer a broad three-fold classification which sorts them into necessarily true propositions (logical truths), necessarily false propositions (logical falsehoods) and contingent propositions. The first two kinds of propositions are of interest to formal logicians and philosophers and mathematicians (the premisses (axioms) of formal systems must be logical truths) but they are hardly of interest to anyone else since the premisses of NLA's are for the most part made of contingent propositions. Formal logic has no means of evaluating contingent propositions as true or false, and that is why formal-logic texts do not have exercises on determining the truth or falsity of such propositions. Hence, formal logic is aware that it cannot take it as part of its business, in general, to pronounce on premiss acceptability, and that therefore its true concern must be restricted to illative issues and not the logical evaluation of arguments in the wide sense. This is not to say that formal logicians do not have views about premiss acceptability; surely, they do, but those views are not part of the formal logic they espouse: they are something else, tacked on. We should not be surprised then, when, at least since the nineteenth

century, the preference has been to identify logic with the study and evaluation of premiss-conclusion relationships and disassociate it from premissary questions. "[T]he rules of Logic," wrote Whately in the 1820's, "have nothing to do with the truth or falsity of the Premises; except, of course, when they are the conclusions of former arguments" (Whately 1875: 153), and about 175 years later we have Skyrms expressing almost the same view when he writes that, except in special cases, "It is not the business of a logician to judge whether the premises of an argument are true or false" (Skyrms 2000: 15).[1]

Many informal logicians take the practical task of their discipline to be, in the broad sense, the logical evaluation of *arguments*, and hence they include both premissary and illative questions in informal logic. I believe this creates a dilemma which I would rather see informal logic avoid. For, any questions of premiss acceptability that reach beyond the very familiar, or common sense, must be shared with colleagues in particular disciplines such as history, politics, economics, biology, statistics, etc. as well as those in more general fields such as epistemology, philosophy of science, rhetoric and dialectical studies. People with special training in field *F* will, in general, be in a much better position to say whether a statement belonging to *F* is acceptable than a logician would be. Although informal logicians, to their credit, have been among those who have urged that the standard for premisses must be acceptability rather than truth, informal logic has hardly any means of determining whether premisses actually meet the standard of acceptability. Thus, informal logic decrees that the premisses of arguments of, say, economics must be acceptable without having any means to determine whether or not they are acceptable. Judgments about premisses in field *F* must ultimately be made by experts in field *F* or by informal

1. Angell (1964: 43) concurs, writing that "traditional logic has *not* concerned itself much with the *acceptability of reasons*; the main concern has been the analysis and critique of *argument connections*".

logicians who happen to be experts in field *F*. Thus, with regards to premissary questions, informal logicians are not in any better position than that of formal logicians. Conversely, the experts about premiss acceptability in special fields do not make a study of how to evaluate illative relationships. I do not mean that they are not discriminating in their illative judgments. They work with the standards implicit in their fields, but they make no specialty of the study of illative goodness or the practical problem of how to determine it. Accordingly, my preference is to use 'informal logic' in a narrow sense, parallelling that of the range of formal logic, such that it is concerned only with issues that pertain to illative evaluation.

It will be observed that informal logic can indeed be of help in the evaluation of premisses, for it can detect inconsistency, vagueness or ambiguity – all things that weaken a premiss set. This is true enough, but these are means of negative evaluation. Premisses can be logically innocent, but this is not enough to say that they are acceptable. Passing this kind of test means only that the premisses are *not unacceptable* on semantic grounds; it does not show they meet the standard of acceptability. So, informal logic, as it is broadly understood in argumentation studies, doesn't have means for the positive evaluation of premisses

The other horn of the dilemma is that if informal logic is an instrument for evaluating arguments that includes the evaluation of premisses, then it must limit itself to a very narrow range of arguments – those whose premisses belong to common sense, or are "everyday", or require no special training or knowledge at all. Perhaps there is such a domain of knowledge. However, if informal logic is to be circumscribed by being restrained to deal only with arguments whose premisses are of this kind, then the scope of informal logic will be so restricted that it can be neither of great interest nor of great value.

So, the dilemma is this: either informal logic is inadequate for any kind of premiss evaluation other than basic semantic criti-

cism (vagueness, ambiguity, inconsistency) OR, its range of application being only as wide as common-knowledge premisses, informal logic will be so limited that it has little practical import. Given these two discouraging consequences of including premiss evaluation as part of informal logic, it is advisable that informal logic should be restricted to the range of illative evaluation. Narrowing informal logic in the way that I propose does not diminish the importance of argument evaluation. Argument evaluation is the larger enterprise that gives significance to the less encompassing field of illative evaluation. But by narrowing informal logic to deal only with illative issues we not only have the benefit of distancing ourselves from other approaches to argument evaluation (rhetorical and dialectical approaches, for instance[2]) and setting up a unique area of study; moreover, we also prepare the ground for a comparison with formal logic that puts both parties on equal footing.

Let us now consider other virtues of formal logic. Not only does formal logic value conceptual clarity (the basic concepts are few and well-defined), it is devoted to *methods* of illative evaluation, to making them perspicuous and transparent. Different methods of formal logic have been identified and detailed: the truth-table method, for example, the truth-tree method, normal form methods, the Venn and Euler methods, natural deduction method, etc. (see Quine 1982 whose book is called *Methods* (plural) *of Logic*). All these methods share the same *conceptual standard of illative goodness*. It is deductive validity. Judgments about formal validity, however, are seldom made by direct appeal to the conceptual standard, but rather by testing the argument against some *operational standard*. *Truth-table validity* — that an argument is truth-table valid only if there are only T's in the final column of the table — is one such operational standard, and each of the methods of formal logic has its own operational

2. Both rhetorical and dialectical approaches to argument evaluation incorporate standards of premiss acceptability.

standard in the service of the conceptual standard. The various methods of formal logic (used for testing for validity) are really methods for determining whether an argument satisfies an operational standard of illative goodness. The truth-table method consists of an operational standard (there should be all T's in the final column), a set of concepts (e.g. the definitions of the truth-functional constants, etc.) and a set of techniques (e.g., how to construct a truth table, how to compute the value of the final column, etc). Employing the techniques constitutes a test for seeing whether the operational standard has been satisfied. If the operational standard is satisfied, so is the conceptual standard. The other methods of formal logic have analogous anatomies.

There are many illative methods of formal logic but in what follows the truth-table method will stand in for all of them as *the* method of formal logic for the sake of making the comparison with informal logic. (The same points of differences and similarities with informal logic could be made as well with any of the other formal logic methods.[3])

The formal-logic method of illative evaluation of NLA's is attractive for several reasons. One of these is that it can help us decide hard cases, i.e., those which are near the edge of or beyond our intuitive competence. Most of all, however, formal methods are intertwined with a satisfying answer to the question, 'What makes an argument logically good?'. Postulating logical form as the source of illative goodness is in line with our philosophical urge to seek the real truth behind surface appearances, the deep structures that underlie the surface grammar of arguments. Thus, taking the natural language arguments (NLA's), transforming them into formal language arguments (FLA's), making illative evaluations of the FLA's by one of the methods of formal logic, and then extending our findings to the original NLA's, seems like a good method. But this way of illatively evaluating NLA's has come under criticism.

3. Natural deduction, not being an effective method, is the exception.

One reason is that it is sometimes difficult to find the right FLA equivalent to an NLA. Moreover, it may be that the illative strength of some NLA's just can't be captured in a corresponding FLA, resulting in the disadvantage that the target argument must remain either mis- or unevaluated. Furthermore, the formal logic we have is meant for arguments that are to be measured by the deductive standard, but it is generally recognized that not all arguments are like that; some of them are more reasonably evaluated by, say, an inductive standard of illative strength. Also, because formal logic can only give us a verdict of 'valid' or 'invalid', using formal logic we cannot ever arrive at intermediate judgments of illative strength: no judgments like 'pretty good, but could be better' are possible, yet, intuitively, that seems to be the appropriate thing to say about the illative strength of many NLA's. Finally, formal logic requires a lot of learning; maybe six-months to a year to get comfortable with the predicate calculus and its modal extensions. Given these problems (and others not mentioned here) we can see that although there is much to appreciate about formal logic, there are also some reasons to be dissatisfied with it as a way of making illative evaluations of NLA's—reasons enough to consider alternatives.

2. ARE THERE METHODS OF INFORMAL LOGIC?

If illative evaluation is what is wanted and formal logic has significant shortcomings, then we may consider an alternative — informal logic, for instance. Informal logic attempts to do what formal logic does but without relying on logical forms. We are thus led to wonder whether there are methods of illative evaluation for NLA's that eschew a reliance on logical form. In *The Logic of Real Arguments* (1988), Alec Fisher suggests that there might be. In this paragraph, which nicely summarizes Fisher's goals, the word 'method' occurs five times.

> Our objective is to describe and demonstrate a systematic method for extracting an argument from its written context and for evaluating it. We want a method which will apply to a wide range of both everyday and theoretical arguments and which will work for ordinary reasoning as expressed in natural language (and not just for those made-up examples with which logicians usually deal). We also want a method which draws on the insights and lessons of classical logic where these are helpful, but which is non-formal and reasonably efficient (both requirements exclude a method which requires us to translate real arguments into the symbolism of classical logic). Besides all this we want a method which is teachable and which combats – to the proper extent – our tendency to rely on experts. (Fisher 1988: 128)

Fisher's method is clearly the kind of method that should interest us but we must narrow it down two times. First, we will leave aside the part of the method having to do with argument extraction, and concentrate on the method of argument evaluation. Second, because argument evaluation has two parts, "its premisses must be true, . . . , and its conclusion must *follow* from its premisses" (Fisher 1988: 130), we must separate out what concerns us. It is the 'following-from' part of argument evaluation that Fisher thinks constitutes 'the big question' (ibid.) and also 'the interesting question' (Fisher 1988: 5), and it coincides exactly with what we are focussing on — *illative questions.* Are there then methods of informal logic — methods of informal illative evaluation — just as there are methods of formal illative evaluation? Do informal logics have conceptual standards of illative evaluation? Do they have operational standards? Are there informal methods for determining whether the operational standards have been met, consisting of key informal concepts and informal techniques?

Consider the following extant approaches to argument evaluation in the informal logic literature: the fallacies approach, first suggested by Aristotle and developed by Copi (1961), and adapted by Johnson and Blair (1977); the deductivism approach, championed by Whately at the beginning of the nineteenth cen-

tury, and still favoured by the brothers Groarke (1999, 2009); the logical analogies approach urged by Burbidge (1990); the argument schemes approach, much in favour recently, and developed by Douglas Walton (1996). There is also the approach using argument warrants, central to Mill's logic (1843), and furthered by Toulmin (1958). Finally, there is something we might call "the thinking about it" approach; it is the method advocated by Fisher (1988), and also by Pinto and Blair (1993), which involves thought experiments to see whether conclusions follow from premisses. Although, for the most part, these approaches have not been presented as methods, never mind full-blown methods, they include many of the nuts and bolts needed to be reconfigured as methods of illative evaluation. Let us see how far we can go with this.

We may begin by comparing a method built on Aristotle's list of fallacies in the *Sophistical Refutations* with the truth-table method in formal logic. Aristotle's fallacies are fallacies of following-from,[4] so they can be part of a method of illative evaluation. The *conceptual standard* for formal logic is that of deductive validity. Aristotle has a narrower conceptual standard, that of syllogistic consequence: a conclusion follows from premisses if, and only if, the premisses necessitate the conclusion, the premisses cause the conclusion and the conclusion is non-identical to any of the premisses.[5] The *operational standard* on the formal logic side (we have agreed) will be that of truth-table validity whereas for the fallacies method it will be that of not committing any of the fallacies on the A-list (the inventory of fallacies in Aristotle's *Sophistical Refutations*). The *test* for the formal method is to determine whether there are only T's in the final column whereas on the fallacies method it is to determine whether the argument commits any of the fallacies on the A-list. The techniques involved on the formal side consists of making truth

4. Some see more in Aristotle's fallacies; I don't. See Woods and Hansen 1997, 2001.

5. See the first page of *Prior Analytics*, *Topics*, and *Sophistical Refutations*

tables and computing the values of compound sentences. For the fallacies method the technique consists of carefully reading the argument and then comparing it to each of the definitions that identify the fallacies on the A-list, one-at-a-time. The concepts involved on the formal side are the basic concepts of propositional logic; on the informal side they are the component concepts in 'syllogistic validity' and the definitions of the fallacies.

As a second illustration, let us consider a method based on argument schemes. What conceptual standard goes with that method? Walton has written as follows:

> Although the term valid does not seem to be quite the right word to use with many of these argumentation schemes, still, when they are rightly or appropriately used, it appears that they are meeting some kind of *standard of correctness of use* . What is important to come to know is what this standard is, for the most common and widely used schemes especially, and how each of the schemes can be tested against this standard. (Walton 1996: 1)

From the gist of his project it seems that Walton is proposing a conceptual standard that is different from the deductive and inductive ones we are most familiar with. It is that *an argument is illatively good if its premisses (on the assumption that they are acceptable) establish a presumption that its conclusion is acceptable*. This we may dub the standard of 'presumptive validity'. What then might the relevant operational standard be? The evaluation of arguments, on the schemes method, is guided by the unique set of critical questions associated with each of the schemes. These questions can be classified, some pertaining to the acceptability of the premisses, others to illative strength, and so on. In constructing an informal method of illative evaluation based on argument schemes, we restrict ourselves to the questions relating to illative strength. Let us then propose the following as an operational standard: an argument is presumptively valid if it satisfies the questions (pertaining to illative strength) associated with the scheme of which it is an instance. The concepts of the method are

found in the schemes and the associated questions, some of them like 'probable', 'plausible', 'consistent', 'commitment', 'cause', etc. are technical and/or theory laden. The technique of the method will consist of fitting the NLA's to schemes, asking the relevant questions, and evaluating the illative strength of the argument on the basis of the answers to the questions.

I think that, with some work, similar comparisons can be made for the other approaches to informal illative evaluation: logical analogies, warrantism, and the methods of thinking about it. That is, all the informal approaches mentioned above can be analysed in such a way that they emerge as having the shape of a method, complete with standards, tests, concepts and techniques — just like formal logic.

3. ANALYSING AND COMPARING THE METHODS

When stated, methods give us discussible procedures for dealing with difficult questions. They can be scrutinized, criticized, and possibly improved. If there is more than one method available to achieve a given end, the methods can be compared with each other. For illative methods, I propose to compare them under three different headings: the *characteristics* of methods, the *content* of methods, and the *functional adequacy* of methods.

(a) *Comparing the Characteristics of the Methods*

Under 'characteristics' we may first identify the kind of standard a method embodies. Is it an ideal standard (like Platonic forms) appropriate for evaluating argumentation? Or a precise standard such as deductive validity used to evaluate arguments by the deductive standard? Or a minimum standard, specifying that an argument is premiss sufficient if it is *at least* up to a certain mark, like the standards of inductive and presumptive validity? Another aspect of methods is whether they are direct or indirect. Using schemes, or truth-tables, or warrants, seems to be a direct method of evaluation since no other arguments will be involved

than the one being evaluated. The method of logical analogies, however, is an indirect method since it decides the illative value of an argument by comparing it to another argument whose illative value is given or assumed. One can also ask whether a method is polar or bipolar; that is, whether it is capable of giving both the result that arguments are illatively strong and the result that they are illatively weak. The truth-table and schemes methods are bipolar, but natural deduction is not, nor is a method built on an incomplete list of fallacies (kinds of mistaken inference). Finally, we ask whether a method can be used to give us judgments of intermediate illative strength i.e., whether it is scalar. It seems that the method of formal logic cannot do this and neither can methods of fallacies, but a schemes method could, since it involves several questions of which some can receive a favourable answer and others not, and so, overall, we might conclude an argument is of intermediate illative strength. How methods can be compared under these headings just introduced is displayed in Table 1.

	Formal logic	*Fallacies (Copi)*	*Logical analogy*	*Schemes*
Standards	Precise	Precise & Minimum[6]	Precise	Minimum
Direct	Direct (truth table)	Direct	Indirect	Direct
Polarity	Bipolar	Polar (negative)	Polar (negative)	Bipolar
Intermediate judgements	Not possible	Not possible for some; possible for others	Not possible	Possible

Table 1. Comparing the Characteristics of Methods

6. Copi includes both deductive and inductive fallacies.

(b) Comparing the Content of the Methods

Methods can also be compared in terms of their *content*, by which I mean their operational standards, concepts and techniques. The content of methods is what is especially important for the practical dimension of our inquiry. What the student assessors need is help with making judgments about premiss sufficiency. If they are left to their intuitions, we can expect their judgments to vary greatly and, moreover, not to be justified. Having concepts, techniques, and standards tied together in a method, if that is possible, is a fix for both these problems.

Some of the points of contrast have already been noted, but a few further observations may be helpful (see Table 2). For the fallacies method, the concepts it employs are the definitions of the fallacies, and the technique it uses is that of investigating arguments to see whether they have committed any of the fallacies. As for deductivism – in one of its guises – the technique is to 'reconstruct' arguments such that they are deductively valid according to the semantic conception of validity, and then determine whether the newly added validity-making premiss is acceptable. The concepts then are those of 'semantic validity' and 'statement acceptability'. Fisher's method of 'thinking about it' relies essentially on the concept of the 'assertibility question' and the notion of a 'field' or 'subject of study'; the technique for his method is that of thought experiments. Interestingly, different techniques ask different abilities of the argument assessors: all the methods require an ability to read and understand arguments carefully, but some methods require the ability to work with mathematical-like symbols, some require familiarity with the field to which the argument belongs, and some require the power of imagination. From this we may anticipate that some assessors will be better suited to some methods than to others.

	Formal Logic method	*Fallacy method*	*'Thinking about it' method (Fisher)*
Operational Standard	An argument is premiss sufficient if it is truth-table valid	An argument is premiss sufficient if it commits none of the fallacies on the A-list	An argument is premiss sufficient if, given the standards of the field to which the argument belongs, it is not possible that the premisses are true and the conclusions is false
Concepts	Truth functions Truth-table validity	Identifying conditions of the fallacies on a list Syllogistic validity	Argument field Assertibility question
Techniques	Constructing truth-tables Computing value of compound sentences Reading the results	Careful reading of argument Comparing argument with each of the fallacies on the list	Finding field-relative standard Performing thought experiment
Comment	Mechanical	Requires interpretation	Requires imagination

Table 2. Comparing the Contents of Methods

(c) *Comparing the Functional Adequacy of the Methods*

Let us now turn to the basis for comparing the functional adequacy of methods. Writing about argument cogency (her term for 'argument goodness') Trudy Govier makes the following observations:

> An account of argument cogency is a *reliable* one if it can be used by different people to get the same result. Or, if there are variations in result, these are readily explicable in terms of pertinent background beliefs about the warrantedness of the premises. And it is *efficient* if it can be applied in a fairly uncumbersome way. (Govier 1999: 108-9)

I want to adapt these remarks, giving them a slightly different twist, so they can be oriented toward the comparison of the ade-

quacy of methods of illative evaluation. In addition to the two aspects mentioned by Govier, reliability and efficiency, I will add a third about the scope of methods.

(i) Reliability

There are really two aspects of reliability. The one is given by Govier: a method of testing for premiss sufficiency is reliable to the extent that "it can be used by different people to get the same result". Govier's suggestion is that if a group of assessors were to disagree about an argument's cogency this would be explainable by the group-members having differing beliefs about the argument's premisses. But beliefs about premisses is a premissary issue, not an illative one. Could not the assessors disagree about the illative strength of the argument even though they were in agreement about the premisses? And, if so, might there not be some method to help them overcome their disagreement?

Considering the kind of project imagined above which involves working with a group of student assessors, we should say a bit more about the make-up of the group. We stipulate that it is a group made of either senior undergraduate students or MA level students in the humanities or sciences; the group is an even mixture of men and women; the members are open minded and willing to revise their views following discussions, but they are not easily swayed. Importantly, no member of the group has undue influence over the opinions of the other members; there is no leader pressuring others to agree with him or her. The group of student argument assessors is competent in the language of the object arguments and they have neither learning disabilities nor idiosyncracies that would keep them from correctly applying the methods they are taught. Given this characterization of the argument assessors we can put the reliability aspect in more definite terms. Assume that the several members of a group, *G*, have been well trained in how to use a method and that they are serious about argument evaluation, then,

> A method, *M*, used by a group of student assessors, *G*, to test a set of NLA's, *A*, for premiss sufficiency, is reliable *to the extent* that members of *G* using *M* correctly will agree in their illative evaluations of the members of *A*.

We may refer to this as the *subjective reliability* of an illative method. Subjective reliability will be a matter of degree: some methods may have a high level of subjective reliability, other methods a lower level.

The other way in which methods are reliable has to do with the results that they produce. It is possible that a method has a high degree of subjective reliability when rightly used – that assessors using the method tend to agree in their judgments – and yet that it sometimes or even frequently results in mistaken judgments, or even that it consistently misjudges 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. Similarly, of two methods of illative evaluation of NLA's, the one that results in false positives or false negatives less frequently than another method is, other things being equal, the more reliable method. This we may call the *objective reliability* of a method. Both subjective and objective reliability are a matter of degree and illative methods will be comparable, vis-à-vis each other for both kinds of reliability. (If the arguments that are 'out there' are such that they should not all be evaluated by the same standard of premiss sufficiency, then it will be difficult for any single-standard method to be objectively reliable.)

(ii) Efficiency

An account of argument cogency is efficient to the extent that "it can be applied in a fairly uncumbersome way", says Govier. Being cumbersome seems to be something we might also say about the employment of a method. Let us say that a method is *learner-efficient* to the extent that its content — its operational standard, concepts and techniques — can be learned fairly easily by our

group of argument assessors. Once learned, however, the method may not be easy to apply. Thus, not only is there a question of *learner-efficiency*, there is also a question of *user-efficiency*. That a method should be easy to learn and easy to use stems in part from the desideratum that all those with an interest in argument evaluation (which is, or should be, nearly everybody) should be able to use it. So, what is wanted is a method that is both learner- and user-efficient. However, one method might be easy to learn but hard to use, and another method, complex and technical, hard to learn, yet once learned, quite user-efficient. (Methods that are very difficult to learn and to use have a greater start-up cost than other methods, and that might be a reason for funded research not to prefer them.)

(iii) Scope

The more kinds of arguments a method can be used to evaluate, the greater is its scope, and the greater its scope the more useful the method is. Methods of truth-functional logic cannot deal with relational arguments and for that reason we consider them, *qua* illative methods, to have narrower scope than methods that can deal with relational arguments as well. Deductive logic, in general, cannot deal with inductive arguments, and so it has narrower scope than a method that can handle both deductive and inductive arguments. In general, methods built on short inventories of fallacies or schemes will have narrower scope than those built on longer lists. Like reliability and efficiency, the scope of an illative method will be comparable to that of other methods. When an illative method is applied to arguments that lie outside its scope, objective reliability suffers.

(iv) Assessing the Adequacy of Different Methods

Our knowledge of how functionally adequate — efficient and reliable — methods of illative evaluation are must await empirical investigation. Still, we can make some tentative guesses at

how things *might* work out. Formal logic has been criticized for being hard to learn which means it has low learner-efficiency and we can predict that its user-efficiency will vary with the complexity of the arguments being evaluated. We should expect a high level of subjective reliability among assessors who have learned the method; however, formal logic is criticized for not being applicable to the main body of NLA's we meet in popular discourse because they aren't 'deductive arguments'; this implies formal logic has restricted scope, and that as we try to apply it to the arguments to which it is not a natural fit, the objective reliability of the method decreases.

The method of 'thinking about it' is advertised as being learner and user-efficient. True, it is not a hard method to learn, and Fisher thinks we can begin to use it even if we don't really have a lot of familiarity with the subject matter. Still, it is harder to apply the method than it is to learn (understand) it. It is noteworthy that the method has no limitation in terms of scope: in principle it can be applied to any argument. However, this method's subjective and objective reliability will depend on the field-relevant knowledge possessed by the assessors. What is needed for subjective reliability is that the assessors *agree* on the field-relative standards but, despite our requirement that the they have about the same level of education, it is to be expected that agreement will often be hard to come by, especially as the subject matter lies outside the common knowledge of the assessors. For objective reliability what is needed is that the assessors *have* the correct field-relative standards, and that they can use their imaginations well. Objective reliability will then depend on how good the fit is between the knowledge of the assessors and the subject matter of the arguments that will be examined.

The method of argument schemes, although it is not formal or mathematical, does, nevertheless, take considerable effort to learn. This is because, if it is to have broad application, it must include many schemes (perhaps as many as 60) and their associ-

	Formal Logic	*'Thinking about it'*	*Argumentation Schemes*
Learner efficiency	LOW: difficult b/c of abstract nature; requires math-like skills	HIGH: not concept heavy and hardly any technical concepts	LOW to MEDIUM: many schemes; even more associated questions; Qstns contain difficult concepts
User efficiency	This will DEPEND on the complexity of the argument	MEDIUM: b/c it requires some knowledge of field relative standards	MEDIUM to HIGH: many arguments and schemes fit easily together
Subjective reliability	HIGH among those who have learned the method	DEPENDS on extend 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
Objective reliability	LOW: b/c of limited scope	DEPENDS on assessors identifying the correct field-relative standards; and powers of imagination	MEDUIM: b/c of scope restrictions
Scope	NARROW: b/c works only for arguments suited to be measured by deductive standard	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

Table 3. Comparing the Adequacy of Methods

ated questions. So, we should judge it to have rather low learner-efficiency. Again, with a long list of schemes, the method may be cumbersome to employ, and hence its user-efficiency is hampered. The method may fare better in terms of subjective reliability because all the assessors will have to deal with the same critical questions, which will channel their attention in the same

direction which should facilitate agreement. The degree of objective reliability will be a function of how well the inventory of schemes matches up with the arguments that are 'out there'; we should expect that the more comprehensive the list, the greater the objective reliability. (So, objective reliability is inversely related to efficiency.) The presentation of the schemes method currently being promoted by Walton is, however, restricted to those arguments that are presumptively valid, leaving out arguments to be measured by the deductive and inductive standards, and this amounts to a scope limitation.

Let me repeat: these comparisons of functional adequacy are conjectures. They should be compared with other people's insights and experience, and they are revisable or dismissable in light of our empirical findings. Table 3 summarizes my conjectures.

4. CONCLUDING OBSERVATIONS

Some have suggested that the term 'informal logic' is an oxymoron, like 'business ethics'; it cannot both be logic and informal, they say. I disagree with this. But I also disagree with those who think that informal logic should be a kind of argument evaluation or argumentation theory that includes judgments about premiss acceptability as well as other dialectical and rhetorical considerations. Logic is about making illative judgments, and these can be made with the aid of logical forms, or without them. Insofar as that they can be made without them, there is informal logic.

What started this inquiry was the question whether it would be advantageous to train a group of logiciners (logical novices), who were to be put to work evaluating natural language arguments, formal or informal methods of illative evaluation. Not enough has been found out for us to answer that question yet, for although it is true that formal logic has some shortcomings as a method of evaluating NLA's, so too do each of the informal

methods, and what is wanted is a judgment about what is the best overall method. Nevertheless, a framework has been proposed that, in conjunction with empirical enquiry, can be used to eventually give us a basis for answering that question.

This enquiry brings with it some externalities. We have come to see that it is possible to recast some of the work that has been done in informal logic as *methods* of informal illative evaluation. There are three benefits to this observation. One of them is that it demarcates an area of investigation distinct from dialectical theory, rhetorical theory and epistemological theory. A second and related benefit is that informal illative evaluation is identified as an area of research. Projects can be designed to mark and define the concepts and techniques needed for each of the methods, and to formulate the needed operational standards and, in general, to improve the functional adequacy of the methods. Our increased concentration in this area will be a benefit to our students who want to learn to make justifiable illative judgments. The final boon, and not an insignificant one, is that we can now propose a new definition of 'informal logic'. It is the set of methods of non-formal illative evaluation.

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