Chapter 1

Argument as Product: The Logical Perspective

The logical orientation in argumentation itself enjoys different strains. In this chapter I explore the common root of these strains and indicate the importance of a rhetorical base to the logical perspective.

The logical approach focuses on argumentation as a product. That is, its central concern is the collection of statements comprising a conclusion and one or more premises (PPC) called an argument, and the determination of such arguments as valid or invalid, strong or weak. Traditionally, the product approach is seen in the systems of formal logic, but since a number of recent "informal" logics incorporate some formal elements, we will also need to look at the relationships between formal and informal logic.

1.1 Formal Logic and the Classical Root

Classical logic, and the theories based on it like modal logic or set theory, as well as rival logical theories, all find their bases in the idea of logical consequence (Read, 1995:36). On the traditional view, a good argument is a valid one, and validity is a matter of form. One proposition is a logical consequence of another only if together they match a valid pattern. Validity itself is determined in these forms according to a notion of truth-preservation. Valid arguments cannot have true premises and false conclusions. The model implied in this truth-preserving system is that of mathematics. As Stephen Read puts it:

> The aim of logicians at the turn of the twentieth century was to axiomatize mathematics—to find a finite set of axioms, or at least a finitely specifiable such set, from which the whole of mathematics could be derived, and only that. (1995:45)

This ambition is strikingly similar to the one held by Aristotle. As noted in the introduction, Aristotle's work allowed for the current rich treatments of argumentation under the rubrics of Logic, Dialectic, and Rhetoric. But in his vision of logic as a formal science comparable to geometry we see the first move in a development that was to stress the logical over the other approaches throughout subsequent centuries.[1]

Aristotle saw himself living in an ordered, intelligible universe that lent itself to being understood. And, fortuitously, human beings naturally desire to understand their surroundings and are equipped with the reasoning capacities suitable to the task. Aristotle strove to reveal the basic structure of reality by grasping the primitive, immediate, principles and by demonstrating what must follow from them (*Posterior Analytics,* bk. 2). By means of the syllogism—"a form of words in which certain things are assumed and there is something other than what was assumed which necessarily follows from things' being so" (bk. 1, chap. 1, 24b:17–19)[2]—Aristotle sought to develop a formal system of inferences that would reveal the structure of reality. In applying themselves through such rigorous reasoning humans would come to know the world and *by virtue of doing so,* or *in the process,* actualize their full potential as knowers. That is, they would fully become the rational creatures that human beings essentially are.

This highly ambitious but intensely human project has been judged overly optimistic (Lear:1988) and criticized for reducing human nature to the capacity of reason (Nye:1990). I will discuss the latter type of criticism in chapter 7. With respect to the former, Jonathan Lear poses the problem as follows:

> Aristotle's logic reigned as the unquestioned paradigm of logic until the end of the nineteenth century. But it is not sufficiently sophisticated to realize his dream. If Aristotle is to present a unified and coherent logical theory without giving an analysis of the concept of following of necessity, it is essential that all deductions, non-formal and formal, be systematically related to the perfect syllogistic inferences. (1988:228–29)

This Aristotle did not do. But his logic as discussed here is a theory of demonstration or proof. It is not itself presented as a theory of argument, although when argument is introduced it is related to this logical foundation.

... so too with arguments—both deductive and inductive proceed in this way; for both produce their teaching through what we are already aware of, the former getting their premises as from men who grasp them, the latter proving the universal through the particular's being clear. (And rhetorical arguments too persuade in the same way. . . .). (*Posterior Analytics,* bk. 1, chap. 1, 71a:5–10)[3]

Thus the tradition of relating argumentation with formal systems is long-standing, finding its suggestion in the ideas of Aristotle. But this is not necessarily to equate "argument" with the limited model of argument in formal logic, as has become the fashion in the twentieth century. As Jaakko Hintikka notes, "this traditional conception of logic and deduction has been rejected with a rare unanimity by recent theorists of human reasoning and argumentation" (1989:3). The informal logician Ralph H. Johnson (1987a) is a point in case, arguing that, for many, logic itself became synonymous with formal, deductive logic (FDL). This involved a reconceptualization of logic as a body of necessary truths, which had been involved in its history, but only as a part of it. Johnson (1987a:50) traces the shift to Frege and to his interests in rigorous proof. Frege was not interested in argumentation per se. But his influence, like that of Russell and Whitehead, was substantial, and not only did FDL become synonymous with logic, but "argument" itself became synonymous with deductive argument. A rich tradition of interest in argument as rational persuasion, traceable to Aristotle's own discussions, was left by the wayside.

Beyond this shift of emphasis, the story against formal logic itself is that it is inadequate for the analysis of everyday argumentation. However, two things in its defense merit noting here: (1) It is not clear that it *has* ever been advanced as an adequate model for treating everyday arguments (see van Evra, 1985); and (2) That it does not serve as a complete model for dealing with everyday arguments does not mean it cannot contribute to their analysis. Michael Scriven has observed: "The syllogism was probably nearer to reality (though not to comprehensiveness) than the propositional calculus, but not near enough to make it useful in handling the average editorial or columnist today" (1976:xv). The appropriateness of this comment may depend on what we understand "average" editorials to involve. Most everyday arguments do not fit patterns of the categorical syllogism or propositional logic; but some do (Govier, 1987:201). It overstates the case to propose that these argument

forms are not useful. They are useful, if they are understood within a theory of argumentation that captures the full range of relations between arguers and audiences, rather than just the products of those relations.

1.2 The Toulmin Transition

Stephen Toulmin's seminal text, *The Uses of Argument* (1958), is a precursor of the kind of critique of FDL that Johnson develops. And Toulmin's work is instructive for its detailing of a wide divergence between methods of professional (formal) logicians and those of everyday arguers. While it may be the case that formal logicians have never claimed everyday arguments as their domain, Toulmin still accuses them (1958:126) of advancing a model of argument that they expect other types of arguments to emulate. In distinction to the kind of hierarchy that he sees proposed by formal logicians, with the formally valid argument at the pinnacle, Toulmin (14) identifies a diverse range of arguments specific to different fields, which cannot be assessed by the same procedure and by appeal to the same standards.

Toulmin calls the syllogism an unrepresentative and simple sort of argument and traces many of what he terms the "paradoxical commonplaces" (146) of formal logic to the misapplication of this pattern to arguments of other sorts. His own account of argument introduces new technical terms like *Warrant* and *Backing*. "Warrants" are statements that act as bridges between data (D) (or evidence: the ground that we produce as support) and the conclusion (C). These bridges act to authorize the step taken. What justifies a move from D to C? His answer is that C follows from D since W. By example: Harry was born in Bermuda (D), so Harry is a British subject (C), since a man born in Bermuda will be a British subject (W) (99). Warrants themselves require assurances that authorize *them,* and these Toulmin terms *Backing* statements (B). In the example already provided, the warrant that "a man born in Bermuda will be a British subject" is authorized by backing statements that refer to the appropriate statutes and to other legal provisions (105). This is a very simplified explanation of some of Toulmin's basic terms. He takes pains to distinguish backing (B) from data (D), as well as backing (B) from warrant (W). Even so clarified, the account has received considerable criticism (Johnson, 1981; Freeman, 1991; van Eemeren and Grootendorst, 1992a:4).[4] What is of importance to the current discussion is the way in which Toulmin presents his account in contrast to the tradition he challenges.

He still speaks of arguments being valid or invalid, but not by virtue of form or consequence. In the argument pattern D; W; so C, the elements of the conclusion and premises are not the same. Nor is the validity of the argument a consequence of its formal properties.

> . . . a (D; B; so C) argument will not be formally valid. Once we bring into the open the backing on which (in the last resort) the soundness of our arguments depends, the suggestion that validity is to be explained in terms of "formal properties", in any geometrical sense, loses its plausibility. (1958:120)

Different fields of argument will employ different standards of assessment as warrants, data, and backing come into play in different ways. The criteria of formal logic are, Toulmin claims, field-invariant. Thus they cannot deal adequately with the nuances of argument specific to different fields. Toulmin's criteria are field-dependent and will adapt themselves to the specifics of the field in question.

Toulmin's model of argument is what he terms a *jurisprudential model,* in contrast to the mathematical or geometrical model. But on the terms discussed so far it is still a logical model. It still focuses attention on the products of argumentation and what should count as appropriate criteria for validity and soundness. Thus, many would call Toulmin an informal logician. He eschews attention to form, but not to arguments as products.

1.3 Informal Logic

It is far easier to distinguish between formal and informal logics than to give a clear definition of what informal logic involves. Writing in 1980, two of the pioneers of informal logic, J. Anthony Blair and Ralph H. Johnson, found that the field was too undeveloped for a clear definition to be possible (1980:ix). Fourteen years later, while noting maturity in the field in the quality and quantity of contributions made to it, they still believe that there is no distinctive methodology, paradigm, or dominant theory for informal logic (Johnson and Blair, 1994:4). In fact, some authors doubt that it is a logic at all, seeing in "applied epistemology" a more appropriate label for the field (Battersby, 1989; Weinstein, 1990, 1994). Nevertheless, the rudiments of its central components can be gleaned from a series of developments in recent decades.

The pioneering work of John Woods and Douglas N. Walton (1982, 1989), particularly in reevaluating the traditional informal fallacies straddled any divide that might have been thought to exist between formal and informal logic. Woods answered his own question "What is Informal Logic?" with a terse *nothing*. Assuming that the principal content of informal logic was the fallacies, Woods concluded that "the theory of fallacies is not only at its best as a formal theory, it is difficult to see how the suppression of its formal character could leave a residue fully deserving of the name theory" (1980:62). The character of the Woods and Walton approach to the fallacies remained true to this sentiment.

At the same time, Blair and Johnson were identifying a more expansive range of components integral to the "informal logic point of view" (1980:ix–x). These included a focus on natural language arguments and serious doubts about whether deductive logic and standard inductive logic could model them; a view of argumentation as a dialectical process; and a conviction that there were standards and norms of argument evaluation beyond the categories of deductive validity and soundness.

Each of these has been a recurring theme in subsequent models of informal logic, and the last has prompted a set of evaluative measures adopted by many of its practitioners. There has also been a gradual equating of informal logic with the logic of argumentation. Jurgen Habermas prompted such thinking in writing:

> The logic of argumentation does not refer to deductive connections between semantic units (sentences) as does formal logic, but to nondeductive relations between the pragmatic units (speech acts) of which arguments are composed. Thus it also appears under the name of "informal logic." (1984:22–23)

Such a perspective is endorsed by Johnson and Blair (1994:11) and by Chaim Perelman (1989b:11), who calls informal logic the logic of argumentation, and by Douglas N. Walton, who equates informal logic with "critical argumentation" (1989:ix).[5] In fact, Walton has traveled so far from the early work on fallacies with Woods that he can write: "Only recently has it become more apparent that a pragmatic approach is absolutely necessary in order to make sense of informal fallacies" (1990:419).

Interestingly, Walton's "informal logic" has a distinct pragmatic quality. When he argues that "generally the theory of informal logic must be based on the concept of question-reply dialogue as a form of

interaction between two participants, each representing one side of an argument" (1989:x), he is exhibiting the kind of dialectical orientation that would place him among the pragma-dialecticians to be discussed in the next chapter.

This dual character to Walton's writings should not come as a surprise; it will also be seen in the work of others. While isolating the three perspectives on argument in order to study them, I have not suggested that they actually *work* in isolation. Accounts of argument typically include aspects of the three in their makeup, and we will find this to be the case when we turn to the dialectical and rhetorical. The issue for us has been which perspective *grounds* the theory, or, from another approach, what role the rhetorical plays in a theory.

Thus Walton's identification of informal logic with a pragma-dialectical account of argument announces one possible outcome of developments in these fields. In fact, Johnson uses such an association of the two to highlight those features that constitute an informal logic (IL). That the idea of "informal logic" has achieved some kind of general account can be seen in the confidence with which he identifies four central characteristics. Informal logic is text-based (rather than speech-based), focuses on an argument (rather than on a critical discussion), involves criteria (rather than rules), and is product-oriented (rather than procedure- or process-oriented) (1995:237).

It is this final point that most bears upon our current discussion. "IL," writes Johnson, "envisages a finished (to some degree) *product,* where the arguer is typically absent" (238–39). This leaves us with a set of premises supporting a conclusion. Other logicians with an "informalist stripe" (a myriad of them, we are told) are said to share this view, and among them Johnson counts Jonathan Berg (1992:104–5, 111); Leo A. Groarke (1992:114–15); C. L. Hamblin (1970:228); and Michael Wreen (1988:93).[6]

If both formal and informal logics are grounded in the same basic product-orientation, then what distinguishes them is the criteria by means of which arguments are evaluated.

In the classical tradition discussed earlier, the strongest claim that can be made about a premise's relation to its conclusion is that the premise entails the conclusion. But as a number of researchers have pointed out, formal validity is no guarantee of a good argument. Robert C. Pinto (1994, 1995) makes the point particularly well when he argues that entailment is neither a necessary nor a sufficient condition for the premises and conclusion of an argument being suitably linked.

> Not sufficient, because an argument of the form "P, therefore
> P" meets the criterion of entailment but is hopeless as an ar-
> gument. Not necessary, because there are innumerable in-
> ductively strong arguments in which premises do not entail
> conclusions. The abstract structures that classical logic stud-
> ies just don't coincide with the factors that make *arguments*
> logically good. (1995:277–78)

In place of validity and soundness, informal logicians speak of
strength and cogency and evaluate arguments with criteria like rel-
evance, sufficiency, and acceptability (some accounts may add or sub-
stitute criteria like truth or consistency). Furthermore, just as form
and evaluation are related in formal logic, so evaluation in informal
logic is related to the structure of arguments and informal logicians
adopt diagramming techniques as a principal tool in their evalua-
tions (Freeman, 1991, 1994). In these ideas, a common core of what
constitutes informal logic has evolved, and the field has matured
from inchoate confusions to a fully formed discipline, with a recog-
nized content and methodology.[7] We can further conclude that Toul-
min, as a nonformal but product-oriented logician, fits within the
informal ranks.

1.4 Problems of the Product-oriented Perspective

Many of the problems of the product-oriented account as they
arise in formal logic are remedied or ameliorated by the advances of
informal logic. But two that still warrant attention can be discussed
under the general headings: (1) adaptability, and (2) relevance. To be-
gin this, we return to Toulmin's critique.

Adaptability

As we have seen, formal logic lacks adaptability to different
fields. The seriousness of this failure is seen in Toulmin's charge that
the field-dependence of logical categories is an essential feature be-
cause there are irreducible differences between the sorts of problem
arguments can tackle. Having determined the kinds of problem ap-
propriate to a particular case, one can "determine what warrants,
backing, and criteria of necessity are relevant to this case: there is no
justification for applying analytic criteria in all fields of argument in-

discriminately" (1958:176). Toulmin has expanded this notion of "field of argument" in terms of the problems that are said to be addressed by them. Thus the geometrical argument is a field in which we are faced with geometrical problems. A moral argument is called for by a moral problem, and the need for a prediction calls for an argument with a predictive conclusion. Setting aside problems associated with defining fields in this way, Toulmin's point is to show how unadaptable formal arguments are when we attempt to apply them across the range of such problems in fields. In a word, they lack the practical application that a theory of argumentation requires from its components.

This criticism applies more to the strict sense of validity constraining formal reasoning than it does to its interest in arguments as products. But the types of arguments produced in such systems are not context-sensitive. Which is to say that in their formulation they do not take account of the diversity of situations from which such patterns are abstracted nor of nuances in the ordinary language statements that they translate.

Problems associated with translation are widely known and, for students of formal logic, experienced. But it bears repeating that even to test a simple argument of the *modus ponens* variety (if p then q, p /q), there is often indecision as to whether the "p" of the first premise and the "p" of the second premise (or the "q" of the first premise and the "q" of the conclusion) symbolize exactly the same expressed terms or statements. Ordinary language arguments, rife with essential ambiguities and nuanced meanings, rarely lend themselves to such exact translations. Too often we find ourselves testing sanitized forms where allowances have been made in translation that belie any claim to be dealing with real-life arguments.[8]

Meaning is just one feature of context that formal logic mistreats, if it deals with it at all. Generally, its treatment of the argument produced and the relations between statements within it is conducted without reference to the background—the circumstances in which it arises, including the occasion and consequences; the arguer and her or his intentions in arguing; and the audience, with its background of beliefs and expectations. Toulmin anticipates many others when he criticizes the freezing of "statements into timeless propositions before admitting them into logic" (1958:182). Attention must be paid to the time and place of an utterance, and questions about the acceptability of an argument must be "understood and tackled *in a context*" (185). This, the purely formal logician omits from the account even before beginning.

Informal logic fares better in these respects. While critiques of logic may tend to cast their nets around both formal and informal varieties, informal logic has the adaptability to respond to such critiques in a way its formal counterpart cannot. Govier refers to a wide range of criticisms (particularly from feminists) delivered at both types of logic. One such case in point is:

> Those who propose standards for evaluating inferences and arguments are not sufficiently sensitive to the situation and context in which arguers and arguments appear. (Logic should be more *particular* and case-by-case.) (1995:198)

Such a case-by-case adaptability is exactly what Toulmin's account claimed to offer and what informal logicians have striven for in the formulation of their standards. Govier, for example, notes how the PPC structure of arguments "represents only the core of the argument" (200), implying that other features beyond the premises and conclusion exist as *part of the argument*. This is an important, albeit vague, observation. Govier's surrounding discussion remarks on the social, practical, and textual contexts and the backgrounds of non-argumentative discourse. Insofar as informal logicians address themselves to such features of the "argumentative context," they are expanding their accounts beyond the core of the product to accommodate dialectical and rhetorical aspects. Johnson (1995:242), we recall, exhibits just such an attitude by including the process of arguing and the arguers along with the product. Elsewhere, with Blair, Johnson suggests that "an argument understood as product . . . cannot be properly understood except against the background of the *process* which produced it—the process of argumentation" (1987:45).[9]

Missing here is any explicit reference to the audience of the argument. This is a common omission that characterizes the general state of informal logic. Josina M. Makau has observed of texts in the field that although some of them pay attention to contexts, "none of them teach students to fully consider the role *audience* plays in argumentative invention or evaluation" (1987:378–79). She expresses surprise at this situation given the 1980 overview provided by Johnson and Blair, where Perelman and L. Olbrechts-Tyteca's *New Rhetoric: A Treatise on Argumentation* (1969) is counted among three significant monographs. Makau remarks: "Yet given the nature of

informal logic textbooks, it appears that Johnson, Blair and other informal logicians have overlooked the *central* thesis of this seminal work . . . its focus on the audience-relative nature of argumentation" (379).

Informal logic's basic sets of criteria, like relevance, sufficiency, and acceptability, allow for a more comprehensive assessment than validity and soundness. Acceptability *can* involve considerations of the contexts in which arguments arise, and relevance, as we will see in the next section, takes us beyond judgments of entailment.

Likewise, informal logicians' attention to the dynamics of argumentative discourse, to the ambiguities and vagueness and emotional ladenness of statements that serve as claims and premises, allows for a greater sensitivity to the "ordinariness" of everyday argumentation. Informal logic offers procedures for dealing with language problems in the standardizing of arguments (setting out the premises and conclusions) and further addresses them in the evaluation-criterion of acceptability.[10]

On the other hand, the use of diagrams serves to emphasize the orientation on product. Reasoning is abstracted from its contexts and attention is focused on supports within the argument. Some questions of evaluation, especially with respect to premise acceptability, may take us back to the context. But there is no guarantee that this will happen and premises can be assessed as acceptable according to whether or not they are known to be true to the evaluator. Despite this, however, we can conclude that, in general, and with the serious omission of attention to the audience, informal logic offers product-oriented models of argumentation that are context-sensitive and therefore richer in their evaluations and practical applications.

Relevance

Formal entailment captures the idea of "guaranteeing" or "following from." A premise entails a conclusion if, given the truth of the premise, the conclusion must also be true. But entailment is not strictly a notion of relevance in any way that might be useful. While truth, in these terms, is a *property of* statements, relevance is a *relation between* them. And entailment does not express the same type of relation. A typical textbook can give an inference like "New York is in New York. Therefore New York is in New York" to illustrate entailment. But for a premise to be relevant to a conclusion in any useful sense, it must act as *a reason* that increases our acceptance of, or

convinces us to accept for the first time, the conclusion (Blair, 1989). Intuitively we recognize that a proposition may not be relevant to establishing a claim even though it is true. "Wayne Gretzky is clean-shaven" is not in any obvious sense relevant to the truth of the claim that "Wayne Gretzky is one of the premier hockey players in the world." However, in certain deductive systems, the rules governing logical implications (and all logical implications are also entailments) may well allow us to derive the one from the other.

When Read (1995:56) notes that truth-preservation in the classical account of formal logic endorses inferences in which the premises are irrelevant to the conclusion, he indicates a need to incorporate relevance into the criteria of logical consequence. This same need has been recognized by a number of logicians who have grappled with the problem of relevance.

In classical propositional logic, connectives like "&" and "v" allow us to construct complex propositions. We can discover the truth value of these connectives and the propositions they relate by constructing truth tables; these allow us to assess the validity of arguments—where the conclusion is true in every case in which the premises are also true. What becomes interesting, then, are valid inferences in classical propositional logic that are deemed shocking or astounding (Anderson and Belnap, 1968; Jeffrey, 1981). With an inference like "B/A>B," many substitutions for A and B give strange results. For example, "It is snowing. Therefore, if the sandwiches taste fishy, it is snowing." On the face of it, there seems to be no relationship between the sandwiches tasting fishy and it snowing such that the first necessitates the second. But with respect to the material conditional, such an inference is valid. If B is true, then "A&-B" must be false. Hence, "A>B" follows from the truth of B.

This concern over the material conditional was what prompted Alan Ross Anderson and Noel D. Belnap to propose their relevance logic. Their use of the term *relevance* to denote their logic "picked up an informal use before that time of the epithet "relevant" to characterize a consequence relation, and an implication, which was not paradoxical in the way material and strict implication were" (Read, 1988:44). It is clear to them that to state A as true on an irrelevant assumption B is not to "deduce" A from B or to show that B implies A in any "sensible" sense of "implies." This appeal to the sensible drives their concern to reconcile notions of entailment with our intuitions. A true entailment is necessarily true; the problem cases are simply not true entailments. Therefore, while they grant that valid inferences are necessarily valid, they mandate that the antecedent

in a valid conditional be relevant to the consequent. In explaining their account, they present two distinct senses of "relevance": they provide a formal analysis (giving a subscripting device, which I will not go into here) of the intuitive idea that "for A to be relevant to B it must be possible to *use* A in a deduction of B from A" (Anderson and Belnap, 1968:101). It may not be necessary to use A, but it must be possible. Secondly, they propose a formal condition for the requirement of "common meaning content" between A and B, if "A>B" is deemed to be true. Thus they propose that A and B must share a variable (103; developed in 1975). As Read (1988:119) points out, the first condition for relevance is deemed both necessary and sufficient; the second is a necessary but not sufficient condition for an entailment to hold between A and B.

Anderson and Belnap have their critics, many of whom challenge the ability of their relevant logic to salvage our intuitions about validity. For example, G. I. Iseminger argues that there is no clear sense of "meaning" in the phrase "common meaning content" (1980,199). With respect to the "use" sense of relevance, Read also points out a problem. He refers to a proof of Clarence Irving Lewis wherein contradictory premises do appear to be used to derive an arbitrary proposition. Hence, "[i]t is then incumbent on us somehow to decide on the validity of the derivation before we can tell whether the contradiction has indeed, in the relevant sense, been used to obtain the conclusion" (132).

In distinction to Anderson and Belnap, Read proposes his own Relevant Account of Validity. In the Classical Account, A entails B if and only if A cannot be true and B false. But the conjunction "and" in this account is extensional. And therein, believes Read, lies the problem. To resolve this he employs the sense of conjunction that is intensional and that he labels "Fusion" (designated by X). Hence: "A entails B iff A cannot be true and (fuse) B false" (133).

In Fusion "A $\times$ B" demands both A and B in its derivation, thus binding them together in a way that extensional conjunction does not. What is important to Read is that relevance be symmetrical. But this also results in a possible shortcoming for his account: his explanation of relevance is entirely circular, since two propositions are relevant if either entails the other. Read concedes this. But he insists that his definition highlights what is distinctive in the relevant account of entailment:

> [N]amely, the important role played by fusion in its proper analysis. Fusion binds two propositions together in such a

way that one is assured of their mutual relevance in deriving any consequence from the fused conjunction. . . . Whatever "A × B" entails needs both A and B in its derivation. Hence, the new definition has these three features:

(1) it characterizes a logical relation between two propositions with the correct formal properties;

(2) it provides an appropriate sense of derivational utility; and

(3) it respects the intuition that a contradiction is not relevant to every proposition. (134)

This goes a long way toward salvaging a sense of relevance for the formal account. But with respect to our larger project of dealing with practical arguments in ordinary circumstances, it falls short. Because of its circularity Read's fusion account must lack value for our pragmatic interests. This is the case with Anderson and Belnap's relevance logic, and there is nothing in Read's account to distinguish it in *this* respect.

In turning to accounts of informal logic, we might first consider some of the theoretical work done on relevance by Walton (1982). Following B. J. Copeland (1980), Walton points to inferences that Anderson and Belnap reject as irrelevant that do appear to share a variable and that could possibly be subscripted to meet the requirement of derivational utility that Anderson and Belnap set. While noting a value to their relevance logic, Walton offers his own relatedness logic as having greater utility.

Under stipulations of this system, "A>B" is true only if A and B are related to one another. On this account astounding inferences like "B/A>B" fail in any case where A and B are unrelated. But what exactly is meant here by "relatedness"? One proposal of Walton's is to see relatedness construed as spatio-temporal proximity in an act-sequence (Walton, 1979, 1982:35–37). This explains the relevance of antecedent to consequent in "If Socrates drinks the hemlock then Socrates takes his life"; and the irrelevance of "It is snowing. Therefore if the sandwiches taste fishy, it is snowing." However, on this proposal the same inference that was rendered valid by the classical model could be rendered invalid on the relatedness model. Walton's solution to this apparent paradox is that the inference is valid if relatedness is not an issue. But if relatedness is an issue in a particular context, then the inference is invalid in that context.

Walton expands his account with another proposal for relatedness drawn from David Lewis. Here "A is related to B" means that "A

and B share some common subject matter." Taking T as a set of top-
ics, A is related to B if and only if the subject matter of A shares at
least one topic with the subject matter of B. What becomes immedi-
ately clear is that relatedness so construed is not a transitive rela-
tion and, hence, classically valid forms will in some instances be
invalid. Again, an astounding inference like "It is snowing. Therefore
if the sandwiches taste fishy, it is snowing" fails to be valid because
of the absence of any subject matter overlap between A and B.

     While not without some concerns, and recognizing the need for
a more developed account, Walton concludes that relatedness logic
and especially subject matter overlap of propositions works well as a
kind of relevance in pragmatic contexts. While he still sees the need
for other types of relevance, he believes that the fundamental con-
cept of relevance among all types is that of propositional relevance,
which is best modeled by relatedness logic. This is because, in his
analysis, all forms of relevance reduce in some way to the proposi-
tional structure of the product culled from a disputation.

> The core of any argument is a set of propositions. In any dis-
> putational game, the basis of the game is a set of moves and
> countermoves. These moves are essentially made up of propo-
> sitions. Therefore propositions are the core around which the
> disputational structure of argument is built. (1982:32)

     But "propositional relevance" could mislead us here, since he is
not just talking about propositions related to each other independent
of a context. He handles the paradoxical consequences of his account
(paradoxical in relation to classical models) with the suggestion that
some inferences are sometimes valid, sometimes not, depending
upon relevance being an issue. But in the situations that concern me
(and Walton, I believe), relevance is always at issue. In effect, when
Walton reduces the types of relevance to propositional relevance,
what he means is that they reduce to considerations of spatio-
temporal proximity in act-sequences and/or subject matter overlap;
both contextual considerations.

     Both "spatio-temporal proximity in act-sequences" and "subject
matter overlap" may contribute to an acceptable sense of relevance
in arguments, but they will not be sufficient. Consider the proposi-
tions introduced earlier: "Wayne Gretzky is clean-shaven" and
"Wayne Gretzky is one of the premier hockey players in the world."
We are asking whether the first is a relevant reason for accepting the
second, and intuition tells us it is not. Clearly, there is a relationship

between the two propositions. Insofar as I understand the points that
Lewis and Walton are making, I would have to say that there is sub-
ject matter overlap here. In the form of the person of Gretzky, the
subject matter of the first proposition shares at least one topic with
the subject matter of the second proposition. Again, this does not
seem to be a case where spatio-temporal proximity in act-sequences
is helpful. Although there is, presumably, on occasions when Gretzky
performs the activity of playing hockey, a spatio-temporal proximity
to his being clean-shaven, we would not want to say the first is rele-
vant to the second. It is not *clearly* a non sequitur like "I had cereal
for breakfast. Therefore the sun is shining in Malta." Yet the cases
amount to the same thing. This indicates that both the notion of
"subject matter overlap" and that of "spatio-temporal proximity" are
too extreme in that they would allow as relevant cases like the
Gretzky case that apparently is not relevant.[11]

What we need to support our intuitions about the Gretzky case
is a more active sense of propositional relevance. To be relevant it is
not enough for two propositions to be passively related; one must act
upon the other such that it affects our beliefs about that other. Such
an account is offered in many informal logic textbooks, which, in es-
chewing or supplementing details of formal consequence, avoid the
problems associated with entailment. Still, when textbooks discuss
relevance, they restrict their discussions to versions of what Walton
termed *propositional* relevance.[12] A premise is relevant to a conclu-
sion if it increases (or decreases) our reasons for holding the conclu-
sion. Trudy Govier offers a typical version of this: "Statement A is
positively relevant to statement B if and only if the truth of A counts
in favor of the truth of B" (1992:146). Another sample account is of-
fered by James B. Freeman:

> If either the truth of the premise increases the likelihood
> that the conclusion will be true or the falsity of the premise
> increases the likelihood that the conclusion is false, then the
> premise is relevant to the conclusion. If neither of these con-
> ditions holds, then the premise is not relevant.[13] (1993:199)

Both of these accounts offer a marked advance over entailment
in that they are more suitable for dealing with arguments in natural
language. But even strong accounts of propositional relevance are not
sufficient to deal with the full range of situations in which questions
of relevance arise. Consider, as one example here, the way in which
Govier and Freeman treat the fallacy known as the "Straw Man."

Both logicians deal with it without making any modification to the accounts of propositional relevance they have provided (Govier, 1992:157; Freeman, 1993:210). That is, they present it as a fallacy of irrelevance even though it does not fit the notion of irrelevance in their accounts. Govier identifies the Straw Man as a fallacy involving irrelevance and writes: "The straw man fallacy is committed when a person misrepresents an argument, theory, or claim. . . . " (1992:157). But previously she had defined "irrelevance" as: "Statement A is irrelevant to statement B if and only if the truth of statement A counts neither for nor against the truth of B" (146). How exactly is the Straw Man a case of irrelevant argument *in these terms?*

Similarly, Freeman's identification of the Straw Man as a special fallacy of irrelevance where "An opponent attacks an adversary's position by attributing to the adversary a [misrepresentation] statement S. . . . " (1993:210) does not appear to fit his definition of irrelevance.

The problem arises here because the Straw Man is not a violation of propositional relevance at all but of *contextual relevance.* The arguer has constructed an argument that fails to be relevant to the context or background as it is constituted by her or his opponent's actual argument. As many instances of the Straw Man indicate, an argument that commits this error may exhibit perfect propositional relevance *internally.* The informal logic account of relevance needs to be expanded to include features of the context, especially, as we will see, those involving the nature of the audience.

Our discussion has shown that both formal and informal logic (two models of the product-oriented perspective) fail to provide completely satisfactory accounts of relevance, although the latter offers advances over the former. In contrast, the rhetorical approach to argumentation will offer a much more comprehensive account of contextual relevance, which should underlie and supplement the ideas contained in the logical (and dialectical) perspective.[14]

1.5 Rhetoric and Logic

In closing this chapter, I wish to return to the role of formal logic and consider it explicitly from the perspective of a rhetorical account. Jaakko Hintikka (1989:3) suggests that the function of logic in argumentation and reasoning is the main currently unsolved problem in the theory of argumentation, and he notes that some scholars have turned to rhetoric rather than logic for the tools of argumentation.

Hintikka's own solution is to trace the roots of formal logic to the dialectic of Aristotle and to develop an interrogative model embracing both argumentation and logic. While his conclusions are different, his basic approach is quite similar to that of at least one scholar of rhetoric, Perelman. I noted in the introduction the relation between rhetorical argument and its dialectical counterpart, to which the later formal logic was added. A more contemporary model developing a similar understanding can be found in Perelman's work.

Frans H. van Eemeren and Rob Grootendorst attribute to Perelman and Olbrechts-Tyteca the position that logic is a completed whole, no longer open to new developments. As it was for Toulmin, logic is linked with the geometrical approach to reason and so "they automatically believe it to be inadequate and irrelevant, if not both" (1988:277). But this overstates the case. *The New Rhetoric* (1969), and many of Perelman's subsequent writings, exhibit a concerted effort to accommodate logic alongside, and even within, a rhetorical model of argumentation.

Perelman and Olbrechts-Tyteca begin their account by distinguishing argumentation from demonstration. But the attitude toward demonstration is not straightforward and they will ultimately work with formal modes of reasoning in addressing what they call "quasi-logical arguments" (1969:13–14).

The New Rhetoric gives the now-familiar contrast between argumentation and the classical concept of demonstration, and especially formal logic that examines demonstrative methods of proof. The modern logician, building an axiomatic system, is not concerned with the origin of the axioms or with the rules of deduction, or with the role the system plays in the elaboration of thought, or with the meaning of expressions. But when it comes to arguing—using discourse to influence an audience's adherence to a thesis—such things cannot be neglected (ibid.).

Effectively, such a contrast sets formal demonstration and argumentation into different spheres of influence. The point is emphasized elsewhere: "A purely formal identity is self-evident or posited by convention, but in any case it escapes controversy and hence argumentation" (Perelman, 1982:60). What cannot be argued is not pertinent to argumentation. Argumentation intervenes only where self-evidence is contested, where debate arises about the products of demonstration (6). In this way Perelman escapes the consequences of Michel Meyer's observation that: "If everything is arguable, then nothing underlies argumentation" (1986:151). For Perelman, everything is not arguable. This is made clear, in the discussion of argu-

ments from authority (*argumentum ad vericundiam*). This type of argument belongs within the realm of argumentation because it is of interest only in the absence of demonstrable proof, since "no authority can prevail against a demonstrable truth" (1982:94–95).

Unlike Descartes, who wanted to build all knowledge on a foundation of indubitable self-evidence, Perelman holds such an enterprise to be an exception in the project of knowledge-acquisition, one appropriate only for scientists. In other fields, philosophy or ethics or law, a quite different practice prevails. Here reasoning cannot be limited to deduction and induction (note, he does not exclude them: they are not adequate; but nor are they irrelevant), rather "a whole arsenal of arguments" should be used, along with a broader conception of reason that includes argumentative techniques and rhetoric as a theory of persuasive discourse (160–61).

The remarks here are ambiguous. On the one hand, demonstration in the form of self-evident truths is outside of the domain of argumentation. On the other hand, deduction is *one of* the argumentative techniques to be employed. This relationship is clarified somewhat in Perelman's treatment of quasi-logical arguments (1969:193–260; 1982:53–80), which gain their force from similarities to formal reasoning. The claim is that, at root, quasi-logical argumentation is nonformal and considerable effort has been required to formalize it.[15] The analyses provided work backward from the formal scheme to the underlying argument. Quasi-logical arguments include those that depend on logical relations (contradiction, identity, and transitivity), and those that depend on mathematical relations (connections between part and whole, smaller and larger, and frequency) (Perelman and Olbrechts-Tyteca, 1969:194). For example, and significantly, argumentation makes "considerable use of the relation of logical consequence" (230). Here the *enthymeme* is seen as a quasi-logical argument cast in syllogistic form, and Perelman further notes a wide usage of syllogistic chains in quasi-logical argumentation.

Such discussions indicate a need for studying logical form and formal techniques so as to see the quasi-logical argumentation related to them and to understand how and when they can be employed. It also allows for their adaptability to a wide range of cases. Formal logic is not being discarded as irrelevant here, but its role and relevance are being rethought in a different context. A rhetorical model of argumentation should not narrow the range of methods appropriate to it, but will accommodate a wide range of methods, rethought in relation to the underlying rhetorical perspective (Willard, 1989).

The relationship between classical logic and rhetoric is finally seen in the somewhat idiosyncratic way that Perelman distinguishes between the "rational" and the "reasonable."

The distinction between formal and nonformal reasoning can be viewed as a distinction between what is rational and what is reasonable.

> The *rational* corresponds to mathematical reason . . . which grasps necessary relations, which know *a priori* certain self-evident and immutable truths . . . it owes nothing to experience or to dialogue, and depends neither on education nor on the culture of a milieu or an epoch. (1979:117)

The *reasonable,* by contrast, is that which is consistent with common sense or conventional wisdom; it owes everything to experience and dialogue. The "reasonable person" is guided by the search for what is acceptable in her or his milieu. The vision of the "rational person" separates the reason from other human faculties, and inaugurates a being who functions as a machine, insensible to her or his humanity and to the reactions of others. The "reasonable person" locates reason as an essential component, but only one component, within the human project of discovery and understanding. In a recent work, Toulmin rails against the "decontextualized ideal" (1990:200) of rationality that was the focus of thinkers from the seventeenth century through the twentieth century, and he encourages a return to a pre-Cartesian idea of rationality. This is very much what Perelman promotes in his concept of the "reasonable."

Importantly for the model of argumentation Perelman develops, the rational and the reasonable must coexist in a mutually supportive relationship. Should one dominate the other, we risk losing advances in thought based on scientific principles, or the guidance of reason to choose between systems (Laughlin and Hughes, 1986:188).

So there are a number of senses in which Perelman's texts include logic in his argumentative project. While it is not adequate for a theory of argumentation, it does contribute to one.

Perelman's model of argumentation will be considered further in later chapters, where it will often serve as an example for the perspective under discussion. It is rooted in the rhetorical, recognizing a foundation that the logical perspective alone has not shown. Given that our arguments cannot be "proved" completely, they must be submitted for the judgment of those to whom they are directed. This is the audience, the focal point around which other features of context

cohere. This means that, essentially, the audience determines the argument, and that an underlying, central sense of contextual-relevance must relate to the audience. This is the case for the arguer, who constructs the argument in accordance with the audience's knowledge, background, and so forth. And it is the case for the evaluator, who critiques the argument in terms of its success in gaining the adherence of the audience for the thesis put forward.