Inside Arguments

Inside Arguments:
Logic and the Study of Argumentation

Edited by

Henrique Jales Ribeiro

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Editor's Introduction

A Quiet Revolution: The Birth of Argumentation Theory in the 20ᵗʰ Century

Henrique Jales Ribeiro

> (…) In the present inquiries, for instance, we may seem to have been preoccupied entirely with negative questions: what form logical theory should not take, what problems in theory of knowledge are mare's nests, what is wrong with the traditional notion of deduction, and so on. But, if this has been so, it is not from any love of distinctions and objections for their own sakes. If all were well (and clearly well) in philosophical logic, there would be no point in embarking on these investigations: our excuse lies in the conviction that a radical re-ordering of logical theory is needed in order to bring it more nearly into line with critical practice (…).
>
> S. Toulmin, *The Uses of Argument*.

This volume includes a collection of essays that provide an input to the study of logic and argumentation theory by some of the finest specialists in these areas, covering the main schools of thought and contemporary trends: informal logic, pragma-dialectics, dialogical logic or formal dialectic, and formal logic itself. The fundamental purpose driving these contributions was the need to clarify the status of what nowadays, ambiguously and problematically, we call "logic" and "argumentation theory", while attempting to define the no less controversial issue of the relationship between these two concepts when applied to argumentation study. In this broad context it was also important to take stock of the principal inputs of the last decades to the theory of argumentation considered as an ongoing research subject (not only from a theoretical point of view, but also from a technical one, pertaining to the theory

of argument itself). It was from this standpoint that argumentation studies in general, submitted by the previously mentioned schools and trends, have undergone a genuine revolution in the past forty years, only comparable to the "Copernican Revolution" that at the beginning of the 20th century one of the founders of contemporary formal logic, Bertrand Russell, claimed for it, because he saw the potential of it becoming truly "scientific" (which actually did happen in the first half of that century), i.e. progressive and accumulative in terms of its fundamental results (see Russell 1914). In other words, briefly, as far as the underlying reasons and the theme for this collection of essays is concerned, we asked the prestigious and renowned contributors to apply their highly specialized skills to their own work—as logicians or argumentation theorists—and not simply to the object thereof. This was the challenge put to them and the results are now publicly available.

The need to clarify the status of logic and argumentation theory mentioned before and their connection is not only of a theoretical and systematic order; it concerns also their pedagogical nature. As I said previously, in the last quarter of the 20th century, with the emergence of some of the aforementioned schools and currents, logic and argumentation studies underwent a genuine revolution, the reach and meaning of which remain to be fully evaluated. One of the most noteworthy aspects of this revolution is the place that logic, argumentation studies and what is currently called precisely "argumentation theory" will occupy in the framework of human knowledge in general. Argumentation has developed from those earlier times to the present as *not only a particular exercise of human reason, but, in fact, as its true paradigm.* Simply put, human reason is essentially argumentative. Ahead I will suggest that it was precisely this fundamental conclusion that some mid-20th century philosophical theories on argumentation, as those of S. Toulmin and C. Perelman, came to. To be "rational" for contemporary man means (to know) to argue. In a simple formula (roughly speaking), it means asking for the discursive justification of a statement or statements made by someone (a person, group, institution) or providing such justification. It is of these "justificatory activities", as Toulmin would say, that argumentation generally consists. And this is exactly what we do in the multiple and diverse contexts of everyday life, whatever they are, and on another level, it is also what scientists do when conducting their research or examining the results of others' research. Surely, one argues in a different way and with very different objectives in both cases, since the contexts in question are substantially dissimilar; but one argues, that is to say, we present or request justification for something that is upheld or supported. Consequently, one is lead to conclude that argumentation is not just another, among many

aspects of human reason, but that it essentially characterizes all domains of knowledge and action; and that the theory about it (argumentation theory) can legitimately, at least ideally, claim to play a fundamental part in these domains, by shedding new light on the particular and relative knowledge which concern them. (This is what some of the argumentation theorists contributing to this volume have already proven with undisputable success by applying argumentation theory to fields such as computation, media and communication studies, and law). The perception and realisation of the importance of this role of argumentation theory show, as already indicated, that argumentation is perceived as a current paradigm of reason and rationality in general. Although less discussed than other revolutions that featured in the 20th century, we are dealing with a true revolution, which is to say a decisive and crucial paradigm shift of what has marked the history of culture and Western thought since ancient Greece. However, this revolution has been to some extent more important than other in the past. If we acknowledge that argumentation and the theory thereof play in fact the role we ascribe to them—and which has inspired the contributors to this book—we may well be able to address a large part of the issues that contemporary man and society are faced with and, eventually, provide the grounds for solving them. (This was precisely what Toulmin defended in his latest books, particularly in *Return to Reason*. See Toulmin 2001: chaps. 12 and 13.) It is from this broad, visionary perspective that we suggest the reader should understand the value and dignity of what the contributors to this volume award to the term "argumentation theory".

The moment has come to make an observation that will help us better appreciate the significance and reach of this concept. The birth of argumentation theory occurred in the last decades of the 20th century in parallel with our realization that human knowledge is always relative to a given context or conceptual framework; in particular, it developed in the general context of post-modernism or of our realisation, more or less widespread, that there are no true foundations for knowledge and action, as those that philosophy had provided in the past. Throughout its long history, philosophy and logic itself (particularly during most of the 20th century) justly attempted to discover the kind of (universal) foundations we are referring to, but it was concluded through the work of some of its most authoritative and respected representatives, such as Wittgenstein and Quine, that for one reason or another, it was not possible to present them. For human knowledge to have foundations meant we could study and analyse its relationship with the world and that the groundwork of knowledge would be impregnable. However, from a post-modernist perspective, this does not happen: the world

is always related to the knowledge we have of it, not something independent or outside of us, lying before us. If this is so, we cannot claim a solid basis for knowledge (that is, metaphysical or ontological grounds for it). This was precisely the conclusion the aforementioned philosophers and logicians arrived at. It is largely a negative and disastrous conclusion that led some thinkers like Quine to allude to the "death" or the "end of philosophy" as it had always been perceived in the Western World since ancient Greece (see Quine 1969: chaps. 2 and 3).

The theory of rhetoric and argumentation (with Perelman & Olbrechts-Tyteca 1958, and Toulmin 1958), on the other hand, took a very different and auspicious turn that in some ways is the fundamental assumption of contemporary argumentation theory: considering that we cannot "know" the world's essence, as philosophy and logic had assumed, nevertheless we can *speak about the way we speak of it, in particular about the way we argue about it.* It is all we can do, but it is an absolutely fundamental task in the sense that, in contrast to what happened from post-modernism to the present, this task does not condemn us to relativism. Such task does not entail the idea that there is no universal knowledge about the world like the one philosophy and logic were supposed to provide, and that all particular and relative knowledge (as that of the "natural" and "human sciences") would be on the same plane and would be equally legitimate, including the approaches we use to argue about it. In this context one may understand the central role that argumentation theory will have today: we could say that it is responsible for delivering in a new form these foundations for human knowledge that philosophy and logic had formerly concluded they were unable to provide. By accomplishing this, argumentation theorists can assume the ancient and prestigious role of philosophy and logic in particular, although they will not simply be making philosophy and logic in the classical sense. *They would be (and they are) making argumentation theory*. It is in this revolutionary sense that argumentation theory is not merely a theory among many others, but can offer a unified conception of rationality. However, given its relatively recent development, how this task may be carried out remains to be clarified and decided. This is the purpose and great responsibility of contemporary argumentation theorists, particularly that of the authors in this volume.

One of the consequences of argumentation theory, which emerged in the last quarter of the 20th century, is that formal logic has ceased to come forward as the only possible theoretical framework for the study of argumentation. This occurred not only in philosophy and in disciplines such as linguistics, communication theory and sociology, but also in the aforementioned schools (informal logic, pragma-dialectics, formal

dialectic) which, from the beginning, claimed this study as their object *par excellence*. By "formal logic" (some of the contributors to this volume speak of "formal deductive logic") I mean the tradition that appeared in the late 19th and early 20th centuries with Frege and Russell, where logic was viewed as a foundational enterprise of mathematics. It was such tradition that led us to some of its most respected representatives during the 20th century, such as Carnap and Quine. However, that *logic* was more than this (or was never only this), i.e. *mathematical logic*. As specifically illustrated in Quine's papers and books from the 1950s onwards (see Quine 1953), the task of providing foundations for mathematics was simultaneously the task of providing foundations for human knowledge itself, in general. (From this view point—which does not always receive due attention when one reduces contemporary formal logic to a language, i.e. a calculus with grammar and syntax that can be used to paraphrase and translate everyday language and argumentation in particular—this logic is far from being only or simply "formal", and appears to us as eminently metaphysical.) It is precisely an objective or "desiderata" like this that Quine—perhaps the greatest logician of the 20th century—assigned to his own philosophy of logic and to some of his contemporary logicians, namely to Carnap. It was not a novelty in Western philosophy since Aristotle that logic, i.e. what has been generally designated in the past as *logic*, should have precisely this metaphysical aim. (Hegel, who was far from designing or imagining contemporary formal logic, based his *Wissenschaft der Logik* on a very similar claim.) Nonetheless, having concluded—inside and outside the strict bounds of logic—that logic is no longer a paradigm of human knowledge in general, nor the only possible framework for the study of argumentation and that, following this *philosophical* achievement (with Perelman and Toulmin, and after them), we have begun to regard argumentation theory, in a sense, as the contemporary heir to such a role of logic, all of this has made nowadays the status of logic very problematic or even controversial—as some of the essays published in this volume show. As mentioned with lapidary precision by one of this book contributors: "'logic' becomes a label that covers a great many prominent theoretical approaches to argumentation." Again, given the novelty of argumentation theory in the context of the ancient history of Western thought, one should not be surprised by some divergence of opinion about this subject. Such divergence is only a challenge for new and significant development on the part of contemporary argumentation theory.

Let us now briefly return to the problematic status of logic in contemporary argumentation theory. The authors of informal logic, to whom we may largely owe the honour and merit of having triggered the

revolution in argumentation studies to which I have alluded, started by emphasizing the boundaries of the paradigm of formal logic when applied to the study of arguments. They have not stopped using the old label of "logic", but they have given it a completely different and original meaning when describing their own work. Through informal logic, the traditional concept of logic is clearly broadened to include, in addition to the study of formal validity, other fundamental concepts like relevance, sufficiency, and acceptability or truth. Consequently, "logic" corresponds precisely to what is today known as "argumentation theory". In the end, the status of logic has become somewhat problematic, imposing the need for a meta-theoretical clarification, as demonstrated by some essays in this volume. This reformulation of the concept of logic happened more or less at the same time as in other quadrants and in logic itself other important transformations also took place. They were internal, since they were conducted by the logicians themselves; like the change triggered by the development of dialogical logic, which shed a new light on the question of formal logic applied to argumentation, restoring the interest and relevance of this link and of argumentation studies in general. It should be noted that that concept was redesigned not in contrast or in opposition to informal logic, but independently of it. In any case, the difference between the two views on logic and its scope was more or less evident until a certain time. Today and as shown in some of the essays published in this volume, namely the ones on informal logic, one cannot say the same. Finally, regarding prama-dialectics, which is one of the most remarkable developments of argumentation theory from the last decades of the 20th century to the present, a characteristically limited—but nevertheless fundamental—part is awarded to logic. Logic is related to our assessment of arguments through the notion of formal validity. From this latter perspective, in contrast to what is advocated by informal logic and dialogical logic, we are not making "logic" *per se* when we study argumentation and its problems, but rather conducting the interdisciplinary work that is supposed to be argumentation theory itself, although logic is an essential part of this theory. As I am about to suggest, this interdisciplinary role of argumentation theory—enlightened by pragma-dialectics—is absolutely fundamental to understand it and why it constitutes nowadays a new paradigm of human reason.

Now, while it is true that there are important systematic and theoretical ties between these three major approaches to the issue of the links between logic and the study of argumentation, the concepts of logic and argumentation theory and their respective scopes are not the same for all.

One could say, in a certain sense, that we are not talking about the same thing when we speak of "logic" and "argumentation theory". This question, as already suggested, is not just a matter of designating what we are doing when we study argumentation ("logic" vs. "argumentation theory"), but concerns the very foundations of that study. One could say that it is *simply* a theoretical question, and, therefore, not very relevant when compared with the questions about *argument theory* itself. However, as some argumentation theorists have held, in the present state of the art theoretical questions are closely connected with practical (or technical) ones (see van Eemeren 2003). Once again, several essays in this volume illustrate this point.

In some sense, this problematic status of logic and its connection with argumentation studies already characterized Perelman and Toulmin's theories of rhetoric and argumentation. Although these authors generally use the term "rhetoric" to describe their work, sometimes they also speak of an enlarged, amplified view of logic—beyond that of formal logic itself—which would include precisely the approaches they were developing. The problem may be formulated in the following manner. Considering that what the authors in question deal with is a rediscovery, for the first time since Aristotle, of an entirely new continent (not America, Europe, or Africa…, but argumentation and its problems) which, as I have been suggesting, constitutes the fundamental framework in the light of which we must seek to currently understand and explain human knowledge in general; moreover, bearing in mind that (no less than traditional rhetoric) formal logic, i.e. what logic itself was supposed to be at that time, is manifestly unable to encompass the study of this continent, or even inadequate on several key issues to do so (although it remains necessary and useful for this study); the question is: to what extent can one say that this study is still something that falls under "logic"? This question is particularly relevant because the rhetorical and argumentation model of Perelman and Olbrechts-Tyteca (in *Traité de l'argumentation: La nouvelle rhétorique*) does not seem to give rise to the formal study of arguments (which still remains one of the essential characteristics of logic in general), while Toulmin's model (in *The Uses of Argument*) deals precisely with this study and rivals or competes, in a sense, with the one of formal logic. Taking into account the problem we have just alluded to, we must not be surprised by the fact that Toulmin, in *Knowing and Acting*, seems to have given up hope of finding any concept that would encompass both formal logic and his own study of argumentation, without however discarding the idea that an enlarged and amplified logic that would constitute a true, unified conception of rationality had to be built (see Toulmin 1976: chap. 16).

In the framework of the tradition of formal logic, to what extent the study of argumentation is relevant or important for the goals it pursues was/is far from obvious or consensual. It is possibly not so if we consider formal logic only from a strictly theoretical and systematic point of view. However, as shown by some essays in this volume, formal logic can undisputedly make a fundamental contribution to argumentation theory and, in turn, benefit from this theory, given the kind of problems that have occupied argumentation theorists in the last decades and that clearly go beyond the strict bounds of argumentation—as is the case, for instance, of argumentation theory applied to computation. On the other hand, it becomes also evident when reading this volume that argumentation theorists (including informal logicians) significantly incorporated in their research the results of formal logic's input. From this perspective, there is no divorce or conflict between formal logic and argumentation theory. Quite on the contrary. However, from another viewpoint, concerning the theoretical framework of the research carried out by each of the two approaches (formal logic, argumentation theory), they do not always seem to be talking about the same thing when speaking of logic.

When discussing today the link between formal logic and argumentation theory, perhaps we should start by talking about a shift and, to some extent, a recast of the role that guided the development of logic during a large part of the 20th century, at least insofar as it was/is generally played by philosophers. As mentioned earlier, logic seems to have appeared in the late 19th and early 20th centuries—and developed since then until today—as a foundational enterprise, triggered by the deep crisis involving the discovery of the existence, at the core of mathematics, of a set of inextricable contradictions crying out for resolution (see Grattan-Guinness 2000: chap. 6ff.). It was/is precisely mathematics, not the study of argumentation and its problems, that was/is the object *par excellence* of formal logic. With the so-called "logicism" (Frege, Russell and their followers), and most of the analytic tradition in philosophy (since Wittgenstein, in *Tractatus Logico-Philosophicus*, and practically until now), such a search for the foundations of mathematics was simultaneously presented as the answer to the question: how can everyday language have meaning and reference ? Meaning, and not argumentation, was the essential problem for some of the most important philosophy of language and philosophy of logic produced in that context. The issues that philosophers (as the late Wittgenstein) or logicians properly called (as the late Quine) generally focused on were the following: What is the relation between language and the world?, How can we explain that the former refers to the latter?, What kind of logical and

epistemological requirements must be satisfied for a statement, a term, etc., to have meaning and reference? So, the fundamental object of philosophers and logicians was precisely the theory of meaning, and not the theory of argumentation. (The difference between these two theories is essential from a certain point of view: for the latter, there is only meaning in everyday language *through argumentation*, not independently of it or in its absence; we can paraphrase and reconstruct everyday language with the tools of formal logic, but this does not mean we reconstruct *arguments* that only occur in context and inter-subjectively.) As I have already suggested, what has been said applies to the philosophical schools and currents associated with the philosophers and logicians that have been mentioned, as is the case of analytical philosophy. All of them have missed the relevant part that argumentation plays in the study of what they called at the time (during a large part of the 20th century) "theory of meaning". In this context, it is true that several important formal logicians, such as Copi & Cohen (1994), applied the tools of logic to argumentation, making them the only framework for understanding it. However, this can be explained as a result not of their focus on argumentation itself, but—as noted above and as informal logic has shown—because *formal logic was seen as a paradigm of rationality as a whole*. Given such a fundamental assumption, we must not be surprised by the fact that, in the above mentioned book and in several other books of the same era, formal logic and its tools were applied nearly to all fields of knowledge (formal logic, beyond its own subject-matter, was simultaneously a theory of argumentation, deduction, induction, categorical and hypothetical syllogisms, definition, scientific research, law, etc.). Today, thanks to the extraordinary development of argumentation studies and the enormous academic and public impact thereof, many formal logicians seek to apply again this paradigm to argumentation and adapt it to the very objectives of informal logic and critical thinking. (This is current practice in European and North American universities. One could say that "formal logic" itself turned out to be a "label" for many contemporary logical studies.) However, when they do that, the concept of logic and their objectives are largely not the same as those which are at stake in argumentation theory. One can always claim that they are providing a great input to that theory. (And in fact they are, as shown by some essays published in this volume.) Argumentation theorists and formal logicians would not, however, be talking about the same thing when they speak of "logic" and "argumentation".

If we consider the topic of the connection between logic and the study of argumentation from the perspective of argumentation theory itself, new light is shed on the problems we have come to evoke, but—given the novelty of

that theory which is, as I previously said, an ongoing research subject—
they have not disappeared entirely. This theory—from the perspective of
the schools I have mentioned, namely informal logic, pragma-dialectics,
and dialogical logic—would provide a neutral, interdisciplinary field for the
different disciplines contributing to it, such as linguistics, communication
theory, sociology, law theory, etc. (See van Eemeren *et al*. 1996: 1ff.; see
also Johnson 2000: 30ff.) Such ties of argumentation theory are closely
connected with the relativism that characterizes our post-modernist era.
As I suggested, they explain the role that argumentation at large, and
argumentation theory in particular, can play nowadays as a unifying
paradigm of human knowledge in general. Such a theory can provide the
necessary framework for integrating the inputs to argumentation study of
several different disciplines, because these inputs are obviously limited and
partial and need to be re-thought and re-equated. In return, argumentation
theory itself is expected to promote a better understanding of the work
developed in each of the disciplines that contribute to it. (As I said, this is
already happening quite successfully.) From the first point of view, we are
not simply making linguistics or sociology when we study argumentation
theory from the perspective of the input of these disciplines. Nor shall we
be making philosophy in the classical sense, even if it is true that we have
not abandoned it completely. We would, however, at least theoretically, be
making something else, new and original, which is precisely *argumentation
theory*. Obviously, for this purpose the conceptual tools we use have to be
somewhat similar to all interdisciplinary contributions. For only then will
there be true, systematic progress of that theory; only then can we speak
properly of a unifying theory.

Now, it is precisely in this interdisciplinary field that we should include
logic itself and the relevant input to argumentation theory. However, what
role logic would play in it is far from reaching true consensus among
logicians and argumentation theorists (as I have suggested and many of the
essays in this volume attest to). Once again, the issue at hand is not simply
a problem of definition of what is meant by logic and/or argumentation
theory. It particularly concerns the very foundations of the latter, i.e. the
way it is supposed to integrate logic and unify the different interdisciplinary
contributions which are at its core. One could say that interdisciplinarity
is not actually enough to build argumentation theory on solid grounds. A
truly unifying matrix of such contributions seems to be necessary. Some of
the essays published here already point in that direction. Furthermore, in
the future new developments are expected to bring more insight into this
fundamental problem. At any rate, as I have suggested in this introduction,

the concept of argumentation theory as an interdisciplinary field is—itself—the major step forward taken by that theory in the last quarter of the 20th century. If one agrees that argumentation is nowadays the new paradigm of human reason, we could say that such step was perhaps one of the most important revolutions in the history of Western thought as a whole.

Synopsis

Following this long introduction to the topic of this volume and to the essays which it encompasses, we do not find it necessary, nor intellectually useful, to divide them into parts, which would otherwise be adding labels to the ones that are already currently used. There are surely, as we have just shown, important differences between the essays (at least such differences arising from the fact that the authors belong to different schools of thought), but to classify or label them could conceal or even wipe out entirely the close theoretical and systematic links between them.

Alec Fisher, in "A little light logic" (chap. 1), takes stock of his long experience in teaching logic and particularly logic applied to the study of argumentation. He shows that, when he started his research, the idea that argumentation could be studied in itself and that such study is important for developing our reasoning skills and critical thinking was generally ignored by the academic communities in the United Kingdom. Commenting some of his main theoretical inputs to argumentation study, he outlines the role played by the theory that our arguments are suppositions and that these, according to formal logic, can be interpreted as antecedents of conditionals. However, if we wish to assess arguments in context, we must consider the fundamental possibility of the premises being true and the conclusion being false. And he presents some examples of this appraisal, while underlining that it is epistemology and not logic that is finally at stake here. The author concludes his paper with a reflection on the important role that teaching argument skills, informal logic, critical thinking and argumentation can play today.

Douglas N. Walton, in "Finding the logic in argumentation" (chap. 2), holds that although argumentation studies as a field have useful tools like argumentation schemes, this field is not based on some underlying logic like classical deductive logic, or inductive rules of probability. He shows that there is a defeasible logic of a kind widely used in the field of artificial intelligence and law that can be brought in to fill this gap. Particularly, he shows how a computational system called Carneades can be used to model reasoning underlying typical defeasible argumentation schemes. By using

the examples of the scheme for argument from expert opinion, it is shown how there is a general defeasible *modus ponens* form of reasoning that underlies argumentation schemes, and that fits with a defeasible logic of the kind most useful for argumentation studies.

James B. Freeman, in "The place of logic in argument study" (chap. 3), holds that the question of the place of logic in argument study is ambiguous, since "logic" has three distinct meanings. "Formal deductive logic" is perhaps the meaning most frequently associated with the term. But "logic", according to the author, may also mean formal logic together with considerations for evaluating what are classed together as inductive arguments/inductive enumeration, statistical syllogism, arguments by analogy, causal arguments instancing Mill's methods, confirmation of hypotheses, i.e. arguments whose evaluation may involve issues of probability theory. More widely yet, informal logic extends the scope to conductive arguments and further insists on assessing premise acceptability in addition to connection adequacy in appraising arguments. The author investigates the place of logic in all three senses in argument study.

David Hitchcock, in "Inference claims" (chap. 4), advances a completely general account of what it means for a conclusion to follow from given premises. He shows that the traditional vision, according to which if the conclusion of an argument follows, it is because the argument has a contentless form that cannot have an instance with true reasons and an untrue conclusion, needs analysis and further discussion. He objects that the conclusion does not follow merely because it must be true or merely because the reasons cannot be true; there must be a connection between the reasons and the conclusion. He holds that an acceptable counterfactual-supporting covering generalization of the argument rules out, either definitively or with some modal qualification, simultaneous acceptability of the premises and non-acceptability of the conclusion, even though it does not rule out acceptability of the premises and does not require acceptability of the conclusion independently of the premises. Hence a supposed unexpressed premise supplied to make an argument formally valid should be a covering generalization.

Hans V. Hansen, in "An enquiry into the methods of informal logic" (chap. 5), identifies and analyses the different methods of informal logic in argumentation study: the fallacies method, the analogy method, the deductive-reconstruction method, the method of informal warrants, the argument-scheme method, and some others. The key concepts upon which each of these methods relies are identified and the skills needed to deploy the methods are described. A suggestion is made about some of the headings

under which we might compare the adequacy of these various methods, such as their reliability, efficiency, scope and texture. By "reliability" the author means a method's propensity to yield correct answers; by "efficiency" is meant both the ease with which a method is learned and the ease with which it is used; by "scope" is meant the range of natural language arguments the method can be used for; and by "texture" is meant the method's capacity to lead us to judgments that are intermediate between the poles of logically very good argument and logically very bad argument. The article concludes with an oversight of the comparative strengths and weaknesses of the different methods of informal logic.

Ralph H. Johnson, in "Informal logic & its contribution to argumentation theory" (chap. 6), reviews the development of informal logic since its beginning in the light of the question of understanding the meanings underlying the terms "logic" and "argumentation theory". In the first part of his paper, he holds that contemporary argumentation studies, generally speaking, arose from a reaction against the preponderance of the logical-mathematical framework and, particularly, from deductivism characteristic of formal logic. He distinguishes in these studies four main Research Programmes (argumentation theory, critical thinking, fallacy theory, and informal logic), which he describes attentively. Informal logic, according to the author, might be seen as an attempt to liberate logic from the hold on it exercised by those like Russell and Wittgenstein, who, as he says, pressed logic into service for issues in the foundations of mathematics. In the second part, after exposing his understanding of informal logic, he offers a detailed account of some of the contributions that it has made to argumentation theory, both in terms of analysis and of the assessment of arguments.

Frans H. van Eemeren, in "The role of logic in analyzing and evaluating argumentation" (chap. 7), discusses the role of logic in analyzing and evaluating argumentation from a pragma-dialectical perspective. Logic, he holds, is concerned with the formal validity of arguments, and not with argumentation as a whole. The role of logic in the analysis is limited to its heuristic function in identifying unexpressed premises in argumentation. This means that, according to pragma-dialectics, logic is limited to the "argumentation stage" and vital only in certain well-defined cases. From this perspective, first the author clarifies that in order to fulfil its analytic and evaluative purposes well, argumentation theory cannot do without logic, but needs to take account of insights from other disciplines as well. As an illustration, he pays attention to some of the problems involved in reconstructing argumentative discourse to get an analytic overview that constitutes a suitable point of departure for evaluation. Next he

concentrates on some of the problems involved in evaluating argumentative discourse as a means of resolving differences of opinion on the merits. The author concludes with some observations on the place of logic today in argumentation theory in general and, in this context, on the importance of the pragma-dialectical view.

Bart Garssen, in "Charges of inconsistency and the *tu quoque* fallacy" (chap. 8), analyses this fallacy from the perspective of pragma-dialectics. According to this perspective, in a critical discussion logical and pragmatic inconsistencies are not allowed. Generally, pointing at inconsistencies within the discussion is therefore a reasonable move. However, he shows that in the case of the *tu quoque* fallacy, pointing at inconsistencies between positions taken in the past and positions taken in the present, or between what the arguer claims and his actual behaviour, counts as a violation of the freedom rule, amounting precisely to that fallacy. Empirical studies show that ordinary arguers tend to think that the *tu quoque* fallacy is not an unreasonable discussion move. Some explanations of this phenomenon are submitted and explored by the author. He suggests that charges of inconsistency occur in different communicative activity types: argumentative and non-argumentative. Apparently different systems of norms are operative in these two different contexts. According to the author, this may be the explanation for why ordinary language users find the unreasonableness of the *tu quoque* fallacy harder to acknowledge.

Erik C. W. Krabbe, in "Formals and ties: Connecting argumentation studies with formal disciplines" (chap. 9), proposes to have a look at ways in which formal models of reasoning and of discussion can contribute to the analysis and the evaluation of arguments. What he has in mind are systems of logic or dialectic—not just classical systems, but also deviant ones—that can be used to formulate, as well as evaluate, formal inferences, deductions, or discussions. One kind of use, which has often been under attack, is the formalization and evaluation of informal arguments. However, for the author, this practice does not constitute the more important way formal systems contribute to argumentation studies. Their main interest lies in the conceptual clarifications that precise formalisms yield and in the inspiration they may offer for formulations of norms and rules that form the core of argumentation theory. Three ways of using formal systems are distinguished: (1) their use when applied to the analysis and evaluation of a particular—possibly complex—argument or a particular argumentative discussion; (2) their use for conceptual elucidation and theoretical exploration; (3) their use as a source of inspiration for further developments of theory. The nature and reach of such uses is carefully explained and illustrated by the author.

Jan Albert van Laar, in "Logical criticism and argumentation schemes: Argument from expert opinion as a case in point" (chap. 10), discusses a normative model for the dialogue of persuasion similar to the one presented by Walton & Krabbe (1995), applying it to arguments from expert opinion. He is aiming particularly at the way to model these arguments, as done by Walton, Reed & Macagno (2008). Such application will make it possible (1) to present arguments, not as logically valid, but as being (merely) in accordance with an appropriate argumentation scheme; (2) to put forward further considerations that are pertinent to resolving the issue at hand; and (3) to determine by way of a dialogical procedure whether in fact the standpoint, within the circumstances of the dialogue, follows from the reasons due to the acceptability of an argumentation scheme. With these objectives in mind, the author first drafts an inventory of the speech acts that are needed for an opponent to critically test the merits of an argument from expert opinion. Second, he examines some of the norms that govern these speech acts in this particular dialogue setting.

Jesse Alama and Sara L. Uckelman, in "What is dialogical about dialogical logic?" (chap. 11), look into dialogical logic and how, in the light of the most recent developments, it can be extended to tackle other logics besides the intuitionist, and in this context be linked with real-life argumentative practice. They find that dialogue games have no provision for ordinary activities in everyday argumentation, such as acknowledging another player's arguments, or changing their mind. One of the reasons is that these dialogue games focus on proof and validity, which are seldom the aim of everyday argumentation. The authors argue that the problem lies essentially in the nature of the rules which govern dialogue games, and they discuss in detail the role of the ones (structural rules) which regulate the global structure of these dialogues. Consequently they submit some proposals for giving some kind of foundation on which rules are dialogically acceptable and which are not. But these proposals apply neither to well-known rule sets in the dialogical literature, nor, when they are adopted, do they lead to sensible logics, much less patterns of everyday argumentation. They conclude that the dialogical approach cannot be supported by appeal to the nature of dialogue and argumentation in everyday life.

Marcin Lewiński, in "Public deliberation as a polylogue: Challenges of argumentation analysis and evaluation" (chap. 12), explores the significance of theorizing more than two sides to an argumentative discussion. The crucial questions are: Are argumentative polylogues best analysed as a sequence of monologues, a variation of a dialogue, or a collection of interconnected dialogues? Or are they something importantly different? He argues for

the latter. In analogy to pragma-linguists analysing actual poly-logical interactions, he discusses three features of polylogues that go beyond the limitations of essentially dyadic models of argumentation: a) the possibility for collective argument and criticism, b) the radical departures from the *ababab* (basically: argument-objection-argument-objection) sequential organisation of exchanges, and c) different criteria for completeness/incompleteness of exchanges. He concludes that one of the main tasks now of argumentation theory is to inspect the possibility of adequately reconstructing, or perhaps even modelling, a productive and reasonable argument that involves more than two parties pursuing more than two competing claims.

Fabrizio Macagno, in "Reconstructing and assessing the conditions of meaningfulness. An argumentative approach to presupposition" (chap. 13), analyses and discusses the role of presuppositions in argumentation. How can we assess the reasonableness of presuppositions? He suggests that we need to approach the problem from a linguistic, argumentative, and epistemic perspective. On his view, some propositions can be taken for granted because the speaker presumes that they are accepted by the other party. Such an epistemic foundation of implicitness does not require the presupposed premises of being true, and not even actually shared, but simply presumable. Presuppositions can, therefore, be conceived as provisional conclusions about the other party's linguistic behaviour, based on his knowledge or acceptance of some ground information. This argumentative approach to the conditions of meaningfulness provides an instrument for assessing the reasonableness of a presupposition and understanding its dialogical effect. According to this perspective, the dialogical strength of a presupposition lies in its presumptive nature, which sets and shifts the burden of proving its unacceptability or unreasonableness.

Bruno Leclercq, in "Arguing with formal tools" (chap. 14), shows how applying the tools of formal logic to argumentation is not limited to strictly formal and/or syntactic procedural aspects, unlike what some interpretations of formal logic held for a long time. The conviction arising from formal proof is connected with the procedures tied with visual rhetoric. Deduction does not entirely eliminate the intuition of mathematical proof, since such intuition arises again from the "geometrical" evidence of symbolic changes. The author illustrates this fundamental thesis through the history of logic from the late 19th to the 20th century. That a visual presentation of an argument does not only help its theoretical analysis, but can also reinforce its persuasive cogency is indeed what theorists of informal logic are now taking in account. From this perspective, the known controversy between

informal and formal logic, which lead up to a certain moment the agenda of argumentation studies, no longer makes sense today.

Andrei Moldovan, in "Arguments, implicatures, and argumentative implicatures" (chap. 15), discusses and criticises some objections against the relevance of formal logic for argument analysis and evaluation, like the ones used by informal logicians. In view of this, he submits an assessment, from the perspective of philosophy of language, of formal analysis of arguments. He claims that without having a good understanding of some fundamental concepts in philosophical semantics and pragmatics, such as *logical form*, *implicature* and *presupposition*, formal analyses of arguments are prone to error. In particular, distinguishing between what enters the logical form and what does not is fundamental for a correct analysis of a fragment of discourse or text. He shows that insufficient attention paid to this distinction has led to some unfortunate analysis of certain examples in textbooks of formal and informal logic, as well as to a general impression that logic is inapplicable to real life arguments. He defends his views by discussing a number of these examples.

Xavier de Donato Rodríguez, in "Argumentation theory vs. formal logic: The case of scientific argumentation and the 'logic' of controversies" (chap. 16), defends an inferential and pragmatic approach to scientific controversies. Under such approach, he discusses a model of scientific argumentation in which the capability of scientific theories making the network of commitments and inferential links of the discipline more coherent and workable is thought to be central. According to this model, to accept a new belief within the set of admitted beliefs will not be allowed without giving some reason in the form of a cogent argument showing the enlightening capacity of the new belief. In order to apply this model of dialectical argumentation to the case of scientific controversies, the author resorts to an account of argumentation (following intuitions that have been made clear by van Eemeren & Grootendorst 2004, and Walton & Krabbe 1995) with which he provides adequate characterizations of what is to be a rational commitment and a rational change (or review) of belief. He shows how this approach to the logic of scientific discussions and theoretic change provides us with an argument in favour of the fruitfulness of argumentation theory to the detriment of the use of purely formal methods of analysis.

Maurice A. Finocchiaro, in "Logical theory, argumentation theory, and meta-argumentation" (chap. 17), introduces his own approach to argumentation, which he calls "meta-argumentation", and uses as his case study Galileo's critique of Aristotle's geostatic argument from vertical fall. He defines meta-argumentation as a form of theorizing about arguments

that structures itself as argumentation. In this sense, all meta-argumentation is theorizing, but not all theorizing is meta-argumentation. He examines the similarities and differences, by comparing the relevant merits, between meta-argumentation and other approaches, like logical theory (formal deductive logic) and argumentation theory, and holds that the former is highly promising. The author concludes that meta-arguments are not only intrinsically interesting and important for substantive reasons; not only should they be studied by logicians and argumentation theorists, for the simple reason that such scholars are potentially better equipped to deal with them than others; but also, famous meta-arguments are likely to embody and suggest theoretical claims about arguments.

Finally, María Manzano, in "Logic and fiction" (chap. 18), argues that contemporaneous logic, besides mathematics and areas like computation, plays a relevant part in most of the contexts governed by rules. In more general terms, she holds that logicians currently are also interested in the interactions between the agents that take part in a conversation, the process through which knowledge is acquired, its dynamics and the flow of information. Logic, according to the author, is argumentation. It is from this viewpoint that she applies the broad competences and resources of contemporaneous logic (classical logic, non-classical logical systems, many sorted logic, hybrid logic, abductive logic) to the formalisation of some reasoning and arguments presented in literary texts, not only the ones which concern the mythical Sherlock Holmes, but also others, from children books, novels and even from Zen philosophy. She concludes that there is no categorical answer to the question about what type of logic one can use for this formalisation, and that the choice depends on what you need it for.

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CHAPTER ONE

A LITTLE LIGHT LOGIC

ALEC FISHER

1. Introduction

About 40 years ago, I was a young lecturer in the University of East Anglia in Norwich, UK, teaching philosophy, logic and mathematical logic, when I had one of those experiences which changes the direction of ones life. I was lecturing on the work of David Hume, in particular I was talking about his argument on miracles—when I suddenly had the strong sense that the class had no idea what I was talking about (not a wholly unfamiliar experience for most philosophy teachers!) So I took Hume's argument, I put it on the overhead projector and I asked my students what he was arguing, what his conclusion was, what reasons he gave and whether the argument was strong or weak—and why. They struggled to answer these questions and this came as a great shock to me. I thought "What is the point of talking about Hume's argument, of discussing classic responses to those ideas and responses to those, etc., in the way that was standard in teaching philosophy—if my students can't even tell me what the basic argument is?" I was so shaken that I conducted the same test with a number of other famous philosophical arguments—with the same results. Indeed I discussed the problem with colleagues—who conducted similar tests—with similar results.

Since I was a logician—I was fascinated and horrified by these results. I had tended to assume that teaching logic (which I had done to all the students studying Hume) helped students to be more logical, but it took very little investigation to show that this was not true at all. This set me thinking—and I wondered if it was possible to devise ways of teaching which would help students handle arguments. Much philosophical work is about arguments—so it seemed fundamental to me that philosophy students should be able to argue—should learn to think in at least that respect like philosophers.

Just to mention a related matter, I was also teaching mathematical logic in the university at that time, and I conducted similar experiments with my mathematics students—and there too I discovered to my horror that they had very little idea how to think like a mathematician, in particular they had no idea how to handle unfamiliar mathematical problems. That discovery lead to similar work on teaching problem solving skills to mathematicians—but this is not the place to talk about that—except to say that since those days, teachers of many other disciplines have discovered similar problems in their fields.

My experience with my philosophy students lead me to try to develop ways of teaching students how to argue. So far as I was aware, no-one else was doing much of that kind of work in the early 1970s, though I gradually discovered that other people were beginning to do similar work (especially in North America and Holland) and a number of books began to emerge— including my own book *The Logic of Real Arguments* (Fisher 1988); in fact these were the beginnings of the tradition with which we have become very familiar.

So my work in this field began with a very practical motivation and it has retained that motivation to this day. Of course, there are many interesting theoretical questions in this field—but my work has been driven by largely practical concerns.

Having said that, I want to turn briefly to two criticisms of my approach in *The Logic of Real Arguments* which raise both theoretical and practical questions which are of quite general relevance to this conference. The first concerns suppositions and the second concerns how to evaluate arguments.

2. Suppositions

Let us look briefly at an example which can illustrate several points—Galileo's famous suppositional argument that bodies of different mass fall with the same acceleration—contrary to Aristotle's view.

Suppose (as Aristotle believed) that the heavier a body is, the faster it falls to the ground and suppose that we have two bodies, a heavy one called **M** and a light one called **m**. Under our initial assumption **M** will fall faster than **m**. Now suppose that **M** and **m** are joined together thus **mM**. Now what happens? Well, **mM** is heavier than **M** so by our initial assumption it should fall *faster* than **M** alone. But in the joined body **mM, m** and **M** will each tend to fall just as fast as before they were joined, so **m** will act as a "brake" on