The Uses of Argument

Updated Edition

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Introduction

> Πρῶτον εἰπεῖν περὶ τί καὶ τίνος ἐστὶν ἡ σκέψις, ὅτι περὶ ἀπόδειξιν καὶ ἐπιστήμης ἀποδεικτικῆς.
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> Aristotle, *Prior Analytics*, 24a10

The purpose of these studies is to raise problems, not to solve them; to draw attention to a field of inquiry, rather than to survey it fully; and to provoke discussion rather than to serve as a systematic treatise. They are in three senses 'essays', being at the same time experimental incursions into the field with which they deal; assays or examinations of specimen concepts drawn rather arbitrarily from a larger class; and finally *ballons d'essai*, trial balloons designed to draw the fire of others. This being so, they may seem a little inconsequent. Some of the themes discussed will recur, certain central distinctions will be insisted on throughout, and for literary reasons I have avoided too many expressions of hesitancy and uncertainty, but nothing in what follows pretends to be final, and I shall have fulfilled my purpose if my results are found suggestive. If they are also found provoking, so much the better; in that case there is some hope that, out of the ensuing clash of opinions, the proper solutions of the problems here raised will become apparent.

What is the nature of these problems? In a sense they are *logical* problems. Yet it would perhaps be misleading to say that they were problems *in* logic, for the whole tradition of the subject would lead a reader to expect much that he will not find in these pages. Perhaps they had better be described as problems *about* logic; they are problems which arise with special force not within the science of logic, but only when one withdraws oneself for a moment from the technical refinements of the

subject, and inquires what bearing the science and its discoveries have on anything outside itself—how they apply in practice, and what connections they have with the canons and methods we use when, in everyday life, we actually assess the soundness, strength and conclusiveness of arguments.

Must there be any such connections? Certainly the man-in-the-street (or the man-out-of-the-study) expects the conclusions of logicians to have some application to his practice; and the first words of the first systematic treatise on the subject seem to justify his expectation. 'As a start', says Aristotle, 'we must say what this inquiry is about and to what subject it belongs; namely, that it is concerned with *apodeixis* [i.e. the way in which conclusions are to be established] and belongs to the science (*episteme*) of their establishment.' By the twentieth century A.D. it may have become possible to question the connection, and some would perhaps want to say that 'logical demonstration' was one thing, and the establishment of conclusions in the normal run of life something different. But when Aristotle uttered the words I have quoted, their attitude was not yet possible. For him, questions about 'apodeixis' just were questions about the proving, making good or justification—in an everyday sense—of claims and conclusions of a kind that anyone might have occasion to make; and even today, if we stand back for once from the engrossing problems of technical logic, it may still be important to raise general, philosophical questions about the practical assessment of arguments. This is the class of questions with which the present essays are concerned; and it may be surprising to find how little progress has been made in our understanding of the answers in all the centuries since the birth, with Aristotle, of the science of logic.

Yet surely, one may ask, these problems are just the problems with which logic ought to be concerned? Are these not the central issues from which the logician starts, and to which he ought continually to be returning? About the duties of logicians, what they *ought* to do or to have been doing, I have neither the wish nor the right to speak. In fact, as we shall discover, the science of logic has throughout its history tended to develop in a direction leading it away from these issues, away from practical questions about the manner in which we have occasion to handle and criticise arguments in different fields, and towards a condition of complete autonomy, in which logic becomes a theoretical study on its own, as free from all immediate practical concerns as is some branch of pure mathematics; and even though at all stages in its history there have been people who were prepared to raise again questions about the

application of logic, some of the questions vital for an understanding of this application have scarcely been raised.

If things have worked out this way, I shall argue, this has been at least partly because of an ambition implicit in Aristotle's opening words: namely, that logic should become a formal science—an *episteme*. The propriety of this ambition Aristotle's successors have rarely questioned, but we can afford to do so here; how far logic *can* hope to be a formal science, and yet retain the possibility of being applied in the critical assessment of actual arguments, will be a central question for us. In this introduction I want to remark only on two effects which this programme for logic has had; first, of distracting attention from the problem of logic's application; secondly, of substituting for the questions to which that problem would give rise an alternative set of questions, which are probably insoluble, and which have certainly proved inconclusive.

How has this come about? If we take it for granted that logic can hope to be a science, then the only question left for us to settle is, what sort of science it can hope to be. About this we find at all times a variety of opinions. There are those writers for whom the implicit model seems to be psychology: logic is concerned with the laws of thought—not perhaps with straightforward generalisations about the ways in which people are as a matter of fact found to think, since these are very varied and not all of them are entitled equally to the logician's attention and respect. But just as, for the purpose of some of his inquiries, a physiologist is entitled to put on one side abnormal, deviant bodily processes of an exceptional character, and to label them as 'pathological', so (it may be suggested) the logician is concerned with the study of proper, rational, normal thinking processes, with the working of the intellect in health, as it were, rather than disease, and is accordingly entitled to set aside as irrelevant any aberrant, pathological arguments.

For others, logic is a development of sociology rather than psychology: it is not the phenomena of the individual human mind with which the logician is concerned, but rather the habits and practices developed in the course of social evolution and passed on by parents and teachers from one generation to another. Dewey, for instance, in his book *Logic: the Theory of Enquiry*, explains the character of our logical principles in the following manner:

> Any habit is a way or manner of action, not a particular act or deed. When it is formulated it becomes, as far as it is accepted, a rule, or more generally, a principle or 'law' of action. It can hardly be denied that there are habits of inference and that they may be formulated as rules or principles.

Habits of inference, in other words, begin by being merely customary, but in due course become mandatory or obligatory. Once more the distinction between pathological and normal habits and practices may need to be invoked. It is conceivable that unsound methods of argument could retain their hold in a society, and be passed on down the generations, just as much as a constitutional bodily deficiency or a defect in individual psychology; so it may be suggested in this case also that the logician is justified in being selective in his studies. He is not simply a sociologist of thought; he is rather a student of *proper* inferring-habits and of *rational* canons of inference.

The need to qualify each of these theories by adding words like 'proper' or 'rational' has led some philosophers to adopt a rather different view. Perhaps, they suggest, the aim of the logician should be to formulate not generalisations about thinkers thinking, but rather maxims reminding thinkers how they should think. Logic, they argue, is like medicine—not a science alone, but in addition an art. Its business is not to discover laws of thought, in any scientific sense of the term 'law', but rather laws or rules of argument, in the sense of tips for those who wish to argue soundly: it is the *art de penser, the ars conjectandi,* not the *science de la pensée* or *scientia conjectionis*. From this point of view the implicit model for logic becomes not an explanatory science but a technology, and a textbook of logic becomes as it were a craft manual. 'If you want to be rational, here are the recipes to follow.'

At this stage many have rebelled. 'If we regard logic as being concerned with the nature of thinking, this is where we end up—either by making the laws of logic into something psychological and subjective, or by debasing them into rules of thumb. Rather than accept either of these conclusions, we had better be prepared to abandon the initial assumption.' Logic, they insist, is a science, and an objective science at that. Its laws are neither tips nor tentative generalisations but established truths, and its subject matter is not 'thinking' but something else. The proper ambition for logic becomes in their eyes the understanding of a special class of objects called 'logical relations', and its business is to formulate the system of truths governing relations of this kind. References to 'thinking' must be sternly put on one side as leading only to sophistry and illusion: the implicit model for logic is now to be neither an explanatory science nor a technology, but rather pure mathematics. This view has been both the explicit doctrine of philosophers such as Carnap and the practice of many contemporary symbolic logicians, and it leads naturally enough to a conception of the nature, scope

and method of logic quite different from those implied by the other views.

The dispute between these theories has many features of a classic philosophical dispute, and all the resultant interminability. For each of the theories has clear attractions, and equally undeniable defects. In the first place, there is the initial presumption, acknowledged by Aristotle, that logic is somehow concerned with the ways in which men think, argue and infer. Yet to turn logic into a branch of psychology, even into the psychopathology of cognition, certainly makes it too subjective and ties it too closely to questions about people's actual *habits* of inference. (There is, after all, no reason why mental words should figure at all prominently in books on logic, and one can discuss arguments and inferences in terms of propositions asserted and facts adduced in their support, without having to refer in any way to the particular men doing the asserting and adducing.) In the second place, the sociological approach has its merits: the logic of such a science as physics, for instance, can hardly be discussed without paying some attention to the structure of the arguments employed by current practitioners of the science, i.e. physicists' customary argument-forms, and this gives some plausibility to Dewey's remarks about the way in which customary inferences can become mandatory. Yet again, it cannot be custom alone which gives validity and authority to a form of argument, or the logician would have to wait upon the results of the anthropologist's researches.

The counter-view of logic as a technology, and its principles as the rules of a craft, has its own attractions. The methods of computation we learn at school serve us well as inferring-devices, and calculations can certainly be subjected to logical study and criticism. Again, if one is asked why it is that the principles of logic apply to reality, it is a help to be reminded that 'it is not so much the world which is logical or illogical as *men*. Conformity to logic is a merit in argumentative performances and performers, not a sign of any radical docility in the things argued about, so the question why logic applies to the world does not, as such, arise.' Yet the idea that inferring is a kind of performance to be executed in accordance with rules, and that the principles of logic play the part of these rules, leads in turn to its own paradoxes. Often enough we draw our conclusions in an instant, without any of the intermediate stages essential to a rule-governed performance—no taking of the plunge, no keeping of the rules in mind or scrupulous following of them, no triumphant reaching of the end of the road or completion of the inferring performance. Inferring, in a phrase, does not always involve calculating, and the canons of sound

argument can be applied alike whether we have reached our conclusions by way of a computation or by a simple leap. For logic is concerned not with the *manner* of our inferring, or with questions of *technique*: its primary business is a retrospective, justificatory one—with the arguments we can put forward afterwards to make good our claim that the conclusions arrived at are acceptable, because justifiable, conclusions.

This is where the mathematical logician comes on the scene. For, he can claim, an argument is made up of propositions, and the logician's objects of study are the formal relations between propositions; to ask whether an argument is valid is to ask whether it is of the right form, and the study of form is best undertaken in a self-consciously mathematical manner; so we must sweep away all references to thinking and rationality and the rest, and bring on the true objects of logical study, the formal relations between different sorts of propositions. . . . But this is where we came in, and the ensuing paradox is already in sight. We can hardly sweep away *all* references to thinking without logic losing its original practical application: if this is the price of making logic mathematical, we shall be forced to pose the Kantian-sounding problem, 'Is mathematical logic at all *possible*?'

The question, 'What sort of a science is logic?', leads us into an impasse: we cannot, accordingly, afford to get too involved with it at the very outset of our inquiries, but must put it on one side to be reconsidered later. For our purposes, fortunately, we can justifiably do so. This question is one about logical *theory*, whereas the starting-point of our studies will be logical *practice*. So let us begin by attempting to characterise the chief concepts we employ in logical practice: when this is done, the time may have come to return and ask what a 'theoretical' logic might be—what sort of a theory men might build up which could have the kind of application required.

A further precaution will be necessary. In tackling our main problems about the assessment of arguments, it will be worthwhile clearing our minds of ideas derived from existing logical theory, and seeing by direct inspection what are the categories in terms of which we actually express our assessments, and what precisely they mean to us. This is the reason why, in the earlier of these studies at any rate, I shall deliberately avoid terms like 'logic', 'logical', 'logically necessary', 'deductive' and 'demonstrative'. All such terms carry over from logical theory a load of associations which could prejudice one main aim of our inquiry: to see how—if at all—the formal analysis of theoretical logic ties up with the business of rational criticism. For suppose there did prove to have been a systematic divergence between the fundamental notions of logical theory

and the categories operative in our practical assessment of arguments; we might then have reason to regret having committed ourselves by the use of theory-loaded terms, and find ourselves led into paradoxes which we could otherwise have avoided.

One last preliminary: to break the power of old models and analogies, we can provide ourselves with a new one. Logic is concerned with the soundness of the claims we make—with the solidity of the grounds we produce to support them, the firmness of the backing we provide for them—or, to change the metaphor, with the sort of *case* we present in defence of our claims. The legal analogy implied in this last way of putting the point can for once be a real help. So let us forget about psychology, sociology, technology and mathematics, ignore the echoes of structural engineering and *collage* in the words 'grounds' and 'backing', and take as our model the discipline of jurisprudence. Logic (we may say) is generalised jurisprudence. Arguments can be compared with law-suits, and the claims we make and argue for in extra-legal contexts with claims made in the courts, while the cases we present in making good each kind of claim can be compared with each other. A main task of jurisprudence is to characterise the essentials of the legal process: the procedures by which claims-at-law are put forward, disputed and determined, and the categories in terms of which this is done. Our own inquiry is a parallel one: we shall aim, in a similar way, to characterise what may be called 'the rational process', the procedures and categories by using which claims-in-general can be argued for and settled.

Indeed, one may ask, is this really an analogy at all? When we have seen how far the parallels between the two studies can be pressed, we may feel that the term 'analogy' is too weak, and the term 'metaphor' positively misleading: even, that law-suits are just a special kind of rational dispute, for which the procedures and rules of argument have hardened into institutions. Certainly it is no surprise to find a professor of jurisprudence taking up, as problems in his own subject, questions familiar to us from treatises on logic—questions, for instance, about causation—and for Aristotle, as an Athenian, the gap between arguments in the courts and arguments in the Lyceum or Agora would have seemed even slighter than it does for us.

There is one special virtue in the parallel between logic and jurisprudence: it helps to keep in the centre of the picture the *critical* function of the reason. The rules of logic may not be tips or generalisations: they none the less apply to men and their arguments—not in the way that laws

of psychology or maxims of method apply, but rather as *standards of achievement* which a man, in arguing, can come up to or fall short of, and by which his arguments can be judged. A sound argument, a well-grounded or firmly-backed claim, is one which will stand up to criticism, one for which a case can be presented coming up to the standard required if it is to deserve a favourable verdict. How many legal terms find a natural extension here! One may even be tempted to say that our extra-legal claims have to be justified, not before Her Majesty's Judges, but before the Court of Reason.

In the studies which follow, then, the nature of the rational process will be discussed with the 'jurisprudential analogy' in mind: our subject will be the *prudentia*, not simply of *jus*, but more generally of *ratio*. The first two essays are in part preparatory to the third, for it is in Essay III that the crucial results of the inquiry are expounded. In Essay I the chief topic is the variety of the claims and arguments we have occasion to put forward, and the question is discussed, in what ways the formalities and structure of argument change and do not change, as we move from one sort of claim to another or between arguments in different 'fields': the main innovation here is a distinction between the 'force' of terms of logical assessment and the 'grounds' or 'criteria' for their use, a distinction which is taken up again later. Essay II is a study of the notion of probability, which serves here as a pilot investigation, introducing us to a number of ideas and distinctions which can throw a more general light on the categories of rational assessment.

In Essay III we reach the central question, how we are to set out and analyse arguments in order that our assessments shall be logically *candid*—in order, that is, to make clear the functions of the different propositions invoked in the course of an argument and the relevance of the different sorts of criticism which can be directed against it. The form of analysis arrived at is decidedly more complex than that which logicians have customarily employed, and forces on us a number of distinctions for which the normal analysis leaves no room; too many different things (I shall suggest) have been run together in the past under the name of 'major premisses', and a single division of arguments into 'deductive' and 'inductive' has been relied on to mark at least four different distinctions. When these various distinctions are separated out, it begins to look as though formal logic has indeed lost touch with its application, and as if a systematic divergence has in fact grown up between the categories of logical practice and the analyses given of them in logicians' textbooks and treatises.

The philosophical origins of this divergence and its implications for logic and epistemology are the subjects of the two final essays. In Essay IV the origins of the divergence are traced back to the Aristotelian ideal of logic as a formal science comparable to geometry: in the field of jurisprudence, the suggestion that we should aim to produce theories having the formal structure of mathematics has never become popular, and it turns out here that there are objections also to the idea of casting the whole of logical theory into mathematical form. Essay V traces some of the wider consequences of the deviation between the categories of working logic and the analysis of them given by philosophers and, in particular, its effect on the theory of knowledge. There, as in logic, pride of place has been given to arguments backed by entailments: wherever claims to knowledge have been seen to be based on evidence not entailing analytically the correctness of the claim, a 'logical gulf' has been felt to exist which the philosopher must find some way either of bridging or of conjuring away, and as a result a whole array of epistemological problems has grown up around scientific, ethical, aesthetic and theological claims alike. Once, however, we recognise the sources of the deviation between working logic and logical theory, it becomes questionable whether these problems should have been raised in the first place. We are tempted to see deficiencies in these claims only because we compare them with a philosopher's ideal which is in the nature of the cases unrealisable. The proper task of epistemology would be not to overcome these imagined deficiencies, but to discover what actual merits the arguments of scientists, moralists, art critics or theologians can realistically hope to achieve.

The existence of this 'double standard', this divergence between the philosopher's question about the world and the ordinary man's, is of course a commonplace: no one has expressed it better than David Hume, who recognised both habits of mind in one and the same person—namely, himself. Usually, the divergence has been treated as a matter for pride, or at any rate tolerance; as a mark (at best) of superior penetration and profundity in the thought of philosophers, or (at worst) as the result of a pardonable psychological quirk. It seems almost mean of one to suggest that it may be, in fact, a consequence of nothing more than a straightforward fallacy—of a failure to draw in one's logical theorising all the distinctions which the demands of logical practice require.

The studies which follow are, as I have said, only essays. If our analysis of arguments is to be really effective and true-to-life it will need, very likely, to make use of notions and distinctions that are not even

hinted at here. But of one thing I am confident: that by treating logic as generalised jurisprudence and testing our ideas against our actual practice of argument-assessment, rather than against a philosopher's ideal, we shall eventually build up a picture very different from the traditional one. The most I can hope for is that some of the pieces whose shape I have here outlined will keep a place in the finished mosaic.