Rational action and truth-seeking

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I. Introduction

The starting point for this paper is acceptance of the view that reason is not something that can be understood outside the context of the discussion of reasoning beings; indeed not just any reasoning beings but reasoning agents – beings which interact with their environment, making decisions about their interactions using the faculty of reason. The question that the paper attempts to answer is what, if any, role is to be played in that context by what had traditionally been seen as the main rational norm – to seek the truth. The answer given is that – though the meaning of the term is somewhat altered and the role played should not be seen as fundamental – truth is still a vital consideration for all epistemic agents, if they are to thrive in a world whose ability to affect them outstrips their understanding of that world. Central to the argument presented in this paper will be the trichotomy of senses in which the word 'argument' is relevant to the discussion at hand: the logical sense, the communicational sense and the decisional sense: the connection between the three consisting in the significance of truth.

II. Two views of reason

Peirce (1878) calls a belief "a rule for action". The view of beliefs implied by Peirce's formulation, once worked out in full, is strikingly different in its implications from the standard analytical view of beliefs as propositional attitudes; putting action before representation. It has taken more than a hundred years for something like Peirce's views to come to be generally appreciated. Part of this change has been due to the development of various new forms of pragmatism, ranging as they do from neo-Peircean naturalist approaches

(Hook 1927, Haack 1995, Hooker 1995, Hacking 1983, Hookway 2000, and Rescher 2000) to the very different tack taken by Rorty (1979) and his followers. However, appreciation for the significance of action is by no means limited to this, still somewhat constrained, group. Very similar conclusions have been reached by numerous researchers working in cognitive psychology and embodied versions of cognitive science (Clark 1997), as well as in other related fields (Damasio 1994, Brooks 1991, 1997). Together, these areas of research are helping to develop a view of rationality as intimately linked to agency – one in which actions, observations and beliefs come to intersect with each other in numerous ways, making it necessary for any analysis of any of them to also consider the others.

This picture of rationality may be usefully compared with the standard picture which, I would argue is widely accepted by analytical philosophers and which is described by Stein (1996: 4) as follows:

> According to this picture, to be rational is to reason in accordance with principles of reasoning that are based on rules of logic, probability theory and so forth. If the standard picture of reasoning is right, principles of reasoning that are based on such rules are normative principles of reasoning, namely they are the principles we ought to reason in accordance with.

The pragmatist picture of rationality differs from the standard picture in at least two important respects.

The first is that, where the standard view primarily focussed upon propositions and the abstract, logical relations among them, the new view focuses upon agents and their actions. For a traditional analytical philosopher this change, with its unavoidable reference to the psychology of the individual agents must smack of the psychologistic error. Of course, if such a view did commit that error, it would mean that Peirce’s position was fundamentally inconsistent, given his own anti-psychologistic position. However, the problem with psychologising logic lies elsewhere and, in fact, affects the views espoused by the inheritors of Frege’s intellectual tradition. Still, that is not what I would wish to directly discuss here, though the issue of the relation between different kinds of arguments does bear upon the problem.

The second difference between the standard view of rationality and the pragmatist view is that for the pragmatist view the evaluation of the rationality of any belief or action is going to be tied in with its practical consequences whereas, in the standard account, evaluation of beliefs and actions was kept somewhat separate and dealt by different theories with the rationality of beliefs being normally tied to truth.

What is to be done with the standard view of reason? Perhaps it, along with all of its accoutrements such as the search for truth, ought to be totally abandoned? Due to a number of profoundly sceptical positions that had been proposed in the last few decades of the twentieth century, this suggestion, made as it is within an academic context, does not sound as strange as it might otherwise. As it is, I do not think there is any need to abandon wholesale the values and implications of the standard view of reason. Instead, what is valuable and correct about that view ought to be folded into the pragmatist position. An effective way of seeing why and how this may be done is to examine the role that truth has to play in arguments: being careful to distinguish between a number of different ways in which ‘argument’ is used.

III. Arguments, arguments, arguments

The word ‘argument’ is one of those that are used in a number of senses that are closely enough related to justify the ease of using a single word in the context of normal conversation but whose meaning is significantly different enough to require distinguishing in the context of philosophical discussion. Appropriately enough for a pragmatist paper, I should like to distinguish three senses in which arguments are of relevance to the question of the relationship between rational action and truth-seeking. These are:[1]

> logical argument – the set of logical propositions where the relationship between some of them (the premisses) and some of the others (the conclusions) is (something like) logical entailment
>
> communicational argument – a series of utterances and/or other instances of attempted communication whose aim is to persuade the interlocutor or to explain something to them
>
> decisional argument – a (at least partially) mental process engaged in by a reasoning agent in order to choose a course of action

The category of logical arguments is meant to include a range of formal arguments, from Modus Tollens to the kinds of proofs made possible by non-standard logics. Communicational arguments range from showing an actual spider to someone who thought they had six legs, through convincing your partner that you should go to the Chinese restaurant tonight, to the co-operative research effort of which this paper aims to be a part. Decisional arguments include looking up a time-table to see which train to catch, the

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[1] I had also considered referring to the three types of arguments as arguments, *arguments* and ARGUMENTS but finally decided that to do so would be somewhat Haackneyed.

automatic urge to withdraw a hand that has got burnt and the careful deliberations that, hopefully, precede the choice of a grad school.

The three characterisations given above aren't meant to be definitive, instead providing a rough idea of what is meant by each term. Nor are the categories meant to be necessarily co-exclusive – a good lecturer will generally help choose a grad school – or exhaustive – the exchange of views between drivers whose cars have just been involved in an accident doesn't seem to be aimed at convincing anyone of anything. Nonetheless, it ought to be clear that there are some very significant differences between communicational and decisional arguments on one hand and logical arguments on the other. Indeed, the differences are much the same as those that distinguish the pragmatist view of rationality from the standard view: being agent-centred as opposed to abstract and focussing primarily upon practical consequences rather than upon truth-seeking. Not surprisingly, according to the standard view the rationality of the communicative and decisional arguments is partly or wholly dependent upon their relationship to logical arguments. Given a practical turn of analysis, the decisional arguments are going to look most fundamental, with the status of the rationality of the other arguments being not as clear. A particularly radical account might wish to reduce the communicative and logical arguments to artefacts whose sole role is to satisfy personal needs by controlling others: co-operative academic discussions, for example, being reduced to the status of sophisticated brain-washing or empty posturing. Thus, in terms of the established trichotomy of arguments, the problem we are faced with is to account for the degree to which communicative and logical arguments can be rational, given that we had accepted that decisional arguments are primary. To understand something of the difficulty of this task it is necessary to consider exactly what kinds of things fit under the rubric of decisional arguments.

The category of decisional arguments is something of a grab-bag, to some degree artificially created by the context of the discussion, with the tag 'argument' sitting uneasily in many cases. What is shared is that all organisms other than the very simplest single-celled life-forms have a range of actions available to them. Thus, a rodent living on a forest-floor might eat, hide, scurry, mate, sleep or undertake any of a number of other possible actions. Which it chooses to undertake will depend upon its assessment of its internal state as well as of the situation it finds itself in. Donald Campbell (1974) writes of the example of the paramecium which swims forward so long as it senses that it is swimming up a sugar gradient but tumbles to pick a new random direction when it senses that it is not going up the gradient. The whole mechanism by which the paramecium achieves this end is a very simple stimulusresponse pairing between sensations of sugar concentration in the surrounding water and the choice of the two modes of action available to it.

The strategies available to more complex animals, including humans, are far more impressive and varied. One example that has seen much recent work but which would not have been considered in this category previously is that of the emotions, with Evans (2001, 2002) and Damasio (1994) considering the role emotions play in deliberative rationality. Another example is provided by the work Gigerenzer (2000) has carried out in showing how the simple heuristics that are used by people are, actually, very effective in the contexts in which they have been traditionally applied. It seems clear that with time various sciences from ethology, through neuroscience and psychology to cognitive science will provide us with a great variety of decision-making strategies, carefully filling in the blanks that might have previously been referred to as ‘instinct’.

Despite their differences, these strategies – what I have been calling decisional arguments – share a number of characteristics, the chief being their context-dependence. A paramecium can only apply its strategy successfully in an environment where the sugar gradients are smooth, such as occur when sugar dissolves in water, and where the substance it senses is the substance it is capable of metabolising (it may be that the paramecium does not distinguish between different sugars but that it only lives on simple sugars which, luckily, are the only ones plentiful in its environment of evolutionary adaptation). On the other hand, the heuristics Gigerenzer studies are subject to systematic bias that leaves us open to being systematically misled even when being told the truth. As he observes (Gigerenzer 2005), systematic cognitive errors are the result of the reasonable assumptions we make in order to simplify the task of decision-making – the reasonableness of the assumptions depending upon the context in which the strategy is used being the context in which that strategy is effective.

The context-dependence of decisional arguments creates a problem for relating them to logical arguments, whose applicability is meant to be radically context-independent. Not surprisingly, Gigerenzer concludes that logic is not the right model for understanding rationality.[2] Perhaps the bigger problem, however, is that many (though not all) of the strategies applied do not rely upon representations in any way that analytical philosophy might traditionally recognise. That makes it awkward to insightfully analyse these strategies

[2] John Collier observes (private communication) that, if we think of arguments as information channels, Barwise-Seligman logic will apply to them. That raises the question, however, to what degree this is using logic as the model and to what degree it is just using it is a tool.

in terms of logical arguments. This is not to say that the strategies do not involve representations, however. Peirce's theory of signs included a far broader range of representations than those considered by standard analytical philosophy of language, making it much more capable of examining decisional arguments. Mark Bickhard's interactionist approach (Bickhard and Terveen 1995) attempts to put Peircean insights into life by putting forward an account of representation which is based upon agency. However, it still faces the problem of relating the resulting account to logic. A related approach has been pursued by John Collier (1999), a recent paper (Collier, Talmont-Kaminski 2006) combining a situation pragmatics (Barwise, Perry 1983) with a formal semantics. The method pursued in this paper, however, will not focus upon representation, instead looking at the role truth plays in each of the kinds of arguments discussed – logical, communicational and decisional. This is what I turn to now.

IV. Truth and reason

Of the three kinds of arguments, the role played by truth is clearest for logical arguments. In the case of traditional deductive logical arguments, truth-preservation is the key characteristic. Of course, the number of logics that have been developed[3] has mushroomed during the twentieth century. The search for adequate inductive logics that replace truth with probability or some other appropriate 'artificial sweetener' has been a part of that but does not undermine the essential point of the centrality of truth for logical arguments, only serving to somewhat complicate the story. In the case of communicational arguments truth has also been traditionally seen to play an important role; with the point of such arguments being characterised as showing that it is reasonable to believe that something is the case.

Given the significance of truth for both these types of arguments, it is necessary to give some explanation for why truth should play such a central role. This seems straight-forward in the case of logical arguments (so long as they are not treated as psychological inferences but as something like abstract objects), where their relationship to truth is definitional. The explanation is not so clear for communicational arguments. Traditionally, it was held that communicational arguments were rational if they had the same form as logical arguments. This would then explain the relevance of truth to communicational arguments. However, given that a pragmatist account does not seek to locate rationality in logical arguments, that path is closed. This leaves the pragmatist with the question of why communicational

[3] Or discovered, depending upon which metaphysics of logic is correct.

arguments would bother with truth. If one is unwilling, as I am, to settle for the claim that the references to truth are rhetorical, it becomes necessary to locate the need in the remaining kind of arguments – the decisional arguments.

The relevance of truth to decisional arguments seems deceptively straight-forward. The paramecium that Campbell writes about has to make the correct decisions regarding which direction to swim. This it can only do if it has a more or less accurate model of its environment. Otherwise it dies. Of course, the model will be very partial – an Umwelt that Von Uexkull (1934) introduces and Clark (1997) makes extensive use of – being limited to a simple distinction between higher or lower sugar concentration. However, to the degree that the paramecium bases its decisions upon its partial model, its well-being is dependent upon the model being correct in that respect. Much the same is the case with complex organisms such as human beings – acting on a model assumes that it is adequate in so far as it is able to identify the circumstances when one course of action is preferable to another. So long as our actions do not depend upon particular claims, we can afford to remain agnostic about them. This leads to a possible pragmatic formulation for what it means to believe something – it means being willing to act as if it were the case. And this is only a reformulation of Peirce's calling a belief "a rule for action".

As I'd observed, the model used by the paramecium is very simple and partial. This does not mean that humans use complete or even largely complete models of their environments. As Clark makes clear, our models are also very much incomplete. However, humans have made it their forte to seek out new ways to make truth matter practically or, to put it another way, to find ways to get around problems – science is the prime example of a co-operative enterprise that is constantly looking for new ways to force our models to make a difference – that is much of the point behind inventing new experiments.

As I observed, however, the relation between truth and decisional arguments is only seemingly straight-forward. There are a number of different kinds of problems with the relation that have been raised. I will consider only kind here, however. A standard objection to pragmatism is that knowledge isn't always good for us – the example being knowledge of how to construct nuclear weapons that may yet lead our self-destruction. This objection is based upon a misunderstanding of the sense in which truth useful. The correct understanding is to be found in the evolutionary value of some mutations. The example to consider is related to the previous one – evolutionary arms races (Dawkins 1986: 178). It is of immediate advantage to a carnivore to be able to run a bit faster and thus be capable of catching prey more easily. However, it is also of advantage to the prey to, itself, run faster. In the case of the gazelle and the cheetah this has led to an arms race in which each species becomes more and more specialised towards being capable of achieving greater speeds. The end result may be just as destructive for the cheetah as it was for the Soviet Union. Mutations that when taken individually and in the short run were advantageous, in the long run end up helping to bring about the extinction of the species. The sense in which the accuracy of our models is useful has to, similarly, be considered in such a way as to allow for that possibility. Key to this is developing an appropriate notion of function and this project has been pursued by Bickhard, Collier and others (Bickhard 1997, Christensen, Bickhard 2002, Collier 2000, 2004) – this notion also playing a vital role in the development of a pragmatist account of representation.

Assuming a satisfactory account of function is arrived at, it ought to be possible to show in detail how truth is vital for decisional arguments. Having done that, it will be possible to apply that lesson further afield. Since the point will apply to organisms in general, in any communicational situation our interlocutors are going to be very much interested in whether what we are claiming is true and, therefore, something they may possibly base their actions upon. Likewise, if we and others are cooperating in a joint endeavour. This explains why truth is desired in communicational arguments. That, in turn, however, serves to explain why logical arguments are relevant to communicational arguments.

An effective method to convince someone of some point is to start with whatever beliefs they have and to show that if those beliefs are true then the sought for conclusion is also going to be true. In that context, truth-preservation that is the hallmark of traditional logical arguments is a very useful property as it gives very good grounds to believe that, indeed, the conclusion is true. Of course, the situation with real communicational arguments is far more complex than one might think looking at a logical derivation and one man’s Modus Polens is another’s Modus Tollens – this does not negate the usefulness of logical arguments to communicational arguments, given the relevance of truth. Harman (1986) explores the complex relation between communicative arguments and logical arguments, making the point that what I have been calling a logical argument does not force a single rational response in that, understanding a relation between certain propositions, we may accept the conclusion, reject the premisses, question the validity of the argument or any of a number of other moves, depending upon the particulars of the situation we find ourselves in.

From what has been said, it may seem like logical arguments only play a role in communicational arguments and not in decisional arguments. This would be false, however. While logical contradictions do not necessarily create any practical difficulties they do have the scope to turn into practical contradictions, situations in which mutually incompatible courses of action are suggested by our reasoning, and in so far as they do they threaten our ability to make practical decisions. There is a more fundamental point to be made about logical arguments, however.

Communicational and decisional arguments are in many ways similar. All involve particular agents and their rationality is intimately tied in with the need to make real-life choices; making all rationality, at heart, practical. Logical arguments are very different. No account of their rationality has been provided as, indeed, I would hold that the category does not apply to them. Logical arguments are no more rational or irrational than mathematical equations. In seeing logic as the epitome of good inferential practice, analytical philosophy is psychologising it. Logical arguments aren't inferences, I would argue, but facts – facts which we ignore at our peril. Someone who ignores the implications of a valid logical argument is just as irrational as someone who ignores any other fact that is relevant to their decision – this is the vital point of relevance of logical arguments for individual decisions.

I had insisted upon using a terminology involving three kinds of arguments. However, it now seems apparent that logical arguments bear less similarity to decisional arguments than cubic zirconia diamonds do to diamonds. This suggests that terminology ought to be clarified in such a way as to distinguish between inferences, which are psychological and rational or irrational, and those very useful relations that are studied by logic.

V. Conclusions

My aim was to show how, within a pragmatist account of rationality, truth can be relevant to the rationality of decisions and arguments. The result is to show that while truth does not have a value in and of itself, it is of great instrumental value and thus, remains a vital consideration both when we make chose a course of action and when we discuss with other people. Significantly, in showing my conclusion, I was led to draw upon the resources of naturalised approaches and the sciences from which those approaches draw, in turn. This apparent link between naturalism and pragmatism is, I think, profound and unavoidable.

It may seem strange that truth should play as central a role in a pragmatist account as it does here. However, I would argue that it is only the fact that we face and are forced to accommodate ourselves to a hard, unyielding reality that forces us to be pragmatists.[4] But then, once again, this was something that Peirce was already very much aware of.

[4] Rather than that truth is useful, as James would have it.

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