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On the Relation of Argumentation and Inference

David M. Godden
McMaster University

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Title: On the Relation of Argumentation and Inference

Author: David M. Godden

Response to this paper by: Robert Pinto

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1. Introduction

What is the relationship between argumentation and inference? Let me begin by saying a few things about what got me started on this topic. I first set upon this topic because I saw it as a fundamental issue lurking at the basis of the tension, if not outright rift, between process- and product-based theories of argument (O’Keefe 1977, Brockriede 1977, Wenzel 1980). I felt that, by examining the relationship of inference to argument, we, as theorists, might clarify the relationship, and resolve some of the tensions, between these competing models of argument.

Having set upon this topic, I was encouraged to see that Ralph Johnson, in his recent *Manifest Rationality* (2000), numbered the question of the relation between argument and inference among those fundamental theoretical questions to be addressed by any theory of argument (39, 37-41). (This gave me a kind of re-assurance that I was on to something with this topic.) Somewhat later, I became dismayed upon finding that Johnson’s colleague, Pinto, had already written on precisely this topic (1995a, 1995b). (Great, I thought, my topic has “been done” already.) Then, I discovered that the two did not agree in their views about inference and argumentation. (Back in business! I thought.) And, with a bit more investigation, I thought that I might even have something new to add on this issue.

2. Argumentation Theory: Two Projects & Two Questions

With Johnson, I see two basic tasks for Argumentation Theory: one is descriptive and analytic; the other is normative or critical and evaluative (Godden, 1999). With Johnson, I will call these the Theory of Analysis and the Theory of Appraisal respectively. These two aspects of Argumentation Theory raise at least two *prima facie* theoretical issues. The first concerns the Theory of Appraisal, and is the Foundational Question [FQ]: What are the standards that inform the norms of argument? That is, what will our norms be based upon? (We will get back to this question a bit later.) The second question, and the one with which I shall start today is: How is the relationship between those norms and the subject matter of Argumentation Theory secured? For lack of a better name, I will simply call this the Connection Question [CQ].

To put the Connection Question a bit more clearly, let me observe a tension created by the two central projects of Argumentation Theory. Whatever we take to be the proper subject matter of Argumentation Theory, I take it that we mean for it to be directly relevant both descriptively and normatively, to what Harman (1986) has called “reasoned change in view.”¹ So, for instance, classically rhetorical (process-based) theories take as their subject matter those

¹ Importantly, Harman identified argument with proof that is governed by the rules of implication, and contrasted this with reasoned change in view which is governed by rules of revision which he specifically calls rules of “inference” (3). Then, considering *modus ponens* Harman continues: “Such a rule [of implication] by itself says nothing at all in particular about belief revision. It may be that some principles of belief revisions *refer* to such principles of argument, that is, to principles of implication” (*ibid*).

communications whose aim is to gain or increase the adherence of an audience to a thesis (Tindale, 70). Similarly, Johnson takes (the product-based) informal-logic to study “argumentation in everyday discourse” (Johnson, 119) or argument seen as “discourse directed toward rational persuasion,” (Johnson, 150) where rational persuasion is taken to mean “that the arguer wishes to persuade the Other to accept the conclusion *on the basis of* the reasons and considerations cited [in the argument] *and those alone*” (*ibid*; emphasis added). In each case, the subject of study is that which brings about, effects, or is responsible for, a change in view. Thus, on the one hand, the subject matter of the Theory of Analysis is reasoning as it is used in actual argument. On the other hand, the Theory of Appraisal is to be used to guide an arguer in coming to new or changed beliefs,² and to evaluate their reasoning in doing so. Yet, while the first project is, it would seem, psychological and empirical the second is epistemological and normative. Now, the Connection Question is: Is the subject matter of the first project the same as that of the second project? Further: If it is the same, how is the theorist to resolve the tension between the normative and the psychological dimensions of Argumentation Theory. On the other hand: If the subject matter is not the same, then how is the evaluative project relevant to the descriptive one? I take these questions to mark the locus of *one* of the debates between product- and process-based theorists.

3. Inference

So, with this tension in mind, I think that we can now turn to the traditional picture of inference to see some of the work that it has done within Argumentation Theory. Specifically, I would like to observe the work that inference does in providing a link between the theory of Analysis and the Theory of Appraisal. Some theorists have defined inference more or less closely to argumentation. Pinto (1995a), for instance, defines argument as an invitation to inference, while other theorists (e.g., Johnson, 2000) want to break this traditional picture of argument as a series of premises linked by an inference (or a series of successive inferences) to a conclusion. Before considering these differences, let us try to get a sense of the “Premise + Inference” (Johnson, 2000) picture of argument, by seeing what it affords the theorist. In this way, I hope to gain some insight into a number of theoretical issues that any theory of argument must address.

What, then, do we mean by inference? What is the traditional picture? The traditional picture provides that inference has a dual-nature. In the first place, inference is a mental act. Thus, Pinto uses the word ‘inference’ “for the mental act or event in which a person draws a conclusion from premises, or arrives at a conclusion *on the basis of* the consideration of a body of evidence” (1995a, 271; emphasis added). Similarly, Johnson introduces the term “inference” to mean “a movement (of the mind) from one item (usually a thought) to another, where the former serves *as the basis for* and leads to the later” (24; emphasis added). But, inference is not just any kind of mental act; note the use of the phrase “on the basis of” (or “as the basis for”) in the two definitions. This phrase precisely echoes Johnson’s extrapolation of the meaning of

² Admittedly, the result of a “change in view” on Harman’s account, need not be a change in belief; it could be a change in plan, intentional behaviour, and the like. (See also Pinto, 1995a, 280.) I focus on belief for the time being for reasons that will become evident.

“rational persuasion” as the key element of his definition of “argument” (above). As Pinto observes, then, the meaning of “on the basis of” becomes a crucial consideration (1995a, 279).

First, consider what is afforded to a theory of argument by the mentalistic aspects of this picture of inference. Since inferences are inherently mental acts, inferential relations are taken to have a psychological character. Specifically, it is part of the nature of inference to inherently provide the actual reasons *on the basis of which* we (rightly or wrongly) come to a reasoned change in view. So, we can study reasoned change in view by studying inference; at least part of the subject matter of Argumentation Theory is inference. Further, the question of what normative theory to supply in the Theory of Argument Appraisal is also significantly answered. The theory of good argument will significantly include the norms of good inference.³ In fact, I suggest that this is one of the crucial factors influencing Pinto’s move to define argument in terms of inference. And it is a feature shared by both Johnson’s and Pinto’s conception of argument. Both Johnson and Pinto want our Theory of Argument Analysis to study those reasons *on the basis of which* we accept a conclusion. Johnson accomplishes this defining argument in terms of rational persuasion, Pinto by defining argument⁴ in terms of inference. But, Pinto’s question remains, what do we mean by “on the basis of”?

One attempt to provide some theoretical content to the phrase “on the basis of” has been to suggest that an inference is not just any act of the mind. Rather, inference is a kind of reasoning, like calculation. That is, inference is a rule-governed act of the mind, and it is *on the basis of* this rule that we move to the conclusion (of the inference). Thus, Johnson adds to his definition of inference, saying that inference is “the transition of the mind from one proposition to another in accordance with some principle” (94, cf. 98). This stipulation, I suggest, is neither adequate nor sufficient to capture what we mean by inference. Not just any rule will do. For instance, one might supply the Empiricist’s Law of Association as articulated by James Mill in *The Analysis of the Phenomena of the Human Mind* (1829), which he states as follows: “Our ideas spring up, or exist, in the order in which the sensations existed, of which they are the copies” (78). Admittedly, Mill’s Law captures the important idea that inferential relations have, in some sense, a psychological character. While there are specific corollaries to this Law, the important thing is that, it is by means of the Law of Association that Mill hopes to account for not only all learning, but also of all relations of evidence and inference.

Pinto, considering a similar account offered by Armstrong, observes that such causal account will not do (1995a, 279). That is, on the causal account as I have stated it thus far, *every* cognitive act would be an inference, since every cognitive act can be accounted for by the Law of Association. Yet, whatever we mean by “inference”, it is certainly meant to distinguish the mere succession of thoughts from those acts of the mind whereby we attain (new) knowledge, or knowledge *on the basis of* some systematic (or systematizable), rule-governed mental operation. So, we need to find a principled way of distinguishing inferences from other cognitive acts;

³ I have hesitated here to say that a theory of inference would provide a *comprehensive* theory of argument, because it would remain to be shown that inferences were the *only* way by which we came to a (justifiable) change in view.

⁴ More fully, Pinto defines ‘argument’ as “sequences of propositions only when they serve as instruments of persuasion” (1995a, 276), where “the typical goal of an argument is to effect an *inference* in the person to whom it is addressed (and not simply to effect acceptance of its conclusion)” (*ibid*).

something about the rules of inference will have to distinguish the particularly *evidentiary* relationship that obtains between premises and conclusions from those other mental acts, e.g. the mere succession of thoughts. Further, even if such a distinction can be provided, we will have to revisit the Foundational Question to determine whether the nature of an evidentiary relationship can be captured in the terms of the specifically psychological inferential relations we have already observed.

In addition to being *laws of thought*, in a certain sense, rules of inference must capture rules of evidence or rules of justification. This captures the second element of the dual nature of inference. It is *on the basis of* not only psychological relations but evidentiary ones that inferences move us from premises to conclusions. Not only are inferential relations inherently mental (in fact, inherently causal), they are inherently evidentiary (and thus, inherently normative).

Pinto considers a modification to this causal view offered by Peirce in “The Fixation of Belief,” according to which, “That which determines us, from given premises, to draw one inference rather than another is some habit of mind, whether it is constitutional or acquired” (Pinto, 1995a, 279, citing Peirce). While Pinto thinks that “there is something importantly right-headed in this theory of inference” (1995a, 279), he objects to the “habit of mind” theory for six reasons.⁵ Most of Pinto’s objections seem to be rooted in the basic objection that Peirce’s “habit of mind” theory is not comprehensive. It cannot account for many (justifiable) occurrences of reasoned change in view (objections 1-3 and 5), and it ignores relevant, specifically contextual features (objection 4). Pinto’s last objection (6) is that whatever inferential principle or rule we follow must be one that we later cite or invoke as a warrant. This, I think, captures something vital about what we mean by a reason, and is especially important for our theory of argument as reasoned change in view. Yet, what seems even more important is what Pinto does not object to in Peirce’s theory. Pinto is not only willing to retain the view that inferences are mental phenomena and inferential relations describe a “causal transition from belief in premises to belief in a conclusion” (1995a, 282), but he does not seem to object to the view that the principles of inference, functioning as principles of evidence and justification, remain (ultimately grounded in) “habits of mind.” Yet, do habits of mind make for good warrants? Can evidentiary relations be grounded in mental habits?

⁵ These reasons are, roughly, as follows (Pinto 1995a, 280-282):

- (1) Inference does not always result in the *acquisition* of a new belief (one might surrender a belief);
- (2) Inference does not always result in the acquisition of a new *belief* (it result in a resolution to act in a certain way);
- (3) Cases of hypothetical reasoning do not seem adequately captured on this model (inferences may occur in cases where belief is not at issue);
- (4) The “habit of mind” account, by ignoring contextual factors, is oversimplified because “which conclusions I actually draw depends not only on the ‘guiding principles’ that govern my thought, but also on my current interests, etc.” (281);
- (5) Some (legitimate) inferences may not be put into the form of a general, rule-governed pattern.
- (6) That the rule on which the inference proceeds serve properly as a reason or warrant in the sense that the actor be able to cite the rule of inference in her account of her belief. (There are no unconscious inferences.)

4. Inference and Implication

Now, with the Foundational Question again in mind, let us consider *another* set of rules that have been supplied as the rules of inference. Here I mean the rules of implication provided by Formal Deductive Logic (FDL). Kneale and Kneale open their *Development of Logic* (1962) saying “Logic is concerned with the principles of valid inference” (1). On this picture, the subject matter of logic is inference, and, since arguments contain inferences, the link between logic and argument is assured by its very subject matter. A good inference has the same structure as some formally valid argument. The rules of inference just are the rules of implication. Now, I am quite aware that, for the most part, FDL is not longer held to provide a good model of argument. But, before we consider the reasons for which it was abandoned as a theory of argument appraisal, let us consider what the FDL model afforded us. Why was FDL such an attractive model for argument?

To see the answer to this, consider what Frege wrote about the laws of logic in his 1918 essay “The Thought” (or “Judgeable Contents”). “In order to avoid any misunderstanding,” he wrote, “and prevent the blurring of the boundary between psychology and logic, I assign to logic the task of discovering the laws of truth, not the laws of taking things to be true or of thinking. The meaning of the word ‘true’ is spelled out in the laws of truth [i.e., logic].” So, the subject matter of logic is truth, or at least, those relationships among propositions that are truth preserving or truth guaranteeing. Moreover, there is an intrinsic, analytic relationship between logical laws and the truth.

Such a picture affords Argumentation Theory remarkable dividends. In the first place, both Johnson and Pinto wish to retain a picture on which argument is concerned, at a fundamental level, with ascertaining the truth. Johnson, who defines argument as the product of the practice of argumentation, claims that the “fundamental purpose ... [of the practice of argumentation] is to arrive at the truth about some issue” (158; viz. 25). Pinto, on the other hand, recommends modifying our earlier picture of inference to include the view that “inferences are good or bad depending [in part] on whether the patterns are truth-preserving” (282).⁶ So, if the logical laws are the laws of truth, and the subject matter of logic is inference, then, on Frege’s account, we have an ideal foundation for our Theory of Appraisal. The foundations for the norms of good argument are securely moored to the truth and, as such, seem able to properly capture evidentiary relations.

How, though, does this picture answer Connection Question? Frege recognized the following distinction: “an explanation of a mental process that ends in taking something to be true can never take the place of proving what is taken to be true.” Yet, the traditional picture of inference aptly bridges this gap. “From the laws of truth,” Frege writes, “there follow certain prescriptions about asserting, thinking, judging, [and] inferring.” In this way, inference remains the subject matter of both the Theory of Appraisal and the theory of Analysis.

Why was this picture rejected by argumentation theorists? Many of the standard objections to FDL as the model of Argument Appraisal are again rooted in the basic objection that the standards of FDL are not comprehensive. Obviously, no logic can supply normative criteria for the truth or acceptability of individual contingent claims. Nor, as Pinto notes (1995a, fn 14), can

⁶ Admittedly, this is only one of six corrective recommendations Pinto makes (1995a, 282-83).

FDL provide an account of semantic entailment. Moreover, Johnson objects that FDL cannot accommodate a spectrum view whereby (a) claims have varying degrees of acceptability and (b) there are (or may be) good arguments both for and against a certain view (2000). Also, the Premise + Inference model of argument does not seem well-suited to capture any Dialectical Tier which, Johnson argues, forms a necessary component of any theory of argument. Finally, Pinto writes that “entailment is neither a necessary nor a sufficient condition for the premises and conclusion of an argument or inference being suitably linked. Not sufficient, because an argument of the form ‘P therefore P’ meets the criterion of entailment but is hopeless as an argument. Not necessary because there are innumerable inductively strong arguments in which premisses do not entail conclusions” (1995a, 277). On the grounds of these kinds of objections, formalism was abandoned as a Theory of Argument Appraisal.

5. The Problems for Informal Accounts

In the place of formalist criteria, Argumentation Theorists sought to divine a set of normative standards which could inform a Theory of Appraisal, while at the same time doing justice to the situated nature of argumentation—that is, to ensure that the Theory of Appraisal was suitably relevant to the subject matter of the Theory of Analysis, namely, reasoned change in view. Informalists supplied the criteria of Relevance, Sufficiency and Acceptability, and some (Johnson, and, it would seem, Pinto) have retained the criterion of truth. Yet, some of the problems facing the traditional picture remain.

In the first place, the link between the standards informing the Theory of Appraisal and truth must be established. Theorists no longer have the luxury afforded by Frege’s *stipulation* that the laws of good inference just are the ‘laws of truth,’ and that, by studying good inferences we are, in fact, studying truth relations. Moreover, to the degree to which the causal elements of the traditional picture of inference are challenged, theorists may no longer claim the dividend whereby evidentiary relations, being inferential relations, have inherent doxastic force. These were the things that the traditional picture of inference afforded Argumentation Theory.

What we have seen to this point is that the inferential model of argument provided desirable, if unsustainable, answers to the Connection Question and the Foundation Question with which I began this paper. Moreover, it seems that whatever model Informalists like Johnson and Pinto wish to advance, some of the features of the traditional picture I have described (above) remain. One of these remaining features, I claim, is a picture of rationality whereby we find claims acceptable *on the basis* of reasons—that is, on the basis of relations between claims that are not merely psychological but also evidentiary. The reasons supplied in an argument are the reasons *on the basis* of which we not only come to accept a conclusion, revise a belief, or come to a reasoned change in view, but also *on the basis of which* we justify that change in view. These reasons, then, constitute (the relevant part of) the subject matter for our Theory of Analysis and our Theory of Appraisal. In the remainder of this paper, I challenge two consequences of this picture of rationality, and in doing so, I question the relationship between the subject matter of the Theory of Analysis and the Theory of Appraisal.

6. Russell's "Regressive Method"

I take it that one of the consequences of this picture of rationality is that, while it may not be a comprehensive account of all good argument, deductivism, nevertheless, remains a good model for some (kinds of) arguments. That is, some good arguments are deductive ones, supplying reasons *on the basis of which* their conclusions are accepted and acceptable. Just what those kinds of arguments are might be a matter of debate, but one likely candidate seems to be arguments whose subject matter is mathematical.

Bertrand Russell challenged this picture in his 1907 paper "The Regressive Method." What Russell, questioned in this paper was the relationship between the logical justification of a proposition and the reasons we have not only for coming to believe that proposition but for holding the proposition itself to be true. "There is an apparent absurdity," Russell wrote, "in proceeding, as one does in the logical theory of arithmetic, through the rather recondite propositions of symbolic logic, to the 'proof' of such truisms as $2 + 2 = 4$: for it is plain that the conclusion is more certain than the premises, and the supposed proof therefore seems futile." Several aspects of the traditional picture are here challenged.

In the first place, Russell challenged the traditional logicist assumption, articulated by Frege's assertion that the laws of logic are the laws of truth. This challenge comes out in Russell's construal of the nature of a proof: "But of course," Russell wrote, "what we are really proving is not the truth of $2 + 2 = 4$, but the fact that from our premises this truth can be deduced." Yet, once the notion of truth is severed from the notion of proof, questions about the relation of evidence quickly follow. That is, insofar as argument is fundamentally concerned with truth, is not the evidence supplied in support of a claim meant to establish its truth?

Moreover, I take Russell, here, to be doing more than simply challenging a formalist account of evidentiary relations. Rather, I see him as challenging the picture whereby those claims that bear a strictly evidentiary relationship to some claim do not necessarily have doxastic force, and thereby need not effect our acceptance or retention of a claim. Russell went on to recognise two kinds of premises. He wrote: "...the word 'premise' has two quite different senses: there is what we may call the 'empirical premise', which is the proposition or propositions from which we are actually led to believe the proposition in question; and there is what we call the 'logical premise', which is some logically simpler proposition or propositions from which, by a valid deduction, the proposition in question can be obtained." The question then arises: given that we can provide a deductive justification for certain claims by offering their logical premises, and given that these premises and their evidentiary relations to the conclusion are the subject matter of some Theory of Appraisal, is that theory relevant to our actual reasons for accepting the conclusions.⁷

Irvine, in his (1989) commentary on Russell's regressive view, supplied three reasons to support the claim that any criticism based on the logical premises may not be relevant to our acceptance of the claim based on the empirical premises:

- (1) "consider an elementary arithmetical proposition such as ' $2 + 2 = 4$ '. ...Not everyone who knows such elementary propositions to be true, if pressed, could come up with a

⁷ While I am cognizant of the fact that the logicist project strictly failed at the hand of "the contradiction," I suggest that the criticism remains a relevant one in cases where a deductive proof may be offered.

satisfactory sequence of sentences which would constitute the required proof. In fact, most people who know many elementary arithmetical truths could not even truthfully claim to have ever seen such a proof, let alone being able to reproduce one as a warrant for their belief.” (308)

- (2) “Most of us would continue to feel justified in our beliefs despite our inability to provide the requisite justification by way of a logical proof.” (*ibid*)
- (3) “It is much more likely that an error has been made in the proof than that $2 + 2$ does not equal 4. It follows that our knowledge of such basic arithmetical beliefs comes from some means other than mathematical proof.” (*ibid*)

While these reasons seem compelling, the consequences of Russell’s position in the “Regressive Method” are distressing. Irvine proceeds to note two crucial consequences of the view of the Regressive Method:

- (4) “Since we accept general axioms on the basis of our ability to derive from them particular propositions, the truth of which is already and independently known, “[t]he result is that even the most fundamental of logical laws may remain merely probable” (313).
- (5) “A logical foundation for a branch of mathematics is not literally a foundation in the sense of attempting to establishing once and for all the truth of all mathematical propositions. Rather, the role of foundational work in mathematics is comparable to that in the natural sciences. In short, logical foundations do their work by *explaining* rather than *proving* the truths of mathematics” (318).

In fact, then, the final consequence of Russell’s challenge is the complete reversal of the traditional epistemic relationship between the premises and the conclusion of an argument. Russell supposed, or hypothesised, that, in many cases the two kinds of premises would coincide, stating “...the empirical premise and the proximate logical premise will generally coincide. Thus in mathematics, except in the earliest parts, the propositions from which a given proposition is deduced generally give the reason why we believe the proposition. But in dealing with the principles of mathematics, this relation is reversed [In this latter case] we tend to believe the premises because we see that their consequences are true, instead of believing the consequences because we know the premises to be true.” The question that remains for Argumentation Theory is what is the subject matter of our study: empirical premises, or logical ones? And what is their relationship? In studying the logical ones, we may be capturing the properly evidentiary relations that seek to account for certainty in mathematics. But this may be completely independent of why, and for what reasons we accept basic mathematical claims as true. On the other hand, in studying the empirical ones, we may actually be able to study reasoned change in view, in its causal sense, but this may, similarly, occur independently of those principles that actually serve as evidence either for the claim. The traditional picture of inference preserved the picture that, in studying the logical premises we were studying the empirical premises and vice versa. This created a happy union between the descriptive-analytic and normative-evaluative components of Argumentation Theory. Yet, as we have seen, substantiation for this union may be wanting.

7. Harman's Theories of Justification

A second aspect of the traditional picture that remains in the revised, Informalist account is the Sufficiency element of the R.S.A. (+ truth) criterion. Good reasons must provide sufficient evidence on the basis of which claims are acceptable or accepted. This criterion of sufficiency allows that there may be other sets of sufficient reasons for some claim, and, as such, a particular set of reasons might not be necessary. But, does it follow that no particular set of reasons is necessary? That is, it would seem that something stronger than mere sufficiency is required. Would the theorist not want to maintain that some set of good reasons is necessary for the acceptability of a claim? While the theorist might wish to reserve a theoretical space for basic (or self-evident) claims, Gilbert Harman observes a problem that appears when the reasons for some claim are discredited and no other reasons in support of the claim are provided.

In *Change in View* (1986) Harman examines the relationship between justification and belief revision, considering two theories of justification: the *foundations* theory and the *coherence* theory. As a theory of justification, each theory serves as a model of ideal belief revision. In distinguishing the two theories, Harman writes: “[t]he key issue is whether one needs to keep track of one’s original justifications for beliefs” (29), foundationalists say “yes” and coherentists say “no.” Thus, Harman writes, “the theories are most easily distinguished by the conflicting advice they occasionally give concerning whether one should *give up* a belief P ... when P’s original justification has to be abandoned” (30). On the foundational view: “one is justified in continuing to believe something only if one has a special reason to continue to accept that belief, whereas the coherence theory says one is justified in continuing to believe something as long as one has no special reason to stop believing it” (32). It would seem that the elements of the inferentialist picture retained by both Johnson and Pinto, whereby a claim is *only* acceptable “on the basis” of the reasons supplied in argument, is committed to something like the foundationalist picture of rationality (Johnson’s definition of rational persuasion, *op cite*).

But, Harman observes, when we consider actual cases of belief perseverance in the face of “the total destruction of their original evidential basis” it becomes clear that there are problems with the foundationalist theory. It is found that people retain beliefs even after the positive refutation of all the evidence that was provided in original support of the belief. To account for this phenomenon, Harman suggests that, possibly for reasons of mental clutter avoidance (41-42), “people simply do not keep track of the justification relations among their beliefs. They continue to believe things after the evidence for them has been discredited because they do not realize what they are doing. They do not understand that the discredited evidence was the *sole* reason why they believe as they do” (38). Yet, if this is the case, then it seems that the foundational theory fails. In fact, Harman observes, “since people rarely keep track of their reasons, the [foundational] theory implies that people are unjustified in almost all their beliefs. This is an absurd result” (39). Harman’s critique not only challenges the causal elements of the traditional picture whereby beliefs are established *on the basis of* the reasons supplied in argument, but it challenges the very picture of rationality on which Argumentation Theory may depend. That is to say, if we agree with Russell that it is not the logical premises on which we come to reasoned change in view, and with Harman we conclude that it may yet not be the empirical premises either, then what options remain?

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