University of Windsor Scholarship at UWindsor

OSSA Conference Archive

OSSA 3

May 15th, 9:00 AM - May 17th, 5:00 PM

Psychologism in contemporary argumentation theory

Daivd M. Godden University of Windsor

Follow this and additional works at: http://scholar.uwindsor.ca/ossaarchive



Part of the Philosophy Commons

Daivd M. Godden, "Psychologism in contemporary argumentation theory" (May 15, 1999). OSSA Conference Archive. Paper 20. http://scholar.uwindsor.ca/ossaarchive/OSSA3/papersandcommentaries/20

This Paper is brought to you for free and open access by the Faculty of Arts, Humanities and Social Sciences at Scholarship at UWindsor. It has been accepted for inclusion in OSSA Conference Archive by an authorized administrator of Scholarship at UWindsor. For more information, please contact scholarship@uwindsor.ca.

Title: Psychologism in contemporary argumentation theory

Author: David Godden

Response to this paper by: Christina Slade

(c) 2000 David Godden

1—Argumentation Theory.

In 1977, responding to Daniel O'Keefe1, Wayne Brockriede distinguished between two senses of "argument" as *product* (argument1) and *process* (argument2) to which Joseph Wenzel added the third perspective of *procedure*2 (1979). These distinctions have occasioned a perspective shift at the very origins of argument theory. By changing our point-of-view on argument from product to process (or procedure) we are effectively changing the domain of our study. Further, a change in the domain requires corresponding changes in (a) the analytic task of specifying methods and conceptual frameworks of argument analysis (Wenzel 1979: 113), and (b) the theoretical task of specifying normative standards, constitutive of good argument, and according to which argument ought to be evaluated.3

In mapping this theoretical shift, it becomes quickly apparent that proponents of the perspective shift tend towards the view that the formal tools of analysis and theoretical standards of logic are irrelevant to this new domain and point-of-view. Commonly, it is argued that argument is essentially situated communication between dialogic actors and that abstract, formalistic approaches to the study of argument neglect this situational context. As such, argumentation is fundamentally irreducible to any (single) formal structure. Rather, theories must incorporate context-sensitivity, at both the analytic and normative levels, into their very methodology. Thus, before (or in order that) proper argument theory can be done, what is required is an empirically grounded study of argumentation (cf. Gilbert 1997: 77).

The trend towards an increasingly (if not exclusively) empirical approach to the study of argumentation, has lead me to revisit a question that haunted the theorists of logic at the close of the previous century –the question of psychologism. Psychologism, in the words of Baker and Hacker, is any view that, "represents these [rules of logic] as patterns of human thinking, often as psychological laws displaying the nature of the human mind" (Baker & Hacker 1989: 85). It may strike my audience as odd that I have elected to speak on the topic of psychologism. After all, Johnson and Blair write that argumentation theorists have overcome the "obsessive fear of psychologism" (1987: 149). Yet, their remark does not clarify whether theorists have overcome this obsessive fear because psychologism is no longer regarded as a mistaken view, or simply that theorists are so aware of it that they would not be caught making *that* mistake.

In this paper, I consider the degree to which recent perspective-shifts in the study of argumentation have moved theorists, wittingly or otherwise, towards a psychologistic conception of logic. I argue that this is a shift about which theorists should be aware, as it potentially lies at the heart of many debates within the field. By clarifying the nature of

psychologism, as it occurs within some recent disputes we have occasion to again consider the theoretical and normative foundations of logical standards, and their relation to the study of argument.

II – The Relevance of Logic to Argument.

There are a variety of positions maintaining the irrelevance of logic to the study of argument, each of differing severity. This section seeks to make evident the kinds of problems that arise when such positions neglect the distinction between the logical and the psychological study of argument. In their recent topography of the state of contemporary argument study (from the point of view of informal logic), Blair and Johnson have written that, "informal logic is best understood as the normative study of argument" (148) and that while "[i]nformal logic is not opposed to formal analysis; it is opposed to the mistaken view that the subject matter of formal deductive logic is argument" (ibid). A stronger version of this position is evidenced by Heysse's recent claim that "The study of the systems of formal logic will not provide us with an interpretation of rationality adequate for describing what happens when a hearer is convinced by the arguments of the speaker" (211, emphasis added), a task which Heysse sees as within the purview of a theory of argumentation (*ibid*). Here, what is at issue is what, precisely, Heysse means by what happens when a hearer is convinced. A convincing proof, in the traditional, logical sense, is defined in terms of *validity* which is itself a formally defined, logical property. Thus, if Heysse means convinced in this sense, formal logic must be involved on at least some level. Yet, if Heysse means what happens to the hearer, then he is quite correct as formal logic never set out to explain this in the first place. As Wenzel writes, " [i]t is not the business of logic to 'assess the efficacy of discourse'" (129). In particular, it is not the business of formal logic to assess whether and how we accept convincing proofs. Further, the task of argumentation theory, in this respect, is no longer essentially normative. Rather, it would fall exclusively within the domain of rhetoric which, in Perelman's words, studies "the psychological technique[s] which... [act] upon the hearer's will in order to obtain his adherence" (Perelman 1977: 153). Here, the standards for argument assessment are grounded purely in psychological facts about the audience. So far, the two positions considered maintain a thesis that formal logic is, to one degree or another, unfit for the study of a certain domain of argument.

There is, though, a stronger variant of the irrelevance position. In this version, it is not argued that logic studies a domain different from argument. Rather, it is argued that logic is itself a part of the rhetorical domain. Thus, the very standards of logic themselves, have a rhetorical foundation and thus can provide claims with only 'rhetorical validity' (cf. Wenzel, 128). Walter Weimer has taken this line of argument in his 1989 article "Why all Knowing is Rhetorical." Weimer writes that, "The conceptual relativity inherent in logic... guarantees that...[it is] thoroughly and intrinsically rhetorical. Logic in use, as a pragmatic endeavour, is inevitably a species of rhetoric" (70). By Perelman's definition of rhetoric above, Weimer has given a purely psychological definition to the practice and the foundation of logic. Initially, one might say that Weimer would do well to separate the psychological laws of producing or accepting a proof, and the logical rules that both constitute the nature of a proof and licence inferences within a proof. But, Weimer has a larger point here.

Weimer's main point is an epistemological one against what he calls "justificationism" and supporting the view that one cannot specify universal knowledge conditions *a priori*. Rather, "there are no authoritative or foundational or absolute or algorithmic procedures that determine when an assertion is warranted. All knowledge is context relative or situation specific" (65). This conclusion stems from two principal observations: (a) "conceptual systems...are fallible and contingent" (66); and (b) "Knowledge, as a consensus cast in the language of description...depends for its existence upon both an audience and a context" (66).

In his second observation, Weimer seems to mistake the fact of a consensus for consensus being constitutive of knowledge (i.e., as a criterion or justification for the knowledge claim at issue). But, while we may agree on some arithmetical truth, it is not that we agree that makes it so. Rather, it is something about mathematics and not about ourselves that justifies the claim. This mistake seems to inform the rest of Weimer's argument. Thus, on the first point, it is not quite clear what Weimer means by the claim that conceptual systems are fallible and contingent. If he simply means that there is a plurality of different, irreducible logical systems, then the conclusion that they are all rhetorical seems premature. Moreover, since it is sentences within a system (of meaning) that are either true or false6, whole systems cannot be fallible or contingent in *this* way. Possibly, though, Weimer is contending that there is some greater standard by which systems are fallible. In this case, it would remain to be demonstrated that the normativity of such a meta-standard is rhetorically, as opposed to logically, grounded?

Weimer attempts such a demonstration arguing from the observation that the history of logic has witnessed changes in logical theory to the conclusion that such "changes in [logical] theory...are rhetorically induced" (69)8. Here, again, Weimer seems to be arguing from the fact of a change, a conclusion about why (or how) that change came about. Moreover, it is not obvious that one should argue that logic has *changed* so much as that logicians have, for reasons that may be principled or pragmatic, *invented* new systems of logic. Yet, Weimer continues, "if logic itself is subject to revision in light of critical argument it is hardly apodictic" (69). While it may be true that we have only heuristic procedures to prescribe whether a particular logical system provides an appropriate and comprehensive analysis of a specific subject matter, it simply does not follow that statements within any such system are themselves rhetorically determined. Further, if necessity is to be grounded anywhere, it must be within a logic, for as Wittgenstein has observed, "[t]here is no experience of something necessarily happening" (CL, 15, emphasis added; cf. Kant, A 734). In the end, logical statements are not knowledge claims whatsoever. Rather, as Wittgenstein remarked, when we have a statement of logic "we have a statement which no experience will refute—a statement of grammar. Whenever we say that something *must* be the case, we are using the norm of an expression" (CL, 16).

It would seem, then, that oftentimes logic is asked to complete tasks for which it was never designed, and is dismissed as irrelevant, or worse as psychological, because we are dissatisfied with the results. In this light, one might say that Weimer's position, and those similar to his, are exemplars of Wenzel's 'pseudo-problems' arising from the failure to

properly distinguish the three perspectives of argument (126). As Wenzel observes, positions like those of Heysse and Weimer are "located within and conditioned by a distinctly rhetorical perspective" (127). As such, they cannot establish that logic is entirely irrelevant to the study of argument, or that logic is merely a part of rhetoric. Rather, " [w]hat they...[have] established...[is] that *logical* methods do not yield *rhetorical* understanding" (*ibid*). Yet this, as was mentioned above, is not within the purview of logic in the first place. So, as Wenzel maintains that the different perspectives on argument prescribe different standards for *good* argument (126), the additional point may be made that each perspective may well provide a different foundation to those standards.

In this section, I have sought to make a preliminary case that some advocates of the perspective-shift in argument theory do not sufficiently distinguish the logical from the psychological. The result, I maintain, is not only a contentious, if not inaccurate, account of the foundations of logic, but an impoverished view of the role of argument analysis and evaluation. In the following section I proceed to consider a second manner in which the study of logic and argument can be psychologized when it is argued that there alternative styles, or modes, of rationality.

III – Feminism, Psychologism and Styles of Reasoning.

Recently, feminist thinkers have raised many important concerns for the study, practice and teaching of argumentation—concerns that range from ethical and political, to pedagogical and historical, to epistemological and normative. While I am not a feminist scholar, this section seeks to offer a critical commentary on the psychologistic aspects of a recent strand of feminist argument. Of concern for this paper is a particular version of gender-based feminist argument which, using a premise of the type that men and women have different styles or modes of rationality, argues for the revision of traditional (read logical) standards of argument.

Deborah Orr, in her 1989 paper "Just the Facts Ma'am" calls for informal logicians "to recognize, theoretically ground, and incorporate into its texts alternative styles of rationality" (Orr 1989: 2). Specifically of interest for Orr is something she calls the feminine style of rationality. Citing Gilligan's work on Kohlberg's "Heinz dilemma" genderstudy of rationality, Orr argues that Gilligan "uncovered two distinct modes of thinking about moral dilemmas which...[Gilligan] calls the ethic of care and the ethic of justice" (Orr 1989: 3). While these "modes of thinking" seem akin to value-systems in that they are distinguished according to "different fundamental assumption[s]" (*ibid*) and by the fact that they "strive for different goals" (Orr 1989: 8), they are, nevertheless, tied to corresponding "styles of reasoning" (Orr 1989: 3).

For the purposes of this paper we need not be concerned with content of the specific (and notably irreducible) "logics," or "styles of rationality." Rather, of cardinal interest is the manner in which each mode is categorized and its principles justified. By Gilligan and Orr's account, such categories of rationality are determined on empirical grounds. Thus, the feminine style of rationality "has been empirically linked with women in contemporary North America, [and] it is theoretically grounded in the psychology of femininity as

gender"(Orr 1989: 2). Since this is contrasted with "the dominant or masculine style" then *presumably* the dominant style, too, is theoretically grounded in psychology of some sort also. Thus, the various "logics," "modes of rationality" or "styles of thinking"(Orr 1989: 4) at issue in Orr's argument amount to little more than "genderized thought patterns linked to sex" (Orr 1989: 3) —a phrase which Orr herself seems to use interchangeably.

Sandra Messen, in her 1993 paper "Do Men and Women Use Different Logics?" replies to the arguments of Gilligan and Orr. Messen observes both empirical and methodological problems with the collection of the data in Kohlberg's study, and conceptual problems in the way in which Gilligan draws her conclusions (e.g., an ambiguous and shifting use of the term 'logical'). Despite all this, while Messen rejects Gilligan and Orr's reading of the results of Kohlberg's study, she seems to accept their reading of its terms. That is, Menssen seems to accept the point that Gilligan and Orr's argument is *in principle* solvable according to the criteria they have described; it is just that Orr and Gilligan have not made a very good job of it. Gilligan, Orr and Messen agree that any failure of the study, if any, was empirical and not logical or conceptual. A similar study, free of terminological and methodological problems, with clear data, could *in principle* conclusively determine that men and women do, in fact, have different logics.

But, the anti-psychologist would maintain that Gilligan and Orr's conclusions are not, in principle, demonstrable from a study of this sort. Since logics are not "theoretically grounded in the psychology of femininity as gender" (*op cit*) —or in any other psychology for that matter—a difference in logics cannot be settled by empirical study. The question of whether logics differ is grammatical and conceptual, not empirical and psychological. Orr argues that alternative, specifically feminine, styles of rationality should be "recognized and taught as part of what humans *do* when they reason" (Orr 1989: 5). Yet, as Shanker reminds us, "Einstein reported that he often visualised the solution to a problem. But that does not mean that *inference in Einstein's case* consisted in the transformation of mental images" (Shanker 1998: 117). The nature of inference and the practice of inferring are prescribed by the rules of inference, and not by our reports about our (mental) activities.

Orr has offered a comprehensive reply to Messen's criticisms, beginning with the criticism that she relies on an ambigous and shifting use of the term 'logical.' Firstly, Orr supports her position that there is a plurality of 'logics' by saying that 'logic' is a family resemblance concept (1995: 347; 350) and is "often defined too narrowly" (1995: 347) when used in only to denote the "formalized game" of "universal logic" (1995: 350). Alone, this view is not objectionable on anti-psychologistic grounds 2, but it raises several important questions. What is the theoretical foundation of each logic? Are all logics similarly grounded?

One alternative is to maintain that 'alternative styles of reasoning' *are* psychologically grounded. While Orr does not, in the end, take this option, other theorists seem to have done so. Take, for instance, Gilbert's Coalescent Argumentation; Gilbert writes, "The aim of coalescent argumentation is to bring about an agreement between two arguers based on the conjoining of their positions in as many ways as possible" (1997: 70). Methodologically, coalescent argumentation begins with the event of argumentation itself,

by determining the goals (and motivations) of the disputants. The arguers' goals 10 inform and determine their 'position clusters.' "A position [cluster]," Gilbert writes, "is a matrix of beliefs, attitudes, emotions, insights and values connected to a claim" (1997: 105; italics removed). Here, what links the constituents of a position cluster are not their logical relations, but the various attachments that the disputant may have to the claim 11. Finally, to properly accommodate a disputant's position, Gilbert proposes the normatively pluralistic framework of multi-modal argumentation. Multi-modal argumentation is a heuristic framework which counts four general, independent modes of argument: (1) the logical; (2) the emotional; (3) the visceral (or physical); and (4) the kisceral (or intuitive) by which each mode requires unique standards of analysis and evaluation.

Using such a model, though, the theorist is left having to account for how these different modes are related. Moreover, unless one is to argue that the logical mode is psychologically grounded (as it seems Gilbert wants to), the theorist is left to prescribe the relations between logically grounded and psychologically grounded modalities. Coalescent argumentation achieves this by saying that it is not how each mode is grounded that is important, but how elements of each mode contribute to the end goal of agreement. But, agreement is not the only standard by which we may wish to analyze argument. Thus, the logical mode may contribute more to the analysis and evaluation of argumentation than is provided it within the coalescent based model. We are now left where we started. With the concession that no one model or perspective can capture all aspects of argument, we must nevertheless account for how such perspectives are related. Further, we are left with the additional task of either prescribing how categorically different sets of standards relate to each other, or justifying a psychologistic account of formal logic.

As was mentioned, Orr does not take this route. Orr argues that all logics are similarly and non-psychologistically grounded. In so doing, Orr recasts the theoretical foundations of her different "styles of reasoning." In effect, by the end of her reply, Orr has recanted the psychologistic element of her earlier argument. The feminine style of rationality is no longer "theoretically grounded in the psychology of femininity as gender" (1989: 2). Although Orr still construes the principles of different moral talks, as "patterns of thinking" (1995: 352), these "patterns of thinking" are now construed as "descriptive of a language-game [and as such are]...a part of logic" (Orr 1995: 355; citing Wittgenstein OC §56). While the contingency of various logics continues to function significantly in Orr's argument, it is no longer a contingency at the psychological level but is rather in the contingency of "practices" (1995: 357)12. The fact that some practices cannot be captured by traditional logical analysis "does not mean that there is something wrong with the way we reason, but rather that the universal logic does not accurately reflect our practice" (1995: 350).

What is curious about this position is that Orr persists in maintaining these different logics are tied to "patterns of thinking,"(1995: 352) and that the study of logic (as advocated by Wittgenstein and herself) consists in a "description of thought patterns"(1995: 349). The use of the term "thinking" here may deceive us. It might seem that one could merely return to an exclusively empirical study of argument or thought, and nevertheless be studying it logically. Yet, if we accept Orr's direction, and retain a non-psychologistic account of logic, then thinking cannot be construed, as it commonly is, as a psychological process.

Rather, concepts like "thought" and "reasoning" must be treated as logical concepts like "proof," and "inference." Thus, the study of "patterns of thinking" will be very much like the abstract, formalistic procedures of formal logic whereby the logician considers argument forms according to their logical relations. By treating thinking as a psychological process, one cannot follow Orr's methodological advice and retain a position consistent with her later view that logic describes rule-governed, normative practices.

4—Methodology and Argumentation Theory.

In this section, I hope to have avoided both the charges of prejudice and question begging to which Orr alludes in her remark that: "To dismiss the feminine mode of rationality with the stock charge of 'mere psychologism' would be at best question begging, and at worst prejudice" (1989: 7). On the rhetorical side, I sought to recognize, with Orr, that the feminist argument for the modification of the standards of argument analysis and evaluation succeeds without any psychologistic premises. The claim that different language games are played out in their concrete social situations according to different sets of rules, and thus may require unique methods for analysis, and different standards of evaluation is not being contested. Further, I think that it would be premature at best to begin to rank such language games while being insensitive to situational context. This is both a political and an ethical matter.

Thus, Gilbert, for instance writes, "the issue as to whether or not female modes of reasoning and patterns of thought ought to be included in official contexts is a moral one" (1997: 52). This is, I think, precisely the point. On moral grounds, I feel that feminism has a strong argument for the claim that there is a plurality of irreducible normative practices, each with a unique value system, that are differentially used to justify decisions and judgements. Thus, the issue in the moral sphere is not the status of those standards, but the hegemonic institution of a singular, exclusive practice by which such decisions are made. Thus, the call is not for the revision of the rules of the logic game, but for the institutional recognition of alternate normative practices.

Nor is this the only methodological lesson we have learned. This paper began with the observation that efforts to properly capture argument in its essentially situated aspects initiated a trend towards an increasingly empirical study of argument. Yet, it was claimed that this has sometimes occurred at the expense of maintaining a distinction between the psychological and the logical dimensions of argument. We considered two positions that sought to tell us something about the nature of logic through empirical, psychological study. Weimer, by mistaking the presence of an audience and the fact of a consensus as grounds for justification of a claim, attempted to show that logic falls within the rhetorical domain of argument. Orr, and later Gilbert, have argued for the psychological foundations of logic on the grounds that there are several irreducible modes of rationality. Yet, from the fact of a plurality of logics nothing is entailed about their respective foundations. Thus, while contemporary theorists of argumentation need not harbor an "obsessive fear of psychologism" they should be aware both of when it occurs within a theory—especially their own—and that it remains, at best, a contentious account of the foundations of logic.

Endnotes

- Argument 1: "Arguing1 that;" "a kind of utterance or a sort of communicative act;" "something one person makes (or gives, or presents or utters)." These are the kind that are "refuted, valid or fallacious," while arg2 may be "pointless or unproductive." Argument 2: "Arguing2 about;" "a particular kind of interaction;" "Something two or more persons have (or engage in)."
- <u>2</u>Wenzel links these three perspectives to the Aristotelian categories as follows: product logic; process-rhetoric; procedure-dialectic (115-116).
- <u>3</u>Viz. Gilbert's recent Coalescent Argumentation, where he claims: "Simply put, if there is any desire to expand the range of Argumentation Theory to include the sorts of arguments that people actually enter into, then the techniques for analyzing them must be reexamined" (42). He proceeds to specify a framework of normative-pluralism for the evaluation of various independent and irreducible modes of argument.
- 4Weimer classifies the proponents of justificationism as "logical positivists and empiricists" (64) who support "sharp fact-value, logic-rhetoric, objectively given-individually constructed dichotomies, [and] ...hold epistemology (and thus science as a source of knowledge) apart from rhetoric" (ibid). Thus, "[k]nowledge, truth and proof are definitionally fused in justificationism" (ibid).
- 5Viz Philosophical Investigations, §241, 242; pp. 225-227.
- 6Viz. L. Wittgenstein, On Certainty, passim.
- 7 And the question would still remain as to whether that demonstration is itself a logical or a rhetorical one.
- 80n this note, Weimer writes, "But logic can change, and it can be questioned" (69). It would seem, then, that logic can be questioned precisely because it changes.
- Wittgenstein, for instance, argues that "Russell's calculus is one calculus among others" (CL: 13, cf. OC §375).
- <u>10</u>An arguer's goals, for Gilbert, are psychologically defined as they may be conscious or unconscious, surface (i.e., evident in the text) or depth (i.e., sub-textual, relating to issues like personal relationships which are undercurrents to the argumentation). Viz Coalescent Argumentation, Chapter 5, "Goals in Argumentation."
- 11 While Gilbert sometimes links these modes to various generalizable modes of communication (50), the methodology of Coalescent Argumentation prescribes that anything said or done by a disputant that can be established as relevant is considered as a proper part the argument. Thus, Gilbert writes "insofar as fallacies are incorrect or improper argument moves, they are, ipso facto, argument moves" (1996: 81). To the

logician, this is like saying that because it is incorrect to move a bishop laterally in chess, doing so is a move in the game of chess. It is no longer clear what would constitute a mistake in such a game. If the rules of inference are constitutive of the activity of proving, then a fallacious inference is not part of a proof at all. Effectively, then, any relevant communication on the part of a disputant becomes part of a "paradigm of a [coalescent] proof," and as such, both "proofs" and positions in Coalescent Argumentation are completely psychologistic.

12 Presumably, these practices are normative and rule governed.

References

Baker, G.P. and P.M.S. Hacker. (1989.) "Frege's Anti-Psychologism," In Mark A Notturno, (Ed.), *Perspectives on Psychologism*. New York: E.J. Brill, 75-127.

Blair, Anthony and Ralph H. Johnson. (1987.) "The Current State of Informal Logic," *Informal Logic*, XI, 2&3: 147-151.

Brockriede, Wayne. (1975.) "Where is Argument?" JAFA, XI: 179-182.

----. (1977.) "Characteristics of Arguments and Arguing," JAFA, XIII, 3: 129-132.

Gilbert, Michael A. (1997.) *Coalescent Argumentation*. Mahwah, N. J.: Lawrence Erlbaum.

Heysse, Tim. (1997.) "Why Logic Doesn't Matter in the (Philosophical) Study of Argumentation," *Argumentation*, 11,2: 211-224.

Kant, Immanuel. (1781,1787. [1996].) *Critique of Pure Reason*. W. S. Pluhar, Trans. Cambridge: Hackett.

Menssen, Sandra. (1993.) "Do Men and Women Use Different Logics? A Reply to Carol Gilligan and Deborah Orr," *Informal Logic*, XV, 2: 123-138.

O'Keefe, Daniel J. (1977.) "Two Concepts of Argument," JAFA, XIII, 3: 121-128.

Orr, Deborah. (1989.) "Just the Facts Ma'am: Informal Logic, Gender and Pedagogy," *Informal Logic*, XI, 1:1-10.

----. (1995.) "On Logic and Moral Voice," *Informal Logic*, XVII, 3: 347-363.

Perelman, Chaim. (1977. [1982].) *The Realm of Rhetoric*. William Kluback, trans. London: University of Notre Dame Press.

Shanker, S.G. (1998.) Wittgenstein's Remarks on the Foundations of AI. New York: Routledge.

Weimer, Walter B. (1989.) "Why all Knowing is Rhetorical," Argumentation and

Advocacy, 20, 3: 63-71.

Wenzel, Joseph W. (1979.) "Perspectives on Argument," *Proceedings for the 1979 Summer Conference on Argumentation*, 112-133.

Wittgenstein, Ludwig. (1953.) *Philosophical Investigations*. G.E.M. Anscombe, trans. New York: MacMillan. [cited as *PI*.]

- ---- (1969.) *On Certainty*. G.E.M. Anscombe and G.H. von Wright, eds. Denis Paul and G.E.M. Anscombe, trans. Hew York: Harper & Row. [cited as *OC*.]
- ----. (1976.) Wittgenstein's Lectures on the Foundations of Mathematics, Cambridge 1939; from the notes of: R.G. Bosanquet, Norman Malcolm, Rush Rhees and Yorick Smythes. Cora Diamond, ed. Ithica, NY: Cornell University Press.
- ----. (1979.) Wittgenstein's Lectures, Cambridge, 1932-1935 From the notes of Alice Ambrose and Margaret Macdonald. Alice Ambrose, ed. Oxford: Basil Blackwell. [cited as CL.]