AND THE WORD BECAME FLESH:
LOGIC AND THE ONTOLOGICAL ARGUMENT IN LEIBNIZ, KANT AND FREGE

by

Wynne Elizabeth Lanros

BA, University of Pittsburgh, 2006

Submitted to the Graduate Faculty of

University of Pittsburgh in partial fulfillment

of the requirements for the degree of Master of Arts

University of Pittsburgh

2009

UNIVERSITY OF PITTSBURGH

COLLEGE OF ARTS AND SCIENCES

This thesis was presented

by

Wynne Elizabeth Lanros

It was defended on

December 2nd, 2009

and approved by

Dr. Steven Anthony Edwards, Associate Professor, Department of Religious Studies

Dr. Nicholas Rescher, University Professor, Department of Philosophy

Dr. Paula Kane, Associate Professor, Department of Religious Studies

Thesis Advisor: Dr. Steven Anthony Edwards, Associate Professor, Department of Religious Studies

AND THE WORD BECAME FLESH:
LOGIC AND THE ONTOLOGICAL ARGUMENT IN LEIBNIZ, KANT AND FREGE

Wynne Elizabeth Lanros, MA

University of Pittsburgh, 2009

Historically, the philosophical literature on the ontological argument has primarily been concerned with the assessment of the argument in terms of its validity or lack thereof. Rarely have the logical foundations of validity itself been investigated in their relation to the argument. My thesis seeks to remedy this omission by investigating the correlation between changing conceptions of logic and ontological argumentation. To do so, I discuss the conceptions of logic employed by three of the most notable modern expositors of the ontological argument: Leibniz, Kant and Frege. I characterize their conceptions of logic in terms of formality and modality and subsequently relate these characterizations to their respective critiques of the ontological argument, establishing that an important correlation exists between one's conception of logic and one's assessment of ontological argumentation. In conclusion, I argue for the importance of understanding ontological argumentation not only in terms of its validity within a given conception of logic, but also in terms of the validity of the conception of logic itself.

TABLE OF CONTENTS

1.0 INTRODUCTION

The history of logic is the history of an equivocation. The term 'logic' has been employed in such a large diversity of philosophical endeavors –from Aristotelian syllogistic, to Hegelian metaphysics, to Boolean calculi –that one hesitates to attempt a formulation of even the necessary, let alone sufficient conditions for a comprehensive historical sense of the term.[1] Amidst this confusion, however, lies the promise of insight: By understanding the various employments of the term 'logic' and the subject matter it has been thought to comprise, we may better understand the positions of those philosophers who validate their work by appeal to –or rejection of –its authority. The study of the history of logic and its relation to the history of philosophy gives us a window onto the enduring philosophical problems, one that is mostly closed to us when we employ contemporary methodologies anachronistically.[2]

One such enigmatic philosophical problem that holds special promise for this methodological approach is the ontological argument for the existence of God (OA). Since its

[1] Despite this qualification, 'logic' and other terms throughout this paper (the meanings of which are not suitably clarified by context) will be given working definitions, so as to render the argument more accessible. These definitions will appear in italicized footnotes: *Thus, 'logic' will be defined, very generally, as the formal systemization of valid argumentation. No further definition is appropriate at this time, for the particular nuances of the term will comprise a significant portion of the subject-matter of what follows.*

[2] The use of 'anachronism' is not intended in any pejorative sense; rather, my claim is merely that the understanding of a philosophical problem/argument is enriched by an understanding of the circumstances of its formulation. We do not necessarily hope to salvage the validity of the argument itself by such methodological means but, rather, to reach a deeper understanding of its inception and, thus, its constitution.

inception by Anselm nearly a millennium ago, the idea of an *a priori* argument for the existence of the deity has fascinated and confounded legions of thinkers.[3] Indeed, to this day there remains no major consensus on whether ontological arguments are possible and, if not, *why not*. It is my contention that the study of historical changes in the philosophical conception of logic is imperative for a proper understanding of the project of ontological argumentation. Indeed, although the appraisal of such arguments by standards of contemporary philosophy and philosophical logic is a valid and important endeavor, the insight into the arguments themselves that one can gain from such an appraisal is limited. In other words, in order to understand the validity of an OA in its original context, one must be sensitive to changes in the conception of validity itself.

In what follows, I will, first and foremost, defend the claim that historical variations in the conception of logic have had an important influence on the philosophical reception of the ontological argument. In particular, I will show this to be true in the cases of Leibniz, Kant and Frege, with some preliminary attention paid to the origin of Descartes's proof in the 5th Meditation. My argument will attend to two general features of logic and, derivatively, logical truth: modality and formality. By formality I mean, loosely, the extent to which logic abstracts from –or, alternatively, attends to –the 'content' of thought or, correlatively, to the meaning of the non-logical terms of propositions or inferences.[4] By modality I am referring to the meaning that modal concepts –such as necessity and possibility –have in relation to the constitutive

[3] *'A priori' is an epistemological term, which characterizes knowledge, or the justification of knowledge, as independent of experience. Thus, an a priori argument makes no appeal to experience for the justification of any of its premises. Conversely, 'a posteriori' characterizes knowledge, justification, et. al. as dependent upon experience.*

[4] These two characterizations of formality are not exactly equivalent. As we shall see, whereas Descartes, for example, considers logic to encompass both logical and non-logical terms, Frege will, on the other hand, expand the body of logical terms to include much that was previously understood as the "matter" of logical inference.

features of logic, in particular, propositions and concepts. Additionally, my concern herein with modality will also encompass the relationship between logical modality and other relevant types of modality (such as metaphysical or psychological modality) particular to a given conception of logic. Both formality and modality are of import here, for both facets of logic are particularly instrumental in characterizing the relationship that a particular conception of logic has to the world. They are, consequently, also instrumental in delineating the relevance and 'usefulness' of logic to philosophy.[5]

In addition to defending the broader thesis that there exists such a correlation between logic and ontological argumentation, I will spend the latter portion of the paper focusing primarily on Frege's treatment of the OA. In particular, I will claim that Frege's treatment of the OA exemplifies the synthesis of Leibnizian and Kantian conceptions of logic. Using the categories of formality and modality, I will show that Frege's treatment of the OA is a product of his logical hybrid of the Leibnizian sense of logical formality and the Kantian sense of logical modality. Correlatively, I will also show that Frege's treatment of OA is equally a product of his rejection of Leibnizian modality and Kantian formality (despite, in regards to the latter, the somewhat pervasive view that Frege was foremostly echoing Kant in his rejection of OA).

Given these goals, the structure of the project will unfold as follows: The first section will lay out a 'general,' simplified form of the ontological argument, which will be useful for maximizing the transparency of the issues involved in ontological argumentation. I will then set out Descartes's original formulation (for reasons specified below) and make preliminary claims concerning the conception of logic implicit in the Cartesian argument. The third and fourth sections will concern, respectively, Leibniz's and Kant's conceptions of logic and the relation

[5] The varying characterizations of formality and modality that will be set out in what follows will clarify these preliminary claims.

that these conceptions bear to their particular treatments of OA. As noted above, the discussion will be divided along the lines of modality and formality.[6] The fifth section will concern Frege. Insofar as the correlation between Frege's conception of logic and his treatment of OA departs from the more straightforward dichotomy between those of Leibniz and Kant, this section will require a discussion of the import of Frege's formulation of 'modern' logic for the issues at hand. As mentioned above, Frege's treatment of OA will be presented as the result of a synthesis of Leibnizian and Kantian conceptions of formality and modality. In the final section, I will discuss the implications of the proposed correlation between logic and the ontological argument.

1.1 ONTOLOGICAL 'TYPE' ARGUMENTS

My assessment of the OA in this project will not be limited to a particular historical inception of the argument. My aim, rather, is to abstract a comprehensive form of 'Ontological Argumentation' that will be faithful to both the commentary of Leibniz, Kant and Frege, and the general project of constructing a priori proofs of existence. Insofar as my concern is with the role that logic plays in the treatment of OA, a correlative concern will be with presenting the OA in a form in which the role played by one's conception of logic is explicitly relevant to the premises of the argument and to the argument as a whole.

Given the above considerations, the focus of this section will be to describe –and to defend where necessary –the 'reduction' of the multiple forms of OA into a simplified, transparent form. It is, of course, important to relate this simplified form of OA to the version[s] of the argument that Leibniz, Kant and Frege take themselves to be addressing. Leibniz

[6] It should be noted that there is not always a clear delineation of these two aspects of logic insofar as they concern the issues at hand and, thus, there will be some overlap in the discussion.

recognizes the OA to be part of the Scholastic tradition, yet most often pointedly addresses himself to the version formulated by his contemporary Descartes. Likewise, Kant's famed passage on the OA in the *Critique of Pure Reason* specifies both Descartes's and Leibniz's versions of the argument as the focus of criticism, mentioning Leibniz in passing particularly for his failure to rectify the argument via the *a priori* proof of God's possibility. Finally, Frege is least inclined to specify the origins of his understanding of the OA. In the *Foundations of Arithmetic*, wherein he first makes mention of the ontological argument, he does not attribute the OA to any particular figure; rather, he speaks of it in a general way, as if it were an example of the sort of argument that must fail, given the thesis that, like number, existence is predicable of concepts alone. Given, however, the further fact that Frege takes himself to be following Kant in such a refutation of the OA, it seems reasonable to conclude that –like Descartes and Leibniz – Frege conceives of the OA primarily in terms of its modern, Cartesian form.

In addition to the fact that textual evidence points to a concern with Descartes's formulation of the OA over and above Anselm's, there is much to be said for the extent to which OA is treated as a general 'type' of deductive project, at least by Kant and Frege. Although Leibniz explicitly targets Descartes in his writings on the ontological argument, Kant and Frege seem to take a step back from the particularities of the Cartesian form of OA in their discussions of its failures. Instead of making pointed criticisms concerning the merits and faults of Descartes's argument from the 5th Meditation, Kant concerns himself with an assessment of the merit of the project of ontological argumentation itself, broadly conceived. This is made clear by the title of the section in which Kant's discussion falls: "The Impossibility of *an* Ontological Proof of the Existence of God." By the use of the indefinite article 'an' Kant is doing much more than dismissing Anselm, Descartes and Leibniz's attempted formulations –he is dismissing the

entire project of ontological argumentation as invalid without exception. Indeed, such a stance on ontological argumentation is part and parcel of the project of the critique of pure reason. As noted above, Frege follows in suit in *Foundations*, summarily dismissing the ontological argument as a *type* of argument which, regardless of its particular formulation at the hands of this or that philosopher, is destined to fail by its very logical constitution.

The points made above are intended to serve two purposes: First, it should now seem acceptable –for the purpose at hand, at least –to understand the ontological argument broadly in terms of its Cartesian formulation. Given the lineage of treatment, from Leibniz to Kant to Frege, it seems that their primary conception of the ontological argument is taken from Descartes's 5th Meditation. Anselm's formulation in Proslogion II, however, should also be considered to be of import to the extent that it influenced the modern conception of OA, exemplified by Descartes. Yet, regardless of the primacy of Descartes or Anselm, the fundamental point at this juncture is that the ontological argument at issue for Leibniz, Kant and Frege should not involve –for the moment at least –any of the explicit modal concerns that enter into the picture with Anselm's Proslogion III, or similar contemporary accounts of the ontological argument. Rather, we should understand the OA in question to be characterized simply as the inference from essence to existence. As will be shown, we can construe both Anselm's and Descartes's formulation of the ontological argument in such a way that, while preserving the uniqueness of each, we are able to attend to the centrality of this inference.

Given these considerations, the second purpose of the preceding paragraphs is to make it feasible to focus on the ontological argument as a 'type' of argument. Although it has not yet been specified what the relevant characteristics of 'ontological argumentation' are, it should be clear that no historical or textual disservice is being done to the philosophers with whom this

project is concerned. Certainly, it must be remembered that Leibniz and Kant explicitly appeal to Descartes's ontological argument, but such appeals, it will be argued, are compatible with the general form of ontological argument that will be posited below.

1.2 FORMULATION OF SIMPLIFIED OA

1.2.1 Criterion

This having been said, it remains now to offer a formulation that satisfies the following preliminary criterion for ontological argumentation: First and foremost, our simplified ontological argument [henceforth SOA] must consist solely of *a priori* premises. This is, of course, a necessary condition of any ontological argument (although it should be remembered that the precise nature of the *a priori* is one of the major points at issue in the debate over OA). Secondly, the SOA should capture the spirit of both Descartes's proof and Anselm's (Proslogion II) proof although, as it has been shown above, our concern with Descartes's proof is here of primary importance. In order to do so, the SOA should demonstrate a necessary connection between God and existence via some schematic middle term, which captures the essence of both proofs. Nathan Salmon offers the following useful formulation:

(1a) The divine individual is divine.
(1b) Any individual that is divine exists.
Therefore,
(1c) The divine individual exists. (54)

As Salmon notes, the term 'divine' is a schematic term suiting both Descartes's and Anselm's proofs. Thus, for Descartes, the divine individual is "*the individual that has every perfection* (with 'perfection' interpreted in Descartes's sense)" (54). Likewise for Anselm, the 'divine

individual' is the individual "whose magnitude of greatness exceeds any other possible magnitude of greatness (with 'possible' interpreted in terms of Anselm's sense of 'conceivable' and 'great' interpreted in his sense of 'great')" (54).

1.2.2 Significance of Formulation

Salmon's (preliminary) version of the ontological argument provides a clear and comprehensible display of the most basic, yet most important issues inherent in the discussion of OA. More importantly, the issues that it showcases are particularly pertinent for the elucidation of the role that logic plays in the treatment of OA. Premise (1a) will be of import for the following reasons: As an ostensible logical truth, (1a) is seemingly beyond disrepute. Thus, it would seem that (1b) would, of necessity, be the premise against which to levy an attack. As noted in the introduction, however, the philosophical conceptions of logic and logical truth have been radically reconceived throughout logic's history. It is precisely because of this fact that this project has been formulated to address the influence that the changing conception of logic has had on the reception of ontological argumentation. (1a) gives us a window onto the precise notions of logical truth that are operative in a philosopher's treatment of the ontological argument, thereby allowing us to easily divulge the explicit influence that one's conception of logic has on one's appraisal of the 'very possibility' of an ontological argument.

Premise (1b) is also of primary importance, though the role that logic plays in the treatment of this premise is less explicit. Traditionally –following Kant –refutations of ontological arguments have capitalized on the problems inherent in premise (1b). Kantian-style attacks on (1b) take the form of the claim that 'existence' cannot be predicated of a subject, thus severing the link between the essence of the divine individual and its alleged existence. The discussion of this premise will be of primary importance for both Kant and Frege.

In addition to the significance of both premises of SOA, the SOA as a whole allows us to perspicuously represent what is, perhaps, the crux of the correlation between logic and the OA that we are herein attempting to establish. In short, any deductive argument may be reformulated as a logical truth by conjoining the premises (as conditionals) with the conclusion. SOA – reformulated as a logical truth –becomes: 'If the divine individual is divine and if any individual that is divine exists, then the divine individual exists.' The crucial difference between SOA and any other garden-variety deductive argument is, however, to be found in the premises themselves which, insofar as they purport to be *a priori* truths, guarantee the truth of the conditionals. Thus, with no apparent reason to construe the premises as conditionals, the logical truth may be reformulated as 'The divine individual is divine and any divine individual exists, and the divine individual exists.' This is easily reduced to the conclusion, 'The divine individual exists.' In short –because of the ostensible *a priori* nature of each premise –the ontological argument establishes the existence of the deity as a matter of logical truth.

Given these considerations, it should be clear that the ontological argument is intimately related to the mechanisms and assumptions implicit in logic. Inevitably, then, historical changes in the conception of logic should play an integral role in determining if the ontological argument is valid and, if not, precisely why not. It remains to be shown in what follows that such is, in fact, the case.

2.0 CARTESIAN BEGINNINGS

The discussion here of Descartes will be relatively brief but imperative for setting the stage. In the *Discourse on Method*, Descartes offers the following assessment of the study of (Scholastic) logic and its merits for philosophy:

> I observed with regard to logic that syllogisms and most of its other techniques are of less use for learning things than for explaining to others the things one already knows or even…for speaking without judgment about matters of which one is ignorant. And although logic does contain many excellent and true precepts, these are mixed up with so many others which are harmful or superfluous that it is almost as difficult to distinguish them as it is to carve a Diana or Minerva from an unhewn block of marble. (28)

Descartes formulates four rules in answer to the logic of the Scholastics, which are intended to compensate for these failings. Of these four rules –which I shall not fully enumerate here –the first is the most important for the consideration of the Cartesian ontological argument: "to never accept anything as true if I did not have evident knowledge of its truth" (29). The mark of such strict adherence to truth, Descartes continues, is "to include nothing more in my judgments than what presented itself to my mind so clearly and distinctly that I had no occasion to call it into doubt" (29).

Descartes's 'method' thus rejects some aspects of formalism in Scholastic logic and embraces others. He rejects syllogistic as 'uninformative' and contends that a preoccupation with formal reasoning –which is, for him, typical of Scholasticism –often causes one to stray from truth. Nonetheless, Descartes reaffirms the importance of studying logic insofar as it "teaches us to direct our reason with a view to discovering the truths of which we are ignorant" (MacFarlane

100-1). For Descartes, then, correct reasoning is equally –and indiscriminately –concerned with the form and the matter of an argument; indeed, there is no sense of the form of the argument – that is, an abstracted sense of logical relations –that we may entertain independently of our acquaintance with an argument's matter, that is, the truth of its premises (MacFarlane 100-1).

The truth of premises is –as noted above –a matter of the "clear and distinct" presentation of this truth to the mind. Although I will not here expound the details of Descartes's criterion of clearness and distinctness, it suffices for the purpose at hand to note that Descartes's ontological argument from the 5th Meditation begins with the recognition that the idea of God meets this criterion:

> Certainly, the idea of God, or a supremely perfect being, is one which I find within me just as surely as the idea of any shape or number. And my understanding that it belongs to his nature that he always exists is no less clear and distinct than is the case when I prove of any shape or number that some property belongs to its nature. (106-7)

For Descartes, then, insofar as existence is clearly and distinctly perceived to be part of the essence of the supremely perfect being, it follows without much ado that the supremely perfect being, God, exists. Contra Gaunilo-style arguments, we cannot abstract from the particular content of the Cartesian OA and –using the schematic form –attribute existence to the Blessed Isle, among other fictional entities. One must, rather, attend to the fact that necessary existence is truly perceived by the mind *only* in the case of God and, hence, one may make an argument from essence to existence in this particular case alone. To do otherwise would be to merely engage in the empty syllogism of the Scholastics.

In sum, Descartes dismisses the logic of the Scholastics as philosophically ineffective. In its place, he offers a conception of logic –or what he terms the "art of reasoning" –that is not merely capable of formally explicating known truths but, above and beyond this, facilitates the acquisition of yet undiscovered truths. Descartes's method is capable of this insofar as it treats

the inferential connections between things or ideas –what we might now call the logical relations –in the same substantive manner as it treats the premises themselves. Rather than separating and treating 'truth of premises' and 'validity of form' as two distinct constituents of the soundness of an argument, Descartes's method encourages a quasi-holistic approach to reasoning, in which "knowledge of inferential connections consists in the intuitive perception of the relations between things or Ideas, just like knowledge of the premises themselves" (MacFarlane 101). Insofar as Descartes places his methodological onus on such intuitive perception, the ontological argument is –along with the *cogito* –perhaps the epitome of the successful employment of the Cartesian method.

3.0 LEIBNIZ

In the previous section it was shown that the Cartesian Ontological Argument is conceived as an almost immediate consequence of Descartes's conception of logic as a proper philosophical method, encompassing both the formal and material aspects of argumentation. Indeed, for Descartes, the formal and material aspects of knowledge are conflated under the auspices of the 'intuitive perception' of the agreement or disagreement of ideas and, as such, have no significant individual bearing on the success of OA. Thus, it is clear that the varied conceptions of the formality of logic anticipated to be integral to Descartes's successors' treatments of OA are in no way operative in his own conception of logic. Indeed, it is precisely the lack of such a sense of logical formality that facilitates Descartes's formulation of the OA for, as will be made clearer in what is to come, the abstraction and separation of logical form from content draws into question the extent to which that which is 'merely formal' can in any way extend our knowledge, thereby placing the burden of proof on the 'truth' of logic's material constitution. (This is, of course, precisely the criticism that Descartes had levied against Scholastic logic.) Because Descartes defines truth as that which is clearly and distinctly perceived –encompassing both inferential relations and propositional statements within his definition –his methodology avoids the consequences of the separation of form and content.

As will be shown, it is in Kant's critical philosophy that we first see logic conceived as a purely formal discipline and, thus, it is there as well that we begin to see the full consequences of

the separation of form and content. It is with Leibniz, however, that we begin to see how this distinction alters –albeit minimally –the criteria of logical proof. It is at this point that we turn to the explication of Leibniz's conception of logic and the role that it plays in his partial rejection of Descartes's OA.

3.1 LEIBNIZIAN CONCEPTIONS OF LOGIC

3.1.1 Overview

In discussing Leibniz's conception of logic, one must draw a distinction between Leibniz's defense of Scholastic logic against the Cartesians and his positive conception of an ideal logic, the universal characteristic or *lingua characteristica*. Both aspects are important for the task at hand, for the former tells us how Leibniz conceived of logic in contrast to Descartes –and hence we may glean the effect that this difference had on his treatment of the Cartesian OA –and the latter tells us what Leibniz believed the capacities of logic to be above and beyond those of Scholastic logic. Through Leibniz's conception of logic as a universal characteristic we are able to see precisely how closely intertwined logic and metaphysics are for Leibniz and, hence, how intimately the conception of the universal characteristic affects his position on the project of ontological argumentation. In what follows, both aspects of Leibnizian logic will be treated as integral to the thesis.

3.1.2 Leibnizian Conceptions of Logical Formality

There is some risk of anachronism in discussing Leibnizian (of for that matter Cartesian) conceptions of formality, particularly in advance of doing the same with Kant. The sense of

formality of import for this paper is –as John MacFarlane claims –a Kantian innovation and, as such, one cannot ask why it is absent from Leibniz's work. Nonetheless, the intent here is to present a Leibnizian sense of formality (or lack-thereof) as something to which Kant was responding. (Thus, in addressing Kant prior to Leibniz, we would run the equally problematic risk of impoverishing the portrait of Kantian logic as a response to Leibniz.) Insofar as this is the case, it should be kept in mind that the sense of formality present in Leibniz's logic was not formulated in juxtaposition to Kant's sense; rather, it stands as a precursor to Kantian formality and, as such, it will be considered as a contrast case only by virtue of historical hindsight.

In order to pick up the line of thought presented in §3.1.1, I shall begin by describing Leibniz's position on Scholastic logic and the Cartesian criticisms proffered against it. In a 1696 letter to Gabriel Wagner, publisher of the Hamburg weekly *Vernunftübungen*, Leibniz explains his position on various contemporary forms of Scholastic logic which, though he concedes that they are "but a shadow of what I should wish and what I see from afar," nonetheless have a considerable degree of philosophical merit (*Philosophical Papers and Letters* 462-3). In the letter Leibniz defends the applicability of logic to both discovery and judgment. In the case of the former, he contends that the elements of logic not only facilitate ordered demonstration of that which is already known but, further and more importantly, assist us in the analysis of the known:

> I also observed that the topics or loci of the methods of explanation and demonstration were of great use in recalling for us, at the proper time, things already in our head but not in our thoughts, so that we might not merely prate about things but investigate them better. I observed that such loci or principles are to be used as sources, not merely for the methods of proving a represented truth, but also for the methods of explaining an object directly presented, and that we may thus speak of them not merely as principles of proof (*argumentabilia)* but also as principles of description (*predicabilia*). (*Philosophical Papers* 464)

In other words, insofar as logic serves as a formal means by which we may reveal the conceptual makeup of objects (i.e., their descriptions) the formal mechanisms of the logical method aid us in the elucidation and even the discovery of truths beyond those which are present in our knowledge. In contrast to Descartes –for whom the 'natural light' suffices to render truth conspicuous –Leibniz views logic itself as an indispensable aid to inquiry and discovery by virtue of its formal elements.

In addition to logic's relevance for discovery, Leibniz also defends the art of judgment via syllogism. Whereas syllogistic suffered ridicule and scorn at the hands of the Cartesians, Leibniz defends the practice by comparing it to mathematical enterprises which "are demonstrations in form…and we can depend on them because they prove by virtue of their form" (*Philosophical Papers* 465). Indeed, according to Leibniz, it is often precisely the neglect of form that leads to paralogisms and other forms of error. Thus, in the same manner that higher mathematical calculations are dependent upon demonstrations in form, rather than finger-counting, so too in philosophy "[it] will be found that men have often reached a standstill and remain stuck in important discussions because they have abandoned form" (466). Here again Leibniz draws our attention to the inadequacies of the Cartesian method, limiting its applicability to the most basic philosophical 'calculations'. Thus, "in important matters such as theological controversies which concern the nature and will of God and also our soul we do well to analyze matters most industriously and reduce everything to the simplest and most easily grasped inferences" (466). We shall see, in the discussion to follow, how Leibniz applies this criticism of Cartesian logic directly to Descartes's formulation of the ontological argument.

Leibniz's defense of Scholastic logic gives us a partial view into his conception of the nature and use of logic. Leibniz explicitly distinguishes the formal aspects of logic –and their

uses –from the material aspects and, in contrast to Descartes, relegates the concern of logic proper to the former. Despite Leibniz's contention that logic is a formal discipline, however, he is still far from advancing a Kantian conception of logic as 'purely formal' (MacFarlane 102). Indeed, the substantive, contentful nature of logic is part and parcel of Leibniz's conception of logic and his vision for its potential uses. Logic itself is not merely the study of formal relations between concepts; rather, the structure of logic mirrors the basic structure of being and –insofar as this is the case –the study of logic is part and parcel of the study of metaphysics, allowing us to symbolically formulate and thereby comprehend this universal structure (*Philosophical Papers* 23). In a circa 1678 letter to the Countess Elizabeth, Leibniz offers the following description of the relationship between logic and metaphysics:

> [I] have recognized that metaphysics is scarcely different from the true logic, that is, from the art of invention in general; for, in fact, metaphysics is natural theology, and the same God who is the source of all goods is also the principle of all knowledge. This is because the idea of God contains within it absolute being, that is, what is simple in our thoughts, from which everything that we think draws its origin (*Philosophical Essays* 237)

For Leibniz, then, the structures of metaphysics and logic both reflect the application of the art of invention (that is, the art of the discovery of new truths) to the simple constituents of thought and being that have their origin in the absolute being of God. It is precisely this understanding of logic that will lead Leibniz to the formulation of the universal characteristic, to which we shall return presently.

For now, however, we must look at the principles that undergird Leibniz's logical picture of the world. The central aspect of Leibniz's logic –and, correlatively, his metaphysics –is the propositional account of truth, wherein all truths are held to be reducible to identities, whether immediately in the case of (necessary) truths of reason, or 'infinitely' in the case of (contingent)

truths of fact.[7] Most importantly, our thought on these matters as truth is founded on two logical principles: the principle of contradiction and the principle of sufficient reason. The principle of contradiction is that "by virtue of which we judge that [proposition] false which involves a contradiction and that *true* which is opposed or contradictory to the false" (*Philosophical Papers* 646). Correlatively, the principle of sufficient reason is that principle "by virtue of which we observe that there can be found no fact that is true or existent, or any true proposition, without there being a sufficient reason for its being so and not otherwise" (646). Although, as Leibniz admits, such sufficient reasons are *not* typically capable of demonstration and, thus, *not* available to human knowledge, such demonstrations do exist on an 'infinite' level, and are thereby accessible to the infinite mind of God.

Both the principle of contradiction and the principle of sufficient reason are integral to Leibniz's conception of knowledge as the explication of the identity of the subject and predicate of a proposition (*Philosophical Papers* 23). Leibniz's defense of logic draws on the capacity of logical principles to enable us not only to elucidate relations between subjects and predicates that are already known to us, but, furthermore, to discover –via analysis –aspects of identity that remain hidden from immediate view.[8] Insofar as all relations are ordered as part of the pre-established harmony of the 'best of all possible worlds,' the acquisition of knowledge consists in the discovery of these relations by means of the application of the universal science of logic.

---

[7] Leibniz's account of truth on the basis of identity has its metaphysical analogy in the "complete concept" of an individual substance, whereby "the nature of an individual substance or of a complete being is to have a notion so complete that it is sufficient to contain and to allow us to deduce from it all the predicates of the subject to which this notion is attributed" (*Philosophical Essays* 41).

[8] *'Analysis' refers, in this context, to the explication of the component concepts of a given concept. For example, the analysis of the concept 'man' may give us the component concepts 'biped,' 'rational,' 'mammal' and so forth. We speak of the 'identity' of a proposition when the analysis of the subject produces component concepts identical to those of the predicate.*

There is much more to be said on the relationship between the analysis of propositions and Leibniz's logic and metaphysics; indeed, much more will be said in the section to follow on Leibnizian modality. For now, however, the crucial point to glean from this brief account is that Leibniz held logical inquiry to be commensurate with metaphysical inquiry and endeavored to develop a logical language that would adequately reflect the full scope of his metaphysical doctrines. It is well-known that Leibniz failed in his attempts to address the shortcomings of Aristotelian syllogism and construct such a universal logic. Nevertheless, the details of his attempts at the formulation of such a logical calculus still tell us volumes about what Leibniz believed logic to be capable of.

In his c. 1679 essay, "On the General Characteristic," Leibniz extols the universal characteristic as "a new kind of instrument which will increase the power of the mind much more than optical lenses strengthen the eyes and which will be as far superior to microscopes or telescopes as reason is superior to sight" (*Philosophical Papers* 224). The characteristic that Leibniz envisions is uniquely marked by its methodology and its scope of applicability. In regard to methodology, Leibniz aims to construct (what is now referred to as) a *calculus ratiocinator*, that is, a logical language that gives one the ability to answer questions and solve problems by means of purely mathematical calculations. In this respect, Leibniz advances a type of logical formalism that is commensurate with mathematical formalism (an analogy that is extensively employed in the defense of logic in the aforementioned letter to Wagner). In regard to the scope of its applicability, the universal characteristic is to apply generally to all forms of inquiry, mathematical, empirical, metaphysical, and so forth.

The motivation behind the scope of applicability of Leibniz's universal characteristic is of particular import for the question of logical formality. In contrast to Kant, Leibniz does not

hold logic to be universally applicable insofar as it abstracts from all propositional content. Quite the contrary, it is universally applicable precisely *because* the formal structure of logic reflects the universal structure of being. In other words, all truth –and, hence, all knowledge –is marked by adherence to the logical principles of contradiction and sufficient reason. It is only by means of varying degrees of adherence –particularly to the principle of sufficient reason –that one may distinguish between, for example, metaphysically necessary truths and the contingent truths of the natural world. In the final analysis, all truths are strictly accountable to the laws governing the science of logic. Thus, for Leibniz, the priority of form in logical inquiry is a consequence of the applicability of such form to all being. In contrast to Kantian formalism, Leibnizian formalism entails that form and content are mutually dependent facets of the proper conception of logic and a correspondingly adequate logical language.

Although there is much more that could be said concerning Leibniz's conception of logic and its formal aspects, what has been said to this point should be sufficient for the purpose at hand. First and foremost, it should be understood that, for Leibniz, form does not entail abstraction from content; rather, it entails a relationship with content insofar as the formal principles of logic are reflected in the formal principles of being. Secondly –and again, contra Kant –formal analysis is capable of the discovery of truth. Thirdly, this discovery is facilitated by the logical analysis of concepts into their most basic constituents, ensuring the 'possibility' of concepts and, hence, their suitability for use in the extension of knowledge. In sum, the picture of logic that emerges in the work of Leibniz is a picture of a formal yet substantive science, one that is capable of extending knowledge by means of its general applicability to the world. The consequences of this picture for Leibniz's treatment of the ontological argument are –as will be shown presently –numerous.

3.1.3 Leibnizian Conceptions of Logical Modality

Leibniz's conception of modality is intimately tied to his logical and metaphysical doctrines. In the preceding section, the doctrine of the identity of true propositions and its metaphysical correlate, the complete concept theory of substances, were introduced as evidence for the claim that Leibniz treated logic as a substantive science of being. In this section, we shall see how these doctrines inform Leibniz's concepts of necessity, contingency, actuality, possibility and impossibility.[9]

Leibniz employs modal notions extensively. According to Hans Burkhardt, one can distinguish five different 'levels' of modalities present in Leibniz's philosophy, including epistemic, metaphysical, linguistic, ontological and logical modalities (184). Our concern here is, of course, with the latter, though it must be noted that there is significant interplay between the five categories. Consequently, some attention will be given to aspects of the other manifestations of modality in Leibniz's philosophy, though only to the extent that they clarify the issues of import. Of particular importance will be the relationship between metaphysical and logical expressions of modality for –as in the case of logical formalism –it is in this respect that Leibnizian logical modality distinguishes itself from its Kantian successor.

Leibniz's depiction of logical modality is based in the analysis of both concepts and propositions. In the case of the former, the possibility of a composite concept is determined by its freedom from internal contradiction. In other words, for a concept to be possible, the analysis of this concept must not result in the determination that the concept in question contains both a (part-)concept and its negation (Burkhardt 189). Likewise, in the case of propositions, analysis

[9] It should be noted that, although there are many difficulties regarding Leibniz's employment of modal notions –particularly in regard to the question of whether or not Leibniz successfully disentangles himself from the necessitarian implications of his logical and metaphysical doctrines –this section will avoid those issues.

tells us whether or not the proposition in question is necessary, contingent or merely false. Insofar as Leibniz's propositional account of truth holds that the truth of a proposition is determined by the proposition's identity, the modality of a proposition is determined by the 'type' of analysis required to demonstrate this identity. Thus, Leibniz writes the following of the distinction:

> [In] necessary propositions, when the analysis is continued indefinitely, it arrives at an equation that is an identity; this is what it is to demonstrate a truth with geometrical rigor. But in contingent propositions one continues the analysis to infinity through reasons for reasons, so that one never has a complete demonstration, though there is always, underneath, a reason for the truth, but the reason is understood completely only by God, who alone traverses the infinite series in one stroke of mind. (*Philosophical Essays* 28).

Necessary truths are, for Leibniz, demonstrably identical (that is, analytic), whereas contingent truths are not. It is only by means of 'infinite analysis' that one is able to fully explicate the identity of a contingent truth, and the capacity for such an analysis belongs to God alone.

Leibnizian logical modalities have their close counterparts in metaphysical modalities. In analogy to the determination of the possibility of a concept, one may determine whether the substance corresponding to that concept is itself possible, a consequence of Leibniz's complete concept theory of substance. As Burkhardt notes, the correspondence between individual concepts and individual substances is complemented by an equivalent correspondence between the "part-concepts" of the individual concept and the accidents of the individual substance. These correspondences are characterized by three "sub-relations":

> The *first* is that for every individual substance there is one and only one individual concept. The *second* is that every individual accident which inheres in the individual substance falls under a part-concept of the individual concept. So every individual red moment falls under the concept red. This *falling under a concept* is based upon the *resemblance* between different red moments –a *third* and purely ontological sub-relation. So there is a parallel between the ontological and the conceptual level. (190)

Thus, in respect to the concept of the 'most perfect being,' the possibility of the concept is commensurate with the possibility of the most perfect being itself. This parallel between the ontological and conceptual levels ensures that logical modalities are not only relevant to the internal consistency of thought but are, furthermore, relevant to the constitution of the world itself.

Likewise, necessary and contingent truths stand in much the same relation to the world. Necessary truths are not merely conceptual truths –as Kant will have it –but they are truths about the very make-up of this world and, indeed, any possible world. Contingent truths are bound to this particular world. In regard to the distinction between the certain (i.e. the contingent) and the necessary, Leibniz posits the following in the *Discourse on Metaphysics*:

> The [truth] whose contrary implies a contradiction is absolutely necessary; this deduction occurs in the eternal truths, for example, the truths of geometry. The other is necessary only *ex hypothesi* and, so to speak, accidentally, but is contingent in itself, since its contrary does not imply a contradiction. And this connection is based not purely on ideas and God's simple understanding, but on his free decrees and on the sequence of the universe. (*Philosophical Essays* 45).

Within this passage, Leibniz utilizes two different senses of modality in regards to contingency. From the strictly logical vantage point, a contingent proposition is contingent in itself insofar as its negation is free from contradiction. To say, however, that a contingent truth is necessary "*ex hypothesi*" is to say that it is necessary insofar as God chose to actualize the possible world, the description of which it is a part.

Thus, the second sort of modality –metaphysical modality –is dependent upon Leibniz's doctrine of 'possible worlds.' According to this well-known doctrine, God freely chose to actualize this 'best of all worlds' –that is, the world that exhibits the maximal compossible variety and order –from an infinite multitude of possible worlds contained within the divine mind. The truths that comprise the actual world are necessary insofar as they are an integral part

of the 'complete concept' description of this world and contingent insofar as this world itself was actualized freely by God. In respect to the actual world, then, Leibniz employs a sense of modality that is rooted not in the analysis of propositions and concepts but, rather, in the divine inclination to maximize perfection.

In sum, Leibniz's conception of logical modality allows us, in theory, to fully survey and grasp the realm of the possible and the necessary via the notion of analysis. The actual is, furthermore, metaphysically distinguished from the possible insofar as it is true of the complete concept description of the best possible world. Thus Leibniz's depiction of the actual –unlike Kant's –is not dependent upon perceptual acquaintance with the object in question. Although perceptual acquaintance naturally indicates that an object is part of the realm of actuality, the essence of Leibniz's description of actuality is to be found in the doctrine of possible worlds. To be actual is, for Leibniz, to be a part of the complete concept of the best of all possible worlds. Whereas we will see that Kant has no such mechanism to distinguish these modalities, Leibniz is able to distinguish possibility and actuality from each other by means of this *a priori* metaphysical delineation.

3.2 LEIBNIZ ON THE ONTOLOGICAL ARGUMENT

The following discussion of Leibniz's treatment of the ontological argument will take into account both the positive consequences that Leibniz's conceptions of logical formalism and modality have for OA, as well as the negative consequences that they have for the Cartesian OA. Since we may better understand what Leibniz found to be the virtues of the OA by looking at the criticisms he levied against existing formulations, I shall begin by discussing what Leibniz

deems to be the major flaw in Descartes's version of OA. I shall then turn to Leibniz's positive conception of OA.

3.2.1 Leibnizian Conceptions of Logical Formality and OA

In his "Critical Thoughts on the General Part of the Principles of Descartes," Leibniz summarizes the Cartesian OA as follows:

> This reasoning contains something beautiful but is nevertheless imperfect. The argument reduces to this. Whatever can be demonstrated from the concept of a thing can be ascribed to that thing. Now from the concept of a most perfect or greatest being, its existence can be demonstrated. Therefore existence can be attributed to the most perfect being (God), or God exists. (*Philosophical Papers* 386)

He then goes onto point out what he believes to be the critical flaw in Descartes's reasoning:

> These arguments are valid, if only it is granted that a most perfect being or necessary being is possible and implies no contradiction or, what amounts to the same thing, that an essence is possible from which existence follows…In general, we must recognize, as I have long since pointed out, that nothing can be safely inferred about a definite thing out of any given definition, as long as the definition is not known to express something possible. For if it should happen to imply some hidden contradiction, it would be possible for something absurd to be deduced from it. (*Philosophical Papers* 386)

Leibniz's solution to Descartes's omission is to demonstrate the possibility of the concept of the most perfect being by demonstrating that "*all perfections are compatible with each other* or can be in the same subject" (*Philosophical Papers* 167). In short, he contends that, insofar as a perfection is defined as any "simple quality which is positive and absolute or which expresses whatever it expresses without any limits," perfections themselves are not analyzable; furthermore, because they are not analyzable, one cannot demonstrate the incompatibility of perfections by means of analysis (167). Thus, Leibniz concludes that all perfections are compatible and the ontological argument is thereby rescued from this Cartesian oversight.

Despite the unsatisfactory nature of Leibniz's demonstration of the compatibility of perfections, one can easily discern the principles of Leibniz's logic at work in both his refutation

of and solution to the Cartesian OA. Leibniz's concern with the material aspect of logical inference (§3.1.2) is here clearly represented in the claim that the analysis of a concept is a prerequisite to the application of formal inferential rules. This concern applies equally to the omission of analysis in the Cartesian OA, as well as to the impossibility of analysis in Leibniz's solution. Furthermore, in regard to the proposed solution, Leibniz's logical principle that all truths are demonstrable truths allows him to infer –via the further application of the principle of contradiction –that 'it is not the case that [All perfections are incompatible].'

As Leibniz wrote in his letter to Wagner, it is the very principles of logic that enable us to undertake such analyses, leading us to a transparent understanding of the content of a concept and thereby facilitating the acquisition of further knowledge regarding that concept. Indeed, the analysis of the concepts of our knowledge into their simplest constituents is part and parcel of Leibniz's vision for his universal characteristic, which undertakes to perspicuously represent relations of "real compatibility" between concepts (MacFarlane 108-9). As is clear from Leibniz's critique of the Cartesian OA, the logical investigation of the conceptual 'matter' of formal inference is an essential part of the art of reasoning.

Having addressed the role of the Leibnizian conception of logic in the criticism of the Cartesian OA, I shall now turn to the discussion of the role that it plays in his positive conception of the project of ontological argumentation. As shown in the quotation above, Leibniz conceives of OA as dependent upon three claims; first, that one can ascribe to a thing that which is contained within its concept; secondly, that the concept of a greatest or most perfect being includes existence; and thirdly, that the concept of a greatest or most perfect being is a possible concept. (Although the third claim has been addressed to a degree, it remains to be seen precisely what role the notion of 'possibility' plays in the inference itself.) In regard to the first claim, it

follows from what has been said in §3.1.2 concerning Leibniz's conception of logic as a substantive science, that the ascription of a 'conceptually contained' property to a concept is not –as Kant will hold –a matter of mere tautology or empty verbiage. Rather, the content of a concept in Leibniz's logic is immediately relevant to the metaphysical structure of the universe, for the content of a (possible) concept is bound by the same logical laws that govern both reason and being. Thus, if one determines that the concept of a most perfect being is a possible concept, the very fact that existence is included in this concept tells us something not only about the concept itself –à la Kant –but about the world, namely that the most perfect being exists.

3.2.2 Leibnizian Conceptions of Logical Modality and OA

What then of the role of possibility in this inference? For Leibniz, modality is governed by the very same logical principles of non-contradiction and sufficient reason that govern reason and being. Thus, to say that a concept is possible is to say that logically it involves no contradiction and metaphysically that it is true of some possible world (though not necessarily the actual world).[10] Thus, the proposition 'the most perfect being exists' is true of some possible world. Given, however, that this particular existential claim is itself a necessary truth, by virtue of the conceptual inclusion of existence among the perfections of the most perfect being, the proposition applies necessarily to all possible worlds and, of course, to the actual world.[11] By demonstration of the possibility of the concept of the most perfect being, Leibniz allows the

[10] Although the conception of necessary and contingent truths in terms of their relation to possible worlds is a more contemporary reading of Leibniz, one can show –on some interpretations of Leibniz's principles –that necessary truths apply across worlds and contingent truths are bound to particular worlds (Adams 46-7).

[11] This line of reasoning is problematic given that possible worlds themselves exist only in the mind of God. Nevertheless, it is useful for the elucidation of the role of "possibility" in Leibniz's formulation of the OA.

proposition, 'the most perfect being exists,' to assume its place among the logically necessary truths of all possible worlds.

For Leibniz, then, the possibility of concepts is a governing factor in the constitution of reality. Although possibles are 'real' only to the extent that they 'exist' in the divine mind, truths regarding them are necessary insofar as they fit the criterion of identity. Importantly, for Leibniz, it seems such necessity is *not* hypothetical necessity. One would not say –as Kant does in his critique of OA – that, for example, 'If unicorns exist, then unicorns are horned beasts'; rather, insofar as a unicorn is (as a possible concept) a feature of some possible world, 'A unicorn is horned beast' is a necessary truth. Likewise, employing Salmon's formulation from §1.2, 'The divine individual is divine' is a necessary truth independently of its hypothetical formulation, 'If the divine individual exists, the divine individual is divine.' Leibniz's conception of logical truth is, therefore, modally substantive, applying to possibles as well as actuals and delineating necessary truths independently of one's empirical inquiry into the features of the actual world.

The second useful feature of Salmon's formulation mentioned above is the employment of 'exists' as a predicate. It should be clear from what has been said to this point that, insofar as Leibniz entertains the (quasi-) reality of possibles, the use of 'exists' as a predicate is unproblematic. Given his *a priori* delineation of the best of all possible worlds from all other possible worlds, Leibniz may circumvent the question of whether existence is a 'real' predicate for 'existence' is reducible to the claim that the such-and-such in question is a feature of the best of all possible worlds. Thus Leibniz's conceptions of logical and metaphysical modalities provide a mechanism by which to distinguish possibles from actuals without reference to the problematic concept of existence. This is not to say, of course, that Leibniz's modal system is not

without its own difficulties. This is to say, rather, that the reality of possibles within Leibniz's logic makes the distinction between possibles and actuals a fundamentally *a priori* one.

In sum, Leibniz's conception of logic facilitates ontological argumentation for the following reasons: Leibniz's understanding of logical truth is integrally bound to his conception of metaphysical truth. For Leibniz, the criterion of identity is at the root of all truth, necessary and contingent (though unknowably so for the latter). But identity is, for Leibniz, not merely a necessary condition of truth (as we shall see that it is for Kant) but a sufficient condition as well, for truth is definable as such solely by appeal to the logical mechanism of analysis. Insofar as the concept of the deity meets the criterion of possibility, the existence of the deity stands as a logical truth and, therefore, as a necessary truth about the world. In what follows, Leibniz's conception of logic and its relation to the ontological argument will be clarified by virtue of the inquiry into Kant's positions on the same matters, many of which are formulated by Kant in response to Leibniz.

4.0 KANT

At this point we shall turn to Kant's position on the formality and modality of logic and, subsequently, to his treatment of the OA. Although we are anticipating the synthesis of Leibnizian and Kantian conceptions of logic in the discussion of Frege, we may consider Kant to be the fulcrum of the discussion, for Kant's understanding of logic marks a decisive turning point in philosophical logic. In what follows, we shall see how Kant's novel conception of logic is of marked consequence for speculative metaphysics on the whole (in particular, Leibnizian metaphysics) and the ontological argument in particular.

4.1 KANTIAN CONCEPTIONS OF LOGIC

4.1.1 Overview

In order to characterize Kant's conception of logic, one must, first and foremost, attend to the taxonomy of logics that Kant lays out in the *Critique of Pure Reason*'s "Transcendental Logic" segment of the "Transcendental Doctrine of Elements." Kant begins his discussion of the logical taxonomy by defining logic generally in contradistinction to sensibility: "We therefore distinguish the science of the rules of sensibility in general, that is, aesthetic, from the science of the rules of the understanding in general, that is, logic" [A52/B76]. Following directly upon this definition Kant posits a twofold distinction in logic, broadly conceived: logic of the general

employment of the understanding and logic of the special employment of the understanding. According to this distinction, the logic of the general employment of the understanding is concerned with the "absolutely necessary rules of thought without which there can be no employment whatsoever of the understanding," whereas the logic of the special employment of the understanding "contains the rules of correct thinking as regards a certain kind of objects" [A52/B76]. Insofar as the logic of the special employment of the understanding is concerned with varied kinds of objects, it may be further understood as "the organon of this or that science," in contrast to general logic, which Kant terms the "logic of elements" [A52/B76].

General logic is, thus, concerned with the "form of thought in general" [A55/B79]. Depending on the form of thought in question, however, general logic itself may be either "pure" or "applied." Whereas applied general logic concerns the rules governing the understanding under empirical conditions –that is, what is commonly considered to be the province of psychology -pure general logic is concerned "only with principles *a priori*, and is a *canon of understanding* and of reason, but only in respect of what is formal in their employment, be the content what it may, empirical or transcendental" [A53/B77].[12] Insofar as pure general logic concerns only the formal aspects of thought, it abstracts from the circumstantial features of the employment of our understanding, including sense, imagination, memory, and so forth, and, "indeed, from all causes from which this or that knowledge may arise or seem to arise" [A53/B77].

Kant delineates one final branch of logic, transcendental logic, which he defines as "a science of the knowledge which belongs to pure understanding and reason, whereby we think

[12] *Although the term is not of much importance for the argument, it may be of use to define Kant's use of 'transcendental' as designating "all knowledge which is occupied not so much with objects as with the mode of our knowledge of objects in so far as this mode of knowledge is to be possible a priori" [A11-2/B25].*

objects entirely *a priori*" [A57/B82]. Transcendental logic comprises rules for the determination of the origin, scope and objective validity of our *a priori* knowledge of objects. Insofar as transcendental logic applies to a particular area of objective thought, we may consider it to exemplify Kant's notion of a 'special' logic, though, as MacFarlane notes, the precise status of transcendental logic in Kant's logical taxonomy is not clear (83).

Given this taxonomy, we may begin to see how Kant delineates logic itself along the lines of formality and modality. In the case of formality, each area of logic is defined by its applicability to some aspect of the employment of the understanding. These aspects are, themselves, defined in terms of their generality or the extent to which they abstract from the content of the understanding. Thus, general logic is concerned only with form of thought and has no regard for differences in objects of thought, whereas special logics are delineated precisely in terms of their concern for specific domains of objects. Transcendental logic is, likewise, concerned with a specific domain of objective thought.

In regard to modality, the division within the taxonomy is similar. General logic alone purports to apply necessarily to the understanding. As MacFarlane notes, Kant's distinction in the *Jäsche Logic* between necessary and contingent rules of cognition corresponds to the distinction between general and special logics (82). As with general logic, necessary rules of cognition are necessary insofar as thought as such would be impossible without them. Contingent rules of cognition are, on the other hand, like special logics, dependent upon thought of, or in, this or that domain. Again, transcendental logic is allied with the special logics insofar as it concerns the domain of those objects that may be given in intuition (MacFarlane 82).[13]

[13] *'Intuition' is a Kantian term, which refers to the immediate relationship between an object and human cognition. For Kant, human intuition is strictly sensible; thus, "all thought must, directly*

Despite the diversity of applications of the term in Kant's work, it should be fairly clear that our contemporary conception of logic corresponds most closely to Kant's pure general logic, insofar as it is distinguished by both general and normative applicability to thought as such (MacFarlane 83-4). It is precisely this conception of logic that Kant wields against those who, like Leibniz, seek to extend the speculative use of reason beyond its proper domain. Indeed, Kant's attack on speculative metaphysics is sharpened by his logical taxonomy insofar as he effectively excludes anything but the consideration of form from the science of logic proper. Thus, whereas Leibniz's conception of logic allows for the logical derivation of substantive truths, Kant relegates all concern with content to the province of the special or transcendental logics. In what follows, I will elucidate this claim by addressing the particular ways in which Kant conceives of the formality and modality of pure general logic (hereafter, simply 'logic').

4.1.2 Kantian Conceptions of Logical Formality

In his 2000 dissertation "What Does It Mean to Say That Logic is Formal?" John MacFarlane claims that our contemporary conception of logic originated in large part with the transcendental philosophy of Kant. In particular, MacFarlane argues that Kant's conception of logic as "distinctly formal" marked a decisive split from previous conceptions of the formality of logic (ii). As we have seen above, the concept of formality plays a definitive role in Kant's conception of logic and its divisions. At this juncture, I shall follow MacFarlane in elucidating what, precisely, is unique about the role of formality in Kant's conception of logic.

MacFarlane begins his discussion by delineating three different conceptions of formality that have been historically characteristic of logic:

---

or indirectly…relate ultimately to intuitions, and therefore, with us, to sensibility, because in no other way can an object be given to us" [A19/B33].

> [Logic] is said to be formal (or topic-neutral)
> (1) in the sense that it provides constitutive norms for thought as such,
> (2) in the sense that it is indifferent to the particular identities of objects, and
> (3) in the sense that it abstracts entirely from the *semantic content* of thought. (ii)[14]

Given the qualifications outlined in the previous section, it is clear that Kant's conception of logic encompasses all three of these senses. MacFarlane, however, holds the third sense (which he terms 3-formality) to be a uniquely Kantian innovation. Although MacFarlane's (extensive) argument for this thesis cannot be expounded upon at this time, I will follow MacFarlane in considering 3-formality (hereafter, simply 'formality') to be the defining feature of Kant's conception of logic. Indeed, it is precisely this feature that proves to be of great importance for Kant's treatment of speculative metaphysics in general and the ontological argument in particular.

In his discussion of logic in the *Critique* –both in the "Transcendental Logic" and elsewhere –Kant repeatedly emphasizes the importance of the distinction between form and content. Indeed, the capacity of logic as a science is strictly limited because it concerns only the form of thought:

> For logic teaches us nothing whatsoever regarding the content of knowledge, but lays down only the formal conditions of agreement with the understanding; and since these conditions can tell us nothing at all as to the objects concerned, any attempt to use this logic as an instrument (organon) that professes to extend and enlarge our knowledge can end in nothing but mere talk. [A61/B86]

In other words, logic cannot facilitate the acquisition of the knowledge of any "fact" whatsoever concerning the world –"not even," as MacFarlane notes, "of the most general and abstract facts (facts about identity or existence, for example)" (88).

[14] *'Semantic content' refers to the 'meaning' of a given thought, utterance, proposition, etc., as opposed to its formal structure.*

Despite logic's lack of capability in this respect, insofar as logic *does* concern the form of thought, it is capable of providing us with knowledge of the (albeit trivial) truth of analytic judgments.[15] For Kant, the principle of contradiction –that is, "[the] proposition that no predicate contradictory of a thing can belong to it" –is "the universal and completely sufficient *principle of all analytic knowledge*" [A151/B191]. Thus, Kant's conception of logic gives us, at least, a negative criterion for the truth of a judgment, that is, that it must agree with the formal conditions of the understanding. By virtue of the principle of contradiction, we can know the truth of judgments such as, 'All red things are red,' 'All bachelors are unmarried' and –to anticipate the discussion of OA –'The divine individual is divine.' Nonetheless, as Kant emphasizes, the principle of contradiction provides us merely with a necessary criterion of truth; hence, "beyond the sphere of analytic knowledge it has, as *sufficient* criterion of truth, no authority and no field of application" [A151/B191].

To summarize: Kant's distinction between the form of a judgment and its matter determines the province of logic. Logic is concerned solely with the formal aspects of thought and can, as a result, tell us only whether or not a judgment meets a minimum criterion of non-contradiction. For Kant, however, the logical assessment of a judgment has no bearing whatsoever on the relation of this judgment to the world, that is, on whether or not the 'matter' of the judgment is true. Thus, the logical possibility (that is, freedom from contradiction) of a

[15] *Although 'analytic' has been employed in a variety of ways, Kant's use of the term designates a judgment (i.e. proposition) in which the subject and predicate are identical (in something like the aforementioned sense employed by Leibniz). Thus, for Kant, an analytic judgment "[adds] nothing through the predicate to the concept of the subject" [A7/B11]. A 'synthetic' judgment, on the other hand, is one in which some conceptual element of the predicate is not contained in the subject and which, consequently, "[adds] to the concept of the subject a predicate which has not been in any wise thought in it" [A7/B11].*

judgment is not sufficient for the 'real' possibility of its material claims. The explication of the precise senses of these modal notions will be the subject matter of the next section.

4.1.3 Kantian Conceptions of Logical Modality

This section will, first and foremost, address Kant's conception of modality as it applies to logic. Necessarily, however, the discussion will stray outside of the bounds of (pure general) logical modality, for Kant's precise notion of logical modality becomes clear only in contradistinction to his other uses of modal notions, such as those he employs in his transcendental framework. This is because –much like logical formality –Kant's sense of the modality of logic is determined by the form/matter distinction and, as a result, understanding what logic *is* depends, to a large degree, on understanding what logic *is not*. Thus, this section equally concerns both the modal notions that are admitted to, and those that are excluded from, Kant's conception of logic. Those that are excluded are, perhaps, of greatest importance for understanding the manner in which Kant's logic sets itself in opposition to the logic of Leibniz and his predecessors.

To begin, let us reiterate the preliminary logical modalities that were set out in the previous section. Via the principle of contradiction, Kant offers us a clear notion of logical impossibility, wherein no contradictory judgment is to be admitted as true. Logical possibility is, likewise, attributed to a judgment that meets this necessary criterion of truth and logical necessity is attributed to analytic judgments, the denial of which would violate the principle of contradiction. According to Kant, "since the opposite of the concept would contradict the object, the concept itself must necessarily be affirmed of it" [A151/B191]. For Kant, then, the full range of logical modalities can be defined by reference to the principle of contradiction. The applicability of these logical modalities is, however, limited by the restrictions Kant places on logic itself. Insofar as logic treats only the form of thought, logical modalities themselves are

restricted in their application to formal aspects of thought. Consequently, "[that] I can *think* whatever I please, provided only that I do not contradict myself…suffices for the possibility of the concept…But something more is required before I can ascribe to such a concept objective validity, that is, real possibility; the former possibility is merely logical" [B xxvi, n.].

The logical modalities of judgments and concepts are, in this sense, self-contained. This is to say that the logical modality of a judgment, insofar as it is concerned merely with the form of judgment, has no bearing on the relationship between the judgment and our knowledge of its objective truth. Such a consequence is, of course, to be expected. In order to determine how Kant treats the modality of judgments in relation to the world, one must venture outside of the realm of the analytic and into the synthetic –that is, the realm of 'real' possibility –wherein Kant iterates an alternative range of modalities. These modalities are, unlike logical modalities, bound up in the transcendental conditions of experience and, as such, number among the elements of the categories and the table of judgments.

Thus, in the "Postulates of Empirical Thought" Kant gives us the following rules for the empirical employment of the categories of modality:

1. That which agrees with the formal conditions of experience, that is, with the conditions of intuition and of concepts, is *possible*.
2. That which is bound up with the material conditions of experience, that is, with sensation, is *actual*.
3. That which in its connection with the actual is determined in accordance with universal conditions of experience, is (that is, exists as) *necessary*. [A218/B265-6]

The three postulates correspond, respectively, to the categories of "Possibility-Impossibility," "Existence-Non-existence," and "Necessity-Contingency" [A80/B106]. In his "Explanation" of the postulates, Kant emphasizes a "peculiarity" concerning modality. In regard to the categories of modality, Kant contends that, "in determining an object, they do not in the least enlarge the concept to which they are attached as predicates" [A219/B266]. Instead, the categories of

modality merely "express the relation of the concept to the faculty of knowledge," that is, "to understanding and its empirical employment, to empirical judgment, and to reason in its application to experience" [A219/B266]. To say that an object is possible in this respect is, therefore, to say that such an object is "in agreement" with the formal conditions of experience; however, it is not to say that the predicate "possible" tells us anything about the object itself apart from what is already contained in its concept. Similarly, Kant tells us that the distinguishing feature of the modality of judgment is that "it contributes nothing to the content of the judgment…but concerns only the value of the copula in relation to thought in general" [A74/B100].

Why does Kant exclude modality –whether that of concepts or judgments –from the content of thought? Leila Haaparanta suggests that Kant's modal theory represents a critical commentary on Leibnizian metaphysics. In short, insofar as the application of modal categories –via the principles of pure understanding –is restricted to empirical contexts, the objective differences between the modal categories break down. Thus, in regards to the objective difference between possibility and actuality:

> Kant defines the concept of the possible independently of actuality, but his view of the employment of the a priori conditions of experience implies that what satisfies the definition of possibility and hence what *is* possible is precisely that which is actual. Kant thus takes possibility and actuality to be intensionally different but extensionally the same. ("Frege and His German Contemporaries on Alethic Modalities" 263)

In this respect, Kant's distinction between the possible and the actual stands in contrast to Leibniz's. For Leibniz, the concepts of metaphysical and logical possibility are extensionally different from the concept of actuality for –as we have seen in the previous section –that which falls under the concept of 'possible' is a feature of the constitution of a possible world, whereas that which is actual is part of this world, that is, the world that has been realized. Thus –as Kant

claims –Leibnizian metaphysics portrays the relationship between the possible and the actual as a relationship between "a great realm of possibility, of which all that is actual (the objects of experience) is only a small part" [A231/B283].

The problem with this picture, according to Kant, is that if we consider the actual to comprise only a fraction of the possible, then we are tempted to infer that "something must be added to the possible to constitute the actual" [A231/B284]. For Kant, however, the only thing that can transform a possibility into an actuality is the empirical acquaintance with the object in question. Such empirical acquaintance, however, presupposes the actuality of the object and, hence, the notion of the possible is accessible only through the actual (and all valid inferences based upon it).The consequence for Leibnizian metaphysics is as follows:

> That yet another series of appearances in thoroughgoing connection with that which is given in perception, and consequently that more than one all-embracing experience is possible, cannot be inferred from what is given; and still less can any such inference be drawn independently of anything being given –since without material nothing whatsoever can be thought. What is possible only under conditions which themselves are merely possible is not *in all respects* possible. But such [absolute] possibility is in question when it is asked whether the possibility of things extends further than experience can reach. [A231-2/B284]

In short –contra Leibniz –we cannot know that anything is genuinely possible until we find that it is actual. Whereas Leibniz's more 'robust' sense of logical/metaphysical possibility facilitates the serious consideration of alternative possibilities and their philosophical consequences, Kant's restrictive demarcation of logical possibility as a merely formal condition of truth incapacitates it outside of the province of logic.

Kant's modal theory, like his logical formalism, clearly follows the precedent set in the taxonomy of logic. The modalities of the concepts and judgments of pure general logic are indicative of the application of a merely negative criterion of truth to the formal aspects of thought. Beyond this, logical modalities can tell us nothing about 'real' possibility, that is,

whether or not the concepts and judgments in question have any objective application. In order to gain objective knowledge of real possibilities we must become sensibly acquainted with their material aspect –they must become actualities.

Unlike Leibniz, Kant's logic provides us with no real metaphysical modalities. In some sense, logical modalities appear to be saying something important about the world, in the very least that no contradiction can be true. But it must be remembered that logical modalities –like logic itself -pertain to the form of thought as such and not to the relation of thought to the objective world. The assessment of concepts and judgments in light of the principle of contradiction is, for Kant, merely an application of normative standards to the employment of the understanding.

4.2 KANT ON THE ONTOLOGICAL ARGUMENT

4.2.1 Preliminary

The description herein of Kant's treatment of the ontological argument will be somewhat brief, for most of the important and interesting claims are to be made in the subsequent section concerning the relationship of Kant's logic and the OA. Kant's criticism of OA is summarized in the well-rehearsed dictum that 'existence is not a predicate.' To date, much attention has been focused on whether or not Kant's criticism soundly defeats OA; however, much less attention has been given to the origin of this criticism, particularly as it relates to his conception of logic. It is this omission that I hope to address in what follows.

Kant launches his attack against OA in Chapter III – "The Ideal of Pure Reason" –of the *Critique of Pure Reason*'s Transcendental Dialectic. The critique of OA itself unfolds in two

distinct stages. In the first stage, Kant posits the distinction between the "unconditioned necessity of judgments" and the "absolute necessity of things" [A593/B621]. For Kant, the rejection of a logically necessary truth is unproblematic, so long as we understand the truth in hypothetical form. Thus, to claim that it is absolutely necessary that a triangle has three angles is not to claim "that three angles are absolutely necessary, but that, under the condition that there is a triangle (that is, that a triangle is given), three angles will necessarily be found in it" [A594/B622]. In other words, if there is a triangle then it will necessarily have three angles. The problem with the OA in this regard is that one must posit the subject of the hypothetical –that is, the divine being – in order to conclude that existence is truly predicated of it, a move that is clearly illicit.

Kant then echoes Hume in maintaining that no contradiction need occur if we, rather than positing the subject of the proposition, reject the subject altogether:

> If, in an identical proposition, I reject the predicate while retaining the subject, contradiction results; and I therefore say that the former belongs necessarily to the latter. But if we reject subject and predicate alike, there is no contradiction; for nothing is then left that can be contradicted. To posit a triangle, and yet to reject its three angles, is self-contradictory; but there is no contradiction in rejecting the triangle together with its three angles. The same holds true of the concept of an absolutely necessary being. If its existence is rejected, we reject the thing itself with all its predicates; and no question of contradiction can then arise. [A594-5/B622-3]

The essence of Kant's claim here is that the necessity of judgments is mere conceptual necessity, which cannot lead us to existence claims so long as the truth of a hypothetical requires the presupposition of the very existence of its subject. Thus, according to Kant, there is no conceivable subject and predicate combination, the rejection of which would result in a contradiction. Consequently, "in the absence of contradiction [one] has through pure *a priori* concepts alone, no criterion of impossibility" [A596/B624].

The second stage in Kant's critique of OA addresses the concept of the *ens realissimum,* the internal possibility of which –insofar as it contains all reality –seems to necessitate its

existence. According to Kant, the argument proceeds as follows: "Now… 'all reality' includes existence; existence is therefore contained in the concept of a thing that is possible. If, then, this thing is rejected, the internal possibility of the thing is rejected –which is self-contradictory" [A596-7/B624-5]. It is at this stage that Kant introduces the argument against the predication of existence. His argument hinges on the distinction between 'logical' and 'real' or 'determining' predicates. According to Kant, predications of the former sort are merely analytic and, as such, they add nothing that is not already contained in the concept itself. Thus, the predication of existence of a thing which already includes existence in its concept is nothing but a "miserable tautology" [A597/B625]. On the other hand, real or determining predications do add something to the concept in question, but, insofar as they do so, the rejection of the resulting synthetic proposition no longer results in a contradiction and, thus, isn't necessary.

The distinction between logical and real predicates will be of great importance in the following discussion of Kant's logic and OA. At this point, however, it remains to be seen how this distinction relates to Kant's rejection of existence as a predicate. According to Kant, "'*Being*' is obviously not a real predicate; that is, it is not a concept of something which could be added to the concept of a thing"; rather, "[it] is merely the positing of a thing, or of certain determinations, as existing in themselves" [A598/B626]. In other words, to say of a subject that it exists is not to add anything new or 'determining' to the subject but, rather, to "posit the subject in itself with all its predicates, and indeed posit it as being an object that stands in relation to my *concept*" [A599/B627]. Insofar as this is the case, the inclusion of existence as part of the essence of the *ens realissimum* is fallacious and, thus, the argument from essence to existence is invalid.

4.2.2 Kantian Conceptions of Logical Formality and OA

It should be clear from the preliminary discussion of both stages of Kant's criticism of OA that his attack on OA is rooted in his conception of the capacities of logic. It is at this point that I shall attempt to flesh out the full implications of this correlation, beginning with the consideration of the role that Kantian formality plays in the treatment of OA. The crux of the matter has been discussed at length above in §4.1.2. For Kant, insofar as logic is purely formal, the gulf between a logical, deductive 'proof' of existence and the requisite empirical proof is strictly unbridgeable. Thus, whereas Leibniz holds OA to be valid precisely because of the logical necessity of the proposition, 'the most perfect being exists,' Kant maintains that logical necessity is nothing more than a formal necessity and has no implications outside of the realm of the analytic. Indeed –contra Leibniz –the 'real' possibility of a concept cannot even be proven by means of logical principles:

> A concept is always possible if it is not self-contradictory. This is the logical criterion of possibility, and by it the object of the concept is distinguishable from the *nihil negativum*. But it may none the less be an empty concept, unless the objective reality of the synthesis through which the concept is generated has been specifically proved; and such proof, as we have shown above, rests on principles of possible experience, and not on the principle of analysis (the law of contradiction). This is a warning against arguing directly from the logical possibility of concepts to the real possibility of things. [A596/B624 fn. *a*]

In other words, all that Kant's logic has to offer us is an assessment of a concept (or a judgment or argument) in light of the formal criteria of thought. Thus the logical employment of the understanding is a necessary condition of truth, but the sufficient condition is met only by stepping outside of the conceptual realm and into the realm of intuition.

It should be clear that Kant's conception of logic is an integral part of his efforts to hinder the over-extension of the speculative employment of reason. What is not clear, however, is what bearing this conception of logic has on the specific 'existence is not a predicate' refutation that

Kant ultimately advances against OA. In regards to SOA, it is clear that –regardless of any arguments advanced against premise (1b) concerning the predication of existence –the argument itself is invalid for Kant merely by virtue of its logical constitution. For Kant, the logical necessity of the conclusion, 'the divine individual exists,' would be impotent in any application outside of the realm of the analytic. Why, then, does Kant insist on advancing a further argument against the predication of existence?

Kant's discussion of existence follows his introduction of the concept of the *ens realissimum*, the denial of which (insofar as it is purported to contain all reality) threatens to violate the principle of contradiction, thereby failing to meet even the necessary criterion of truth. If the denial of the *ens realissimum* results in a contradiction, then Kantian logic itself seems to require that we admit the necessity of the existence of such a being [A151/B190].[16] It is in response to this qualification to OA that Kant embarks on his critique of the predication of existence. But the critique of the predication of existence does more than merely fend off a particular version of OA (the possibility of which Kant entertains merely provisionally to begin with). Instead, it brings to bear on OA specifically the modalities set out in the "Postulates of Empirical Thought," particularly Kant's conception of actuality, to which we shall at this point turn.

4.2.3 Kantian Conceptions of Logical Modality and OA

To briefly reiterate what was said in §4.1.3, logical modalities are, for Kant, applicable only to the province of thought. To say of a proposition or concept that it is logically necessary, impossible, et. al., is to say something about the form of the proposition or concept in question

[16] As shown in the footnote above, however, Kant does not allow the logical possibility of a thing to prove its real possibility, thereby cutting off the *ens realissimum* from its inception.

and its agreement or disagreement with the formal conditions of thought. That logical modalities are limited in this respect is clearly of import in Kant's treatment of OA. In undertaking the discussion of existence, however, Kant moves beyond logical modalities and into the province of the categories of modality and their formulation in the "Postulates of Empirical Thought." Thus, in regard to the question asked above as to the reason for Kant's further argument against the predication of existence we may, first off, appeal to what Kant says about modality elsewhere in the *Critique*. Insofar as to exist is to be actual, existence falls under the rubric of the modal category of actuality, defined in the Postulates as "[that] which is bound up with the material conditions of experience, that is, with sensation" [A218/B266]. For Kant, then, the existence of an object is marked either by the immediate perception of the object or "the connection of the object with some actual perception," for "[in] the *mere concept* of a thing no mark of its existence is to be found" [A225/B272].

Kant's argument against the use of existence as a predicate, however, goes beyond the assertion that existence is inextricably bound to experience. His focus in the refutation is, rather, on the fact that existence is not a real or determining predicate, but the positing of a thing or certain determinations of the thing. In other words, existence or actuality –like the other modal categories –adds nothing to the content of a judgment, for the content of a judgment is merely conceptual. It is precisely because Kant separates the categories of modality from the content of a judgment that he is able to avoid the further commitments of the Leibnizian metaphysical schema. Insofar as the "principles of modality…predicate nothing of a concept but the action of the faculty of knowledge through which it is generated," one cannot employ modal notions in arguments from concepts [A234/B287]. Thus unlike Leibniz, whose metaphysics are, in essence, founded on the implications of the modality of propositions and concepts, Kant construes

modality in such a way as to ensure "[that] the possibility of a thing cannot be determined from the category alone, and that in order to exhibit the objective reality of the pure concept of the understanding we must always have an intuition" [A235/B288].

It seems, therefore, that Kant's critique of the predication of existence is based, to a significant degree, on his systematic separation of the analytic from the synthetic, which manifests itself in his modal theory. But this separation is not just a product of Kantian modal theory. In addition, Kant repeatedly emphasizes the distinction between the logical and real, or existential uses of *is*. To fully understand this distinction, therefore, we must revisit Kant's sense of logical formality, which tells us that it is not that we strictly cannot employ existence as a predicate; rather, its employment as a predicate (or a copula) has a merely logical force which, as Kant notes, we employ regularly when we talk about things that we already know to exist [A600-1/B628-9]. The source of difficulty in OA is thus the confusion of logical and real predicates, which results in the illusion that one can include existence in a concept as a logical predicate, all the while employing it as a real predicate. In other words, if we include 'existence' in the concept of God, we include it in its logical form, for "[anything] we please can be made to serve as a logical predicate; the subject can even be predicated of itself; for logic abstracts from all content" [A598/B626]. But, as we have seen, insofar as logic abstracts from all content, the logical predication of a concept is beholden to formal considerations alone and can tell us nothing about the object of the concept.

Thus it is existence in its 'real' predicative use that is illicit according to Kant. For the determining use of existence that we employ when we talk about the existence of a thing is not part of the structure of the judgment at all but is, rather, a modality of the judgment itself, concerning the "subjective attitudes" that we have towards the content of judgments and their

relation to our knowledge (Haaparanta, "Frege on Modalities" 264). And it is because the determining use of existence is so construed that the ontological argument for the existence of God is so much labour and effort lost" [A602/B630].

5.0 FREGE

The final philosopher with which we shall deal is Gottlob Frege. Summarizing Frege's logic is a considerable feat, one that shall not be undertaken at this point. Rather, as with Kant and Leibniz, the intention here is to isolate the formal and modal features of Frege's conception of logic, and to describe in the requisite detail those features of Frege's logic that are relevant to questions of formality and modality. I do so, as in the previous sections, with the intent of demonstrating the correlation between Frege's conception of logic and his treatment of the OA. In addition, however, the intent of this section is to also show how Frege's conception of logic is influenced by both Kant and Leibniz and how these influences play out in Frege's treatment of OA.

5.1 FREGEAN CONCEPTIONS OF LOGIC

5.1.1 Fregean Conceptions of Logical Formality

With respect to formality, Frege's conception of logic is marked, above all, by the departure from the 3-formality of Kantian logic. In other words, whereas Kant's logic was grounded in the doctrine that thought has no content without relation to intuition, Frege's logic –like Leibniz's – is intended to be a substantive, contentful source of objective knowledge (MacFarlane 135). The substantive nature of Frege's logic comes from two different, though related, sources. One source is Frege's logicist project: Frege claims –contra Kant –that arithmetic is reducible to logic

and, hence, that arithmetical objects are, in fact, logical objects, in regard to which logic itself can extend our knowledge.[17] The second source of the substantive character of Frege's logic is its enhanced capacity for 'expressiveness.' This enhanced capacity can be understood in two different ways, both as a consequence of Frege's technical advancements and as a consequence of his conception of what a logical language should be capable of. Though Frege's logicism provides the impetus for the formulation of these technical and doctrinal developments, both of these facets of the expressiveness of Frege's logical language are rooted in his conception of logic as having its own contentful concepts, a conception which ultimately stands independently of his logicist aspirations (MacFarlane 154). The details of these qualifications will be fleshed out in what follows, though it should be noted that logical objects (including those derived from Frege's logicist project) are not in and of themselves of much importance to the overall argument and, consequently, will not be discussed in detail apart from the evidence they provide for the substantive nature of Frege's logic. The focus will be, rather, on the implications that the expressive power of Frege's logical language has for his treatment of existence and, correlatively, OA.

Given the focus of this paper, it would be best to start with a description of how Frege conceives of a proper logical language. Although –as John MacFarlane notes –Frege had not

[17] The term "object" requires some qualification here. For both Kant and Frege, "object" is a formal rather than an empirical term, which is to say that both men depart from the naïve empirical view of objects as spatio-temporal entities of a perceptible sort. For Kant, however, sensibility is yet a necessary, though not a sufficient, condition of our knowledge of an object. Frege diverges from Kant in this respect by denying the necessity of sensibility for such knowledge, but he does so by altering the paradigm of what an object is. Thus, for Frege, one includes in the set of objects such non-spatio-temporal entities as thoughts (the "contents" of judgments), numbers, truth values and other referents of Fregean 'proper names' (Sluga 121-2). In short, as Hans Sluga notes, "Frege characterizes objects by the properties of the expressions that stand for them…he transforms what looks like a material and ontological problem into a formal semantic one" (122).

executed a full departure from Kantian logical formalism in the *Begriffschrift*, his work therein indicates the ensuing development of a conception of logic that would, ultimately, break free of Kantian formal constraints (137). In particular, we see in Frege's defense of the *Begriffschrift* from attacks by his contemporaries that he seeks to model his logical language after the Leibnizian project of a universal characteristic:

> This [Ernst Schröder's] reproach…essentially overlooks the fact that my aim was different from Boole's. I did not wish to present an abstract logic in formulas, but to express a content through written symbols in a more precise and perspicuous way than is possible with words. In fact, I wished to produce, not a mere *calculus ratiocinator*, but a *lingua characteristica* in the Leibnizian sense. (*Conceptual Notation* 90-1)

Herein we see that, unlike Kant (and Boole), Frege is not merely concerned with constructing a logical representation of formal, inferential rules; rather, his conceptual notation is intended to be a Leibnizian *lingua characteristica*. Frege conceives his *lingua* as a "language of pure thought," that is, as a representation of the objective conceptual content of meaningful propositions through a notational system in which "the conceptual content of any statement can be given an adequate and clear expression" (Sluga 67). But unlike Leibniz, Kant and others before them, Frege believes that the objective conceptual content that he aims to represent is not to be found clearly represented in natural language; indeed, the subject-predicate model of propositional content (modeled after the grammatical form of natural language) was –as we shall see presently –a major source of the failure of traditional logic to adequately depict conceptual content (Sluga 82). Correlatively, it was also the source of Leibniz's ultimate failure to construct a *lingua characteristica* of the scope and power he imagined. Thus, Frege envisions his conceptual notation as both a continuation of and an improvement upon Leibniz's original intentions (*Conceptual Notation* 105).

As a technical consequence of both his Leibnizian aspirations and his critique of traditional logic, the conceptual notation that Frege envisions concerns itself with formal relations, but does so in a way that surpasses the expressive capacity of the subject-predicate logic of Kant and Leibniz. For Frege, the analysis of judgments entails the analysis of the conceptual content of these judgments. Whereas Kantian logic defines itself as the abstraction from all conceptual content, Frege's logic hinges on the perspicuous logical representation of such content. For Frege, the analysis of logical relations depends not only on the logical expression of relations between the contents of judgments but also on the expression of logical relations within them. In order to facilitate the formal representation of such relations, Frege develops the function/object distinction. By virtue of this distinction, sentences are to be regarded as functions of proper names, rather than as composites of subjects and predicates (*Conceptual Notation* 12-3). The functional view of sentence structure is something to which I shall return presently.

Frege's departure from Kantian formality thus begins with the Leibnizian character of his conceptual notation. It comes full circle, however, in the *Foundations of Arithmetic*, wherein he explicitly questions Kantian formalism with respect to his presentation of the logical objects of arithmetic: "I must also protest against the generality of Kant's dictum: without sensibility no object would be given to us. Nought and one are objects which cannot be given to us in sensation" (101). Frege's protestations are here rooted in his logicist project. Thus their validity is dependent upon the success of the reduction of arithmetic to logic, which has been widely held to be unfeasible since the advent of Russell's paradox. Nonetheless, the important point to be gleaned, not only from Frege's criticism of Kant but from his logicist project on the whole, is that Frege conceives of logic itself as contentful and capable of extending our knowledge.

Insofar as it has its own objects, logic is able to elude the Kantian dictum that "without sensibility no object would be given to us," for we see here that the properties of numbers, as definitive examples of Fregean logical objects, may be known to us *a priori*, that is, without the benefit of intuition. Thus, whereas Kant relegates arithmetic to the realm of the synthetic precisely because it is a substantive science, seemingly requiring intuition for the justification of its claims, Frege maintains that the claims of arithmetic can be proven logically and are thereby analytic, yet nonetheless contentful. Frege's portrait of arithmetic gives us, therefore, a paradigmatic example of how logic can not only 'present' us with a realm of objects, but can also extend our knowledge of such objects *a priori*.

In regard to his disagreement with Kant on the issue of the analyticity of arithmetic, Frege claims that Kant's underestimation of the value of analytic (in particular, arithmetical) judgments was a consequence of the narrow way in which he defined them (*Foundations* 99). Frege goes on to attribute Kant's division of analytic and synthetic judgments, and the poverty of his understanding of the former, to his narrow conception of the formal constitution of judgment on the whole:

> What [Kant] is thinking of is the universal affirmative judgment; there we can speak of a subject concept and ask –as his definition requires –whether the predicate concept is contained in it or not. But how can we do this, if the subject is an individual object? Or if the judgment is an existential one? In these cases there can simply be no question of a subject concept in Kant's sense. He seems to think of concepts as defined by giving a simple list of characteristics in no special order; but of all ways of forming concepts, that is one of the least fruitful. (100).

In contrast, Frege's conception of the formal constitution of judgment allows him to infer things previously unknown from definitional (analytic) truths:

> But the more fruitful type of definition is a matter of drawing boundary lines that were not previously given at all. What we shall be able to infer from it, cannot be inspected in advance; here, we are not simply taking out of the box again what we have just put into it. The conclusions we draw from it extend our knowledge, and ought therefore, on Kant's

> view, to be regarded as synthetic; and yet they can be proved by purely logical means, and are thus analytic. The truth is that they are contained in the definitions, but as plants are contained in their seeds, not as beams are contained in a house. (100-1)

For Frege, the delineation of new "boundary lines" is a product of his functional analysis of propositions. Whereas Kant subscribed to the classic Aristotelian model of subject-predicate propositional form, Frege sees propositions as a complex of functions and arguments. According to Frege's function-argument analysis, the value of a proposition is determined by the application of a function (that is, a Fregean concept) to an argument, which can be either an object or a concept itself (*Frege Reader* 10).[18] Thus, for Frege, propositional analysis is able to transcend the simplistic (and semantically confining) subject-predicate account of propositional structure and, as a consequence, extend the province of the analytic. Insofar as this is the case, the logical apparatus of Frege's *Begriffschrift* facilitates the rejection of the Kantian notion that the analytic is incapable of extending knowledge.

It is of particular importance that Frege explicitly relates Kant's impoverished conception of judgment to existential judgments. As will be recalled, Kant's logic has no mechanism by which to express existential claims. The merely logical predication of existence differs in no way from the predication of any other ostensible quality, such as 'redness' or 'largeness.' Thus, for Kant, existential claims take on a super-logical character insofar as they entail the modal modification of a judgment. Although the greater part of the discussion of Frege's treatment of existence will occur in the section concerning OA, it should be noted at this point that Frege's logic does have a mechanism for the expression of existence –the quantifier. It is by means of the application of quantifiers to judgments that Frege is able to express existential claims within his

[18] The distinction between the application of functions to objects or concepts is formally expressed as the distinction between first-order and second-order concepts, respectively. This distinction will be spelled out in greater detail in the section on Frege's criticism of OA.

logical system as a particular type of judgment. Although, similarly to Kant (though for much different reasons) Frege does not regard existence to be directly predicable of an object, Frege's quantification theory allows him to predicate existence of a concept and thereby logically express the instantiation of a concept as an object.

Frege's logical treatment of existence may be viewed as a direct consequence of his attempt to realize a Leibnizian characteristic language.[19] One of the central difficulties that Kant encountered in dealing with the predication of existence was that 'is' has a multiplicity of senses, some of which fall within the province of logic (such as the copulative sense) and others which do not (the existential sense). Insofar as Frege aims to logically represent the full range of the employment of natural language, *sans* ambiguities, it falls on him to distinguish the different semantic employments of 'is' within the formal apparatus of his conceptual notation. The result of Frege's attempt to do so is the delineation of four discrete uses of 'is': identity, predication, existence and class-inclusion, all of which are distinctly formally expressible in Frege's logical language. As Leila Haaparanta notes, however, Frege does not anywhere explain precisely why the formal notations posited for the multiple senses of 'is' are as they are; rather, insofar as Frege holds the meta-inquiry into the semantics of natural language to be impossible, so too is the justification of the logical representations of these semantic relations. Consequently, Frege justifies the differing employments of 'is' within his conceptual notation "simply by describing his notation for a first-order language, which [is] for him the only correct linguistic representation of our concepts" ("Frege on Existence" 159).

[19] I am not *yet* claiming that the particularities of Frege's logical expression of existence are a consequence of his conception of logic; rather, I am claiming that Frege's goal of perspicuously representing the semantic constitution of natural language necessitates that he address ambiguities in the use of "is". Thus Frege's treatment of "is" stands in contrast to Kant's, for Kant's logic concerns only formal relations between concepts and is, thereby, unequipped to represent the relationship of these concepts to objects.

Given this consideration, it may seem as if a sufficient explanation of Frege's conception of the formal constitution of the 'is' of existence –the foundation of Frege's critique of OA –is beyond our reach. But Frege's formulation of the differing senses of being is, of course, not merely a product of his attempt to construct a Leibnizian universal language. There is, in addition, the factor of Frege's modal theory, to which we shall now turn.

5.1.2 Fregean Conceptions of Logical Modality

The primary claim that will be advanced in this section is that Frege conceives of modalities in a Kantian manner, consequent upon the 'one-world' doctrine of his conceptual notation. The significance of this claim for Frege's understanding of existence claims –and, of course, for ontological argumentation specifically –will be addressed in the section that follows. For now, we begin with a description of Frege's modal theory.

Frege briefly addresses modal notions in §4 of the *Begriffschrift*, wherein he suggests that modal notions qualify a judgment by appeal to the grounds of its justification:

> The apodictic judgment is distinguished from the assertoric in that the apodictic suggests the existence of general judgments from which the proposition can be inferred, while the assertoric lacks such an indication. If I call a proposition necessary, I thereby give a hint about my grounds for judgment. *But since this does not affect the conceptual content of the judgment, the apodictic form of judgment has for us no significance*. If a proposition is presented as possible, the speaker is either refraining from judgment and indicating that he knows no laws from which the negation [of the proposition] would follow; or else he is saying that the universal negation of the proposition is false. In the latter case, we have what is usually called a *particular affirmative judgment*. (*Conceptual Notation* 114)

The grounds of justification to which Frege refers in this passage are epistemic: Modal concepts like necessity and possibility describe a judgment in its relation to our knowledge. Thus, as Frege emphasizes, insofar as modal notions have no bearing on the conceptual content of a judgment, the representation of these notions, "has for us no significance," which is to say that it falls

outside of the province of Frege's logic and thus outside of the burden of representation of the conceptual notation.

The similarities between the Kantian and Fregean conceptions of modality are immediately striking: Kant positions modalities outside of logic, claiming that they do not in any way 'determine' the subject of a judgment but rather serve to posit the nature of the judgment in its relation to the conditions of experience.[20] Frege echoes Kant in his claim that modalities do not in any respect alter the conceptual content of a judgment and, thus, fall outside of the province of logic. Unlike Kant, however, Frege construes modal notions as psychologically determined. Whereas Kant defines modal notions in terms of the transcendental conditions of thought (which are by no means to be understood psychologically), Frege defines modal notions in terms of the "private" grounds of judgment available to an individual (Haaparanta "Frege on Modalities" 253).

As it was noted in §4. 1.3, although Kant maintains the difference between the modal categories, as well as differences between the conditions of their application in the empirical employment of the understanding, there is, for Kant, no criteria of distinction in regards to these categories insofar as they apply to the objects of experience. Thus –as Haaparanta claims –"what Kant comes to argue in his *Kritik* is that the terms 'possibility', 'actuality' and 'necessity' refer to our different subjective attitudes towards the contents of judgments" ("Frege on Modalities" 264). Likewise for Frege, modal notions are defined subjectively, that is, in terms of the way in which propositions relate to our knowledge. Thus we see in this the intersection of Kantian and

[20] This is to say that Kant positions modal notions outside of the realm of pure general logic, though not outside of transcendental logic. Insofar as he defines his modal notions in terms of the transcendental conditions of thought, modality is part and parcel of Kant's transcendental logic. This is, however, of no consequence for the argument at hand.

Fregean modal theory, wherein modality is understood, at bottom, as the description of the nature of our subjective relationship as knowers to judgments.

For both Kant and Frege, then, the possible, actual and necessary are objectively undifferentiated. The consequence of this for both Kant and Frege is that human knowledge is confined to the consideration of only one world. In contrast to Leibniz –for whom possibles present a real alternative –Kant and Frege are beholden to regard this world as the only possible world, the possibility of which is revealed by means of its actuality ("Frege on Modalities" 265). For Frege, this consequence of his Kantian-esque modal theory coincides with his doctrine of one-world, which is expressed within his logical framework as the "Principle of Completeness", according to which all functions must be defined for all objects (*Frege Reader* 259).

The one-world doctrine –as exemplified both in the Principle of Completeness and in the consequences of Frege's modal theory –is inextricably bound to Frege's project of realizing a Leibnizian universal language. It is the intended universality of Frege's logic that necessitates that he define, precisely, the constitution of the universe over which his quantifiers are to range ("Frege on Modalities 260-1). Many of Frege's contemporaries define their logic's 'universe of discourse' –or domain –variably or in terms that have no ontological import (such as DeMorgan's denotation of the universe of discourse as '1'). In contrast, insofar as Frege aims to construct a logic that 'mirrors' the semantic structures of reality, he is beholden to populate his universe of discourse in such a way that *all* objects fall within the scope of the variable-binding quantifiers. Thus, as Van Heijenoort notes in his influential paper "Logic as Calculus and Logic as Language":

> For Frege it cannot be a question of changing universes. One could not even say that he restricts himself to *one* universe. His universe is *the* universe. Not necessarily the physical universe, of course, because for Frege some objects are not physical. Frege's universe consists of all that there is, and it is fixed. (325)

In sum, Frege's modal theory does not admit the consideration of possibilities outside of the universe of discourse. The reasons are simple: Modal notions are subjective (indeed, psychological) determinations of judgments. As such, there is no objective difference between them in regard to the judgments that fall under them and, as a consequence, that which is available to human knowledge is exclusively that which is actual. Thus Frege's universe of discourse is comprised of all that is actual, that is, as van Heijenoort writes, "all that there is," and it is "fixed" in the sense that Frege admits no modal mechanisms into his logical theory by means of which he would be able to entertain an alternative realm of possibilities.

For Frege, then, the project of a Leibnizian *lingua characteristica* is constrained by his modal theory. Whereas Leibniz employed 'possibility' foundationally in his logic, Frege – following Kant in constructing a subjective modal theory –limits his logic to a universal, fixed domain. Insofar as this is the case, Frege's logical presentation of 'being' –in particular his conception of the 'is' of existence -is forced to accommodate the difficulties inherent in quantifying over a universal, closed domain of objects. As we shall see, this factor will have consequences for Frege's treatment of ontological argumentation.

5.2 FREGE ON THE ONTOLOGICAL ARGUMENT

5.2.1 Overview

Although this section specifically concerns Frege's treatment of ontological argumentation, much of what is important to this treatment is to be found in Frege's work on existence and being in general. As it has been suggested in the preceding sections, Frege's ambiguity thesis is one consequence of his Leibnizian conception of logic. Because of his omission of any meta-

semantic justification for the conceptual notation, however, the precise reasons behind Frege's delineation of the different uses of being appear to be unavailable to us. With the introduction of Frege's Kantian-esque modal theory, however, another factor presents itself as a clue to these reasons. In what follows, I shall flesh out the implications that Frege's modal theory has for his logical conception of 'being' in general, existence in particular, and, finally, OA as a casualty of the latter. Thus I begin with the description of Frege's refutation of OA and then proceed to relate it to these larger questions. I shall not, however, follow the precedent set in the previous sections of separating the formal and modal elements of the refutation. Rather, I shall consider these two elements organically, in order to offer a more coherent picture of the sum product.

5.2.2 Frege's Refutation of OA

Frege's criticism of ontological argumentation is famously (and tersely) set out in §53 of the *Foundations of Arithmetic*:

> In [the respect that number is assigned to concepts] existence is analogous to number. Affirmation of existence is in fact nothing but denial of the number nought. Because existence is a property of concepts the ontological argument for the existence of God breaks down. (64)

For Frege, "the content of a statement of number is an assertion about a concept" (*Foundations* 67). Thus, in making a statement of number we are designating a number as a property of a concept rather than an object, thereby indicating how many things fall under this concept. According to Frege, we likewise ascribe existence to a concept by denying that "nought" is a property of that concept, thereby indicating that at least one thing falls under it. Thus, to say that 'x exists' is to say, in effect, that the concept x is instantiated by at least one object. For Frege, insofar as existence is a property of concepts, the ontological argument "breaks down," for the

inference from essence to existence is feasible only if existence is understood to be a property of objects.

The similarities between Kant and Frege's criticisms of the OA are often noted. Both Kant and Frege maintain that existence is not a property of objects, though they do so for different reasons. Although his reasons are not entirely clear, Kant purports to hold that existence is not a property of an object because it is not a 'real' predicate –that is, a predicate which enlarges the concept of an object –and thereby fails to distinguish the object of one concept from that of another. For Kant, the logical predication of existence is merely grammatical in nature, enabled solely by the fact that logic abstracts from all content. Frege, on the other hand, has at his disposal the resources by which to logically represent existence as either a property of a concept or as a property of an object. Frege's functional analysis of language and his distinction between first-order and higher-order functions number among these resources, allowing him to represent logical relations not merely among objects but among different orders of concepts as well. Thus, for Frege, existence can conceivably be represented as either a second-order concept (that is, a concept that is functionally applicable to concepts alone) or as a first-order concept (functionally applicable only to objects). Given Frege's discussion of the ontological argument, however, it is clear that he conceives of existence as a second-order concept and rejects its validity as a first-order concept.

As we have seen, Frege's discussion of existence in the *Foundations* is limited to the analogy that he proposes between statements of existence and statements of number. Apart from this central analogy, at no point therein does he advance any specific argument as to why existence may be understood *only* in its second-order capacity. Insofar as Frege's criticism of the ontological argument is wholly dependent upon the thesis that existence is *not* a property of

objects, in order to understand Frege's refutation of OA we must inquire further into that thesis itself. In what follows, I will advance the claim that –although Frege seems to be merely following Kant in construing existence as a second-order concept –he is, in fact, responding to the paradoxical nature of the first-order conception of existence.

5.2.3 Frege's Problem: First-Order Predications of Existence

The text of primary importance for the discussion of first-order existence is Frege's posthumously published *Dialogue mit Pünjer über Existence*. In this dialogue, Pünjer holds that to say that something 'is' is equivalent to saying that that thing is an object of experience. Thus, to say that 'Leo Sachse is' is to say that Leo Sachse is an object of experience, that is, that he exists. From this premise, Frege derives a contradiction:

1. Assume Sachse is, for example, a fictional character.
2. By (1) we mean, 'Sachse is not an object of experience.'
3. Thus, from (2), 'not an object of experience' is predicated of Sachse.
4. But, from (2), insofar as Sachse *is* 'not an object of experience,' 'Sachse is.'
5. Thus, Sachse is 'an object of experience.'
6. Thus, from (3) and (5), Sachse both is 'an object of experience' and is 'not an object of experience.'

Frege attributes the contradiction to (2), Pünjer's definition of 'is' as applied to statements of nonexistence. In Frege's words, " [there] are objects of ideas –which objects cannot be experienced. This is a contradiction once it is allowed that the same kind of existence is expressed by 'there is' as is meant to be conveyed by 'can be experienced'" (*Posthumous Writings* 65).

In opposition to Pünjer, Frege contends that a proposition such as "Leo Sachse is" is self-evident. He conceives of 'being' as a concept that is super-ordinate to all other concepts, much like the property of self-identity. Like self-identity, however, the extension of the concept of 'being' is limitless and therefore has no content. Thus, if it is the case that existential

propositions are self-evident in this way, there are no means by which to deny them, that is to say, 'Leo Sachse is not.' In regard to this, Frege writes:

> If you want to assign a content to the verb 'to be', so that the sentence 'A is' is not pleonastic and self-evident, you will have to allow circumstances under which the negation of 'A is' is possible; that is to say, that there are subjects of which being must be denied. But in that case the concept 'being' will no longer be suitable for providing a general explanation of 'there are' under which 'there are B's' means the same as 'something that has being falls under the concept B' (*Posthumous Writings* 65-6)

As Frege continues, any content that is assigned to 'being' will –like Pünjer's suggestion –elicit a contradiction:

> [For] if we apply this explanation to 'There are subjects of which being must be denied', then we get 'Something that has being falls under the concept of not-being' or 'Something that has being is not'. There is no way of getting over this once a content of some kind –it doesn't matter what it is –is agreed to the concept of being, If the explanation of 'there are B's' as meaning the same as 'Something that has being is B' is to work, we just have to understand by being something that goes entirely without saying. (66)

For Frege, these considerations cancel out the option of considering 'existence' as a first-order concept. To use Kantian terminology, neither the analytic nor synthetic construal of existence as a property of objects can accommodate claims of non-existence. If being is merely self-evident, that is, if it is entailed by the very positing of a thing as a subject, then we can make no sense of a proposition like 'A is not.' Likewise, if being has a content, contradiction ensues, for the sense of being inherent in the positing of the subject contradicts the sense of non-being predicated of the subject.

Given these considerations, Frege has a full-fledged case against first-order predication of existence. Thus he concludes:

> The existence expressed by 'there is' cannot be a characteristic mark of a concept whose property it is, just because it is a property of it. In the sentence 'There are men' we seem to be speaking of individuals that fall under the concept 'man', whereas it is only the concept 'man' we are talking about. (67)

Frege's alternative expressed herein is, of course, that existence is to be predicated not of objects but of concepts. Insofar as this is the case, his criticism of OA stands.

5.2.4 One Possible Solution: Modal First-Order Predications

Given the argument of the previous section, it seems as if Frege is bound to consider existence as a second-order concept. At this point, however, I shall consider a possible way for Frege to salvage first-order predication, raised by Leila Haaparanta in her work on Frege's treatment of existence.[21] I shall also consider the reasons why Frege, ultimately, did not choose to resurrect first-order predication by virtue of it.

As discussed in §5.1.1, Frege seeks to model his conceptual notation after Leibniz's ideal of a universal characteristic. However, as was also noted beforehand, Frege departs from this ideal insofar as modality is concerned. Whereas Leibniz sought to include modal concepts as a foundational aspect of his metaphysics and, correlatively, his logic, Frege relegates modal concepts to the province of psychology. According to Haaparanta, the fact that Frege does so prevents him from considering first-order predications in a different light, that is, in terms of the distinction between existents as 'actuals' and non-existents as 'possibles'. Had Frege incorporated some type of modal theory into his logic, he might have been able to construe an otherwise problematic statement such as "Something that has being is not" as "something for which it is possible to exist does not exist in the actual world" ("Frege on Existence" 161). Thus, insofar as the first-order distinction between being and not-being is construed in terms of existence in this world or existence in some other possible world, Frege would have the ability to predicate a contentful sense of being of an object without eliciting a contradiction: 'A is' would

[21] See, for example, "Frege on Existence", "Frege and His German Contemporaries on Alethic Modalities", and "On Frege's Concept of Being."

be elliptical for 'A is a possible object, which exists in the actual world' and 'A is not' would likewise mean, 'A is a possible object, which does not exist in the actual world'. By utilizing a possible worlds interpretation of being, Frege would be able to construe the 'self-evident' aspect of a statement of being in terms of the possibility of an object and yet still predicate something contentful of it in terms of its membership in the actual world.

As is abundantly clear from the dialogue with Pünjer, however, Frege does not choose to take this option. Indeed, according to Haaparanta, Frege cannot choose this option, for he is constrained by his conception of logic as universal (quantifying over all that there is) and by his conception of the 'universe' as fixed. As we have seen in the discussion of Frege's modal theory, Frege –like Kant –is constrained to regard the actual world as the only world. The upshot of this is that,

> [there] can be quantifiers of one kind only, namely, quantifiers ranging over all actually existing objects. For this reason, Frege cannot escape the threatening inconsistency by assuming that we have two different ranges of quantifiers in sentences like 'Something that has being is not', which otherwise might have seemed a plausible way out for someone who distinguished from each other the different meanings of 'is'. ("Frege on Existence" 162)

In short, the only option now open to Frege is to regard being as merely self-evident, that is, as part of the very act of positing a subject. Frege is thus forced to define existence in second-order terms.

5.2.5 Frege's Solution: Second-Order Conception of Existence

Having dismissed any chance of considering existence in a first-order capacity, Frege advances a positive conception of existence in its second-order capacity, that is, as the quantification over concepts. He introduces two different formal means of expressing existence, both of which incorporate a first-order use of 'is'. One formulation of existence is given in the *Begriffschrift*,

which employs the 'is' of predication in the function space of (what we now call) the existential quantifier. In Frege's conceptual notation, the denial of the general predication of the denial of a concept Λ to an object to indicates that, "There are Λ's" (*Conceptual Notation* 134). Symbolically, we would say that ~(x)~(Λx) is rendered as (∃x)(Λx), that is, there exists an x such that Λ is predicated of it. Frege's second expression of existence is given in terms of identity: (∃x)(g=x). Unlike the predicative version of existence, the identity function facilitates the formation of particular affirmative existential claims by putting concepts into the logical relationship of self-identity. Thus, if we assign the proper name 'God' to 'g', (∃x)(g=x) is read as 'God is' or 'God exists' (Macbeth 86-7).

Both the predicate and identity-based versions of existence hinge on the fact that existence is a property of concepts rather than objects. As Frege claims in the *Foundations*, to say that a thing exists is to say that at least one object falls under a concept-function, whether that concept-function is a predicate or an identity function. Thus, much like Kant, Frege considers existence to entail the 'positing' of a thing and its relations. Unlike Kant, however, Frege's logical apparatus allows him to express this positing within the framework of his conceptual notation as a second-order property statement.

To return to the issue of ontological argumentation, Frege's refutation of OA is dependent upon the assumption that OA is possible only through the first-order predication of existence as an object. To use Frege's terminology, if OA is to succeed, 'being' must be a 'characteristic mark' of a concept. But we have seen that 'being' in its first-order capacity is merely self-evident (predicable of all objects in the universe of discourse) and therefore cannot be considered to be such a characteristic mark. Thus, if one were to attempt to argue for the

existence of God using the first-order concept of being, one's efforts would result in nothing but "miserable tautology."

5.3 CONCLUDING REMARKS ON FREGE

In discussing Frege's treatment of the ontological argument, I have attempted to show that the validity of his criticism is dependent upon his argument for the second-order concept view of existence. It is this view, rather than OA itself, that I have made efforts to link to Frege's conception of logic, although the implications for OA should be no less obvious or significant. To reiterate: My claim is that Frege's logic incorporates elements of Leibnizian formality and Kantian modality. It is by virtue of these elements that Frege rejects the first-order property view of existence and instead embraces the second-order view. By envisioning his logic in a Leibnizian sense as a contentful, substantive language, which speaks about the world, Frege is beholden to construct his logical language in such a way that the varying semantic employments of 'is' are faithfully and perspicuously represented. Insofar as this is the case, the function-based structure of Frege's conceptual notation provides him with the expressive capacity to logically represent being as a concept-function in more than one order and, thus, to disambiguate the uses of 'is' by reference to these orders. As we have seen, Frege maintains that the first-order use of 'is' is self-evident and thereby insufficient for the expression of existence. An important part of the reason for Frege's rejection of its first-order use can be found in his rejection of Leibnizian modality and his embrace of Kantian modality, whereby quantification in Frege's universal language is constrained to that which is 'actual' for human knowledge. Thus, given these

reasons, Frege's conceptual notation expresses the 'is' of existence as a second-order concept, thereby invalidating the ontological argument for the existence of God.

The intention of this paper in its entirety has been, thus far, to trace the influence of philosophical logic on the treatment of the ontological argument. We have found that certain conceptions of logical formalism and logical modality (whether it is the absence or presence of either within a conception of logic) have marked consequences for the corresponding treatment of OA; however, the precise nature of these consequences have yet to be fleshed out. We will turn, therefore, in the final section to the underlying question of what this correlation means and what implications it has for the assessment of the project of ontological argumentation in general.

6.0 CONCLUSIONS

To conclude, let us begin by briefly revisiting the basic structure of the argument: It was shown that OA was conceived, in its Cartesian form, as a direct consequence of the intimate relationship between the formal and material aspects of Descartes's conception of logic as philosophical method. Insofar as logic is, for Descartes, as much comprised by the clear and distinct perception of truth as it is by the formal relations among such truths, OA is an almost immediate, valid consequence of Cartesian logic. For Leibniz, however, the concepts employed in OA must meet the logical criterion of possibility before the argument is allowed to go through. Given that they do so, Leibniz's conception of logic –like Descartes's –facilitates OA, for it considers logic to be a mirror of reality, one which is capable not only of clarifying the knowledge that we have but also of extending this knowledge by virtue of the analysis of concepts and their possible combinations. In sum, logic for Descartes and Leibniz tells us about *objects* and the real relations between them. Thus, the ontological argument –as a logical truth –is a necessary truth about the world.

With Kant, however, we witness a turning point, for Kant is the first to conceive of logic as a purely formal discipline. Insofar as this is the case, the realm of logic can tell us only about formal relations between concepts and, thus, can provide us with a merely negative criterion of truth. Whereas the truth of the material constitution of logical analysis is a constitutive part of the Cartesian/Leibnizian logics, Kantian logic abstracts completely from any relation to the matter of

inference or logical truth. Thus, even without the refutation of the predication of existence, Kantian logic can tell us nothing about the world and, of course, nothing about the existence of God.

Finally, Fregean logic departs significantly from Kantian formalism, admitting of the existence of logical objects, expressing a content and so forth. Nonetheless, because of the first and second-order concept distinction (and the failure of the first-order to express existence claims), Fregean logic ultimately cannot support OA insofar as it is dependent upon the validity of including existence in a concept as a first-order property. Thus, while Frege's logic can support –and, indeed, includes –the *a priority* of logical objects, Frege is constrained to dismiss OA because of his second-order property view of existence.

Given the details of the proposed correlation between logic and the ontological argument, it seems as if we might express the essence of the correlation most simply in terms of the 'delineation' of the *a priori*: Insofar as OA is dependent upon *a priori* premises, the success of OA is, in turn, dependent upon one's conception of the different aspects of the *a priori* –its status as knowledge, its relation to the world, its modal qualities, etc. –and the way in which these aspects are exemplified within a given conception of logic. One important thing that we have seen revealed in the varying logics surveyed is the extent to which one's conception of logic is tied to one's conception of the *a priori*. For Kant, for example, that which is *a priori* (that is, analytic *a* priori) is determined by the formal conditions of thought as such; however, because Kant believes that the formal conditions of thought cannot be shown to be commensurate with empirical realities without the further benefit of intuition, the analytic *a priori* is strictly limited in its applicability. Correlatively, Kant's logic attends only to the formal conditions of thought, relegating concern with content to the province of intuition. For Leibniz and Descartes, on the

other hand, *a priori* knowledge of objects and relations is real knowledge about the world; hence, their conceptions of logic reflect this thoroughly rationalist position by admitting semantic content into the province of logic and allowing for the logical derivation of substantive truths.

Between Descartes, Leibniz and Kant, we may certainly see the transition from a rationalist to empiricist conception of knowledge and, so it seems, logic. But where does Frege fall in this schema? His Leibnizian conception of logic, his logicist project and his assumption of (our *a priori* knowledge of the existence of) logical objects are all elements of his conception of logic that seem to put Frege on par with the rationalists in regard to the *a priori*. Yet, as we have seen, Frege rejects the project of ontological argumentation in much the same way as Kant. Frege, however, does not have the same motivation as Kant for rejecting OA. Kant rejects OA, at bottom, because it is not tenable in light of his view of the nature of and capacities of logic. Frege, on the other hand, is not motivated to reject OA out of skepticism concerning the feasibility of *a priori* existence claims. Frege is, rather, forced to dismiss OA primarily because of his discovery of the second-order nature of the 'is' of existence. Thus, despite his logical 'revival' of the *a priori* as a substantive realm of knowledge and the ontological commitments of his conception of logic, Frege must reject the possibility of 'essence to existence' arguments insofar as existence cannot, on his terms, be understood in the first-order, that is, as a property of objects.

In sum, in each of the cases surveyed it has been shown that the conception of logic employed by a particular philosopher at least partially determines the way in which he treats the project of OA. The qualification 'partially' is necessary, of course, for other factors –in particular, the philosophical presuppositions that influence the formulation of a conception of logic –may also play a role therein. This is particularly true in the case of Kant, whose critical

philosophy necessitates a logic that distinguishes itself from the logic of the 'speculative metaphysicians' (i.e. Leibniz). Thus, in Kant's case, the correlation posited between logic and OA –in which a conception of logic influences the project of ontological argumentation –must be qualified to account for the fact that Kant's critical project is more complex than this and may not be so readily broken down into the clear-cut causal chains that characterize the logic-OA relationship in Descartes, Leibniz and Frege. Regardless of this complication, however, it is still clear that Kant appeals directly to his conception of logic in his critique of OA and, thus, the correlation still exists in an important sense for Kant.

6.1 IMPLICATIONS OF THE PROPOSED CORRELATION

In *The Logic of Perfection*, Charles Hartshorne –a notable proponent of both theism and modal ontological argumentation –offers the following description of the relationship between logical necessity, language and the ontological argument:

> The contemporary realization that logical necessity is a matter of language is both under- and overemphasized in the literature. It is made too much of when it is taken to imply that there are no limits to the arbitrariness of the basic rules and primitive concepts of the language we adopt; and it is made too little of when people shy away from the Ontological Argument because it seems to pretend to settle the entire theistic question in one little step. Only within a language can it do this; one may always debate at length about the language itself. It is sloppy procedure…to attack or defend the Argument without specifying the language within which one is operating. (82)

Although, by 'language' Hartshorne does not here mean 'logical language,' we may nonetheless take what he says as instructive in that regard. For present purposes, we may understand by the claim that "logical necessity is a matter of language" the related claim that logical necessity is a matter of a *logical* language. Although such a claim may appear somewhat trivial, we have seen

in the preceding chapters that what purports to be logically necessary is determined by the characteristics of the logical language in which such necessity is posited.

Correlatively, we have seen how changes in the general philosophical conception of logic inform these characteristics, and how the fate of ontological argumentation is thereby determined relative to a given conception of logic: For Leibniz (and Descartes), the adequacy of thought in its relation to reality is already guaranteed –to varying degrees –by Divine benevolence; thus, *a priori*, logical demonstrability is a sufficient condition of the truth of a proposition. For Kant, on the other hand, we have a characterization of logic in which logic is impotent outside of the realm of the formal aspects of thought. This characterization is informed by Kant's project of curbing the pretensions of reason and, in particular, speculative metaphysics and, consequently, we find that Kant's logic renders untenable a core doctrine of such metaphysics –the demonstrable truth of the existence of God. For Frege, though the motivating factor behind Frege's logical language (his logicism) is not directly relevant to his critique of OA, we see, nonetheless, that Frege's belief in the reducibility of arithmetic to logic motivates the creation of a logical language, of which *a priori* existence claims are an integral part.

Given these examples, we are able to see how, in Hartshorne's words, "[it] is sloppy procedure…to attack or defend the Argument without specifying the language within which one is operating," for the logical language within which ontological argumentation is appraised plays a critical role in determining the outcome of the appraisal (82). Insofar as this is the case, our continued critique of the ontological argument –in both its historical and contemporary manifestations –must not merely attend to the validity of an ontological argument *within* a given conception of logic; rather, our critique must attend to the validity of OA in its relation to

changing conceptions of logic, exposing and elucidating the ways in which these differing conceptions of logic inform the project of ontological argumentation on the whole.

6.2 EPILOGUE

In a brief article assessing the work of Charles Hartshorne and his critics, Alan McAllister asks the following humorous, yet provocative question:

> Once a theist has laboriously constructed an ontological argument, using the most advanced modal logic, for instance, is he to be confronted with a reply from an atheist, "If modal logic can be used to prove the existence of God, so much the worse for modal logic"? (171)

What we have seen herein as the correlation between OA and logic is, to some degree, the historical manifestation of precisely this attitude. We have seen that what may be proven *a priori* is a function of one's conception of logic and the capacities of such a logic to represent truths. In addition, we have seen that the varying conceptions of logic surveyed have their foundations in philosophical systems, of which attitudes towards the limits and functions of the *a priori* are already an integral part. Thus –as MacAllister's comment suggests –the continued critique of ontological argumentation must be just as aware of the features of a given conception of logic and the 'validity' of those features as it is of the validity of the argument within such a conception. Without appropriate attention to these features of a given logical language and the role that they play in determining the viability of ontological argumentation, our critique of ontological argumentation is –as some of its most notable critics have maintained –an exercise in mere formality.

BIBLIOGRAPHY

Adams, Robert Merrihew. *Leibniz: Determinist, Theist, Idealist*. New York: Oxford UP, 1994. Print.

Allen, R. E. "The Ontological Argument." *The Philosophical Review* 70.1 (1961): 55-66. *JSTOR*. Web. 27 Jul. 2009.

Allison, Henry E. *Kant's Transcendental Idealism*. New Haven: Yale UP, 2004. Print.

Blanchette, Patricia. " The Frege-Hilbert Controversy." *Stanford Encyclopedia of Philosophy*. Stanford University, 23 Sep. 2007. Web. 6 Nov. 2009.

Burkhardt, Hans. "Modalities in Language, Thought and Reality in Leibniz, Descartes and Crusius." *Synthese* 75 (1988): 183-215. Print.

Burri, Alex. "A Priori Existence." *Grazer Philosophische Studien* 74 (2007): 163-75. *Ingenta Connect*. Web. 27 Jul. 2009.

De Pierris, Graciela. "Frege and Kant on A Priori Knowledge." *Synthese* 77.3 (1988): 285-319. *JSTOR*. Web. 27 Jul. 2009.

Descartes, René. *Descartes: Selected Philosophical Writings*. Trans. and ed. John Cottingham, Robert Stoothoff, and Dugald Murdoch. Cambridge: Cambridge UP, 1988. Print.

Ferreiros, Jose. "The Road to Modern Logic- An Interpretation." *The Bulletin of Symbolic Logic* 7.4 (2001): 441-84. *JSTOR*. Web. 5 Jan. 2009.

Forgie, J. William. "Frege's Objection to the Ontological Argument." *Nous* 6.3 (1972): 251-65. *JSTOR*. Web. 10 Feb. 2009.

---. "Gassendi and Kant on Existence." *Journal of the History of Philosophy* 45.4 (2007): 511-23. *Project Muse*. Web. 12 May 2009.

Frege, Gottlob. *Conceptual Notation, and Related Articles*. Trans. Terrell Ward Bynum. Oxford: Clarendon, 1972. Print.

---. *The Foundations of Arithmetic; A logico-mathematical enquiry into the concept of number*. Trans. J. L. Austin. Evanston, IL: Northwestern UP, 1980. Print.

---. *The Frege Reader*. Ed. Michael Beaney. Oxford: Blackwell, 1997. Print.

---. *Posthumous Writings*. Ed. Hans Hermes, Friedrich Kambartel and Friedrich Kaulbach. Trans. Peter Long and Roger White. Chicago: Chicago UP, 1979. Print.

Garson, James. "Modal Logic." *Stanford Encyclopedia of Philosophy*. Stanford University, 29 Feb. 2000. Web. 2007.

Guyer, Paul, ed. *The Cambridge Companion to Kant*. New York: Cambridge UP, 1992. Print.

Haaparanta, Leila. " Frege and his German Contemporaries on Alethic Modalities." *Modern Modalities: Studies of the History of Modal Theories from Medieval Nominalism to Logical Positivism*. Ed. Simo Knuuttila. Vol. 33. Boston: Kluwer Academic, 1988. 239-74. Print. Synthese Historical Library: Texts and Studies in the History of Logic and Philosophy.

---. "Frege on Existence." *Frege Synthesized: Essays on the Philosophical and Foundational Work of Gottlob Frege*. Ed. Leila Haaparanta and Jaakko Hintikka. Vol. 181. Boston: D. Reidel Company, 1986. 155-74. Print. Synthese Library: Studies in Epistemology, Logic, Methodology and Philosophy of Science.

---. " On Frege's Concept of Being." *The Logic of Being*. Ed. Simo Knuuttila and Jaakko Hintikka. Boston: D. Reidel Company, 1986. 269-89. Print.

Harris, Errol E. "Kant's Refutation of the Ontological Proof." *Philosophy* 52.199 (1977): 90-92. *JSTOR*. Web. 10 Feb. 2009.

Hartshorne, Charles. *The Logic of Perfection and Other Essays in Neoclassical Metaphysics*. Lasalle, IL: Open Court Publishing, 1962. Print.

Hintikka, Jaakko. "Are Logical Truths Analytic?" *The Philosophical Review* 74.2 (1965): 178-203. *JSTOR*. Web. 19 Aug. 2009.

---. "Kant on Existence, Predication and the Ontological Argument." *The Logic of Being*. Ed. Simo Knuuttila and Jaakko Hintikka. Boston: D. Reidel Company, 1986. 249-68. Print.

Jacquette, Dale. *A Companion to Philosophical Logic*. Grand Rapids, MI: Blackwell Limited, 2005. Print. Blackwell Companions to Philosophy.

Kant, Immanuel. *Critique of Pure Reason*. Trans. Norman Kemp Smith. New York: Palgrave Macmillan, 2003. Print.

---. *Logic*. Trans. Robert S. Hartman and Wolfgang Schwarz. New York: Dover, 1988. Print.

Katzav, Joel. “The Second-Order Property View of Existence.” *Pacific Philosophical Quarterly* 89 (2008): 486-96. *Wiley Interscience*. Web. 2 Feb. 2009.

Kuntz, Paul Grimley. "The Ontological Argument and "God is Dead": Some Questions About God; Ways of Logic, History and Metaphysics in Answering Them." *Journal of the American Academy of Religion* 38.1 (1970): 55-78. *JSTOR*. Web. 16 Apr. 2009.

Labenz, Piotr. " Does Frege's Definition of Existence Invalidate the Ontological Argument?" *Sorites* 17.October (2006): 68-80. *Sorites: Digital Journal of Analytic Philosophy*. Web. 5 Jan. 2009.

Leibniz, G. W. *New Essays on Human Understanding*. Trans. Peter Remnant and Jonathan Bennett. New York: Cambridge UP, 1996. Print. Cambridge Texts in the History of Philosophy.

---. *Philosophical Essays*. Trans. Roger Ariew and Daniel Garber. Indianapolis: Hackett Company, 1989. Print.

---. *Philosophical Papers and Letters*. Trans. and ed. Leroy E. Loemker. 2nd ed. Dordrecht: D. Reidel Company, 1970. Print.

Macbeth, Danielle. *Frege's Logic*. New York: Harvard UP, 2005. Print.

MacFarlane, John Gordon. "What Does It Mean to Say That Logic is Formal?" Diss. University of Pittsburgh, 2000. *Johnmacfarlane.net*. Web. 7 Sept. 2008.

McAllister, Alan. “Two Errors in Assessing the Ontological Argument.” *International Journal for Philosophy of Religion* 9.3 (1978): 171-8. *JSTOR*. Web. 18 Sep. 2009.

McGinn, Colin. *Logical Properties: Identity, Existence, Predication, Necessity, Truth*. New York: Oxford UP, 2000. Print.

Mendelsohn, Richard L. *The Philosophy of Gottlob Frege*. New York: Cambridge UP, 2005. Print.

Oppenheimer, Paul E., and Edward N. Zalta. " On the Logic of the Ontological Argument." *Philosophical Perspectives* 5.Philosophy of Religion (1991): 509-29. *JSTOR*. Web. 29 Jul. 2008.

Plantinga, Alvin. "Kant's Objection to the Ontological Argument." *The Journal of Philosophy* 63.19 (1966): 537-46. *JSTOR*. Web. 5 Jan. 2009.

Salmon, Nathan. “Existence.” *Philosophical Perspectives* 1.Metaphysics (1987): 49-108. *JSTOR*. Web. 10 Feb. 2009.

Shaffer, Jerome. "Existence, Predication and the Ontological Argument." *Mind*, New Series 71.283 (1962): 307-25. *JSTOR*. Web. 10 Feb. 2009.

Sluga, Hans D. *Gottlob Frege*. Boston: Routledge and Kegan Paul, 1980. Print.

Smith, Barry. "Characteristica Universalis." *Language, Truth and Ontology*. Ed. Kevin Mulligan. Boston: Kluwer Academic, 1992. 48-77. Print.

Sobel, Jordan Howard. *Logic and Theism: Arguments For and Against Beliefs in God*. Cambridge: Cambridge UP, 2004. Print.

Van Heijenoort, Jean. "Logic as Calculus and Logic as Language." *Synthese* 17 (1967): 324-30. *JSTOR*. Web. 10 Feb. 2009.

Van Inwagen, Peter. "Ontological Arguments." *Nous* 11.4 (1977): 375-95. *JSTOR*. Web. 29 Aug. 2009.

Vilkko, Risto and Jaakko Hintikka. "Existence and Predication from Aristotle to Frege." *Philosophy and Phenomenological Research* 73.2 (2006): 359-77. *IngentaConnect*. Web. 7 Sept. 2008.

Weiner, Joan. "Putting Frege in Perspective." *Frege Synthesized: Essays on the Philosophical and Foundational Work of Gottlob Frege*. Ed. Leila Haaparanta and Jaakko Hintikka. Vol. 181. Boston: D. Reidel Company, 1986. 9-27. Print. Synthese Library: Studies in Epistemology, Logic, Metaphysics, and Philosophy of Science.